
ACCESS SERVICE

7. Special Access Service**7.1 General

Special Access Service provides a transmission path to connect customer designated premises*, either directly or through a Telephone Company Hub where bridging or multiplexing functions are performed. Special Access Service also provides a transmission path to connect a customer designated premises and a WATS Serving Office. 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 available transmission parameters and channel interfaces, those that they desire 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 data over a channel that is identified as a Metallic Service in this tariff, there is no restriction against doing so.

* Telephone Company Centrex CO and CO-like switches and packet switches included in the Public Packet Switching Network (PPSN) are considered to be customer designated premises for purposes 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 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 300-3000 Hz.

Program Audio - a channel for the transmission of audio signals. The nominal frequency bandwidths are from 50 to 15,000 Hz, from 300 to 3500 Hz, from 100 to 50,000 Hz or from 50 to 8000 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 provision and the bandwidth of the associated audio signals is a function of the channel interface selected by the customer.

Digital Data - A channel for the digital transmission of synchronous serial data at rates of 2.4, 4.8, 9.6, 19.2, 56 or 64 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)

The customer also has the option of ordering Voice Grade and analog and digital high capacity facilities (i.e., Group, Supergroup, Mastergroup, 1.544 Mbps, 3.152 Mbps, 6.312 Mbps, 44.736 Mbps and 274.176 Mbps) to a Telephone Company Hub 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 7.2 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 also set forth in 7.2 following.

For example, a customer may order a 3.152 Mbps facility 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 or Wideband Analog (i.e., Group Level) channels or may be extended to other customer designated premises. Optional features may be added to either the 1.544 Mbps or the Voice Grade Channels.

7.1.2 Rate Categories

There are three basic rate categories which apply to Special Access Service:

- Channel Terminations (described in 7.1.2(A) following)
- Channel Mileage (described in 7.1.2(B) following)
- Optional Features and Functions (described in 7.1.2(C) following)

(A) Channel Termination

The Channel Termination rate category provides for the communications path between a customer designated point or points of termination (POT) and/or between customer designated point(s) of termination and/or the serving wire center.

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 (E) following. One Channel Termination charge applies per customer designated POT at which the channel is terminated. This charge will apply even if the customer designated POT(s) and/or serving wire center are located in the same building.

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7. Special Access Service (Cont'd)7.1 General (Cont'd)7.1.2 Rate Categories (Cont'd)(A) Channel Termination (Cont'd)

Rates for End User Channel Terminations are subject to the rules governing Competitive and Non-Competitive Counties as discussed in Section 16.10. 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) Point of Presence (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.

(N)

(N)

(B) Channel Mileage

The Channel Mileage Rate Category provides for 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 cost for the transmission path which extends between the Telephone Company serving wire centers and/or Hub(s) and includes primarily outside plant used to provide the facility.

(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), including circuit equipment. 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. When the Channel Mileage is zero (i.e., co-located serving wire centers), neither the channel mileage facility nor the Channel Mileage Termination Rate will apply.

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7. Special Access Service (Cont'd)7.1 General (Cont'd)7.1.2 Rate Categories (Cont'd)(C) Optional Features and Functions

The Optional Features and Functions rate categories provide for 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 facilities. Although the equipment necessary to perform the 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 (i.e., Bridging or Multiplexing)
- Conditioning
- Transfer Arrangements

A Hub is a Telephone Company designated serving wire center at which bridging or multiplexing functions are performed, as set forth in 7.4.6 following. The bridging functions performed may be (1) 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.

Descriptions for each of the available Optional Features and Functions are set forth in 7.2 following.

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

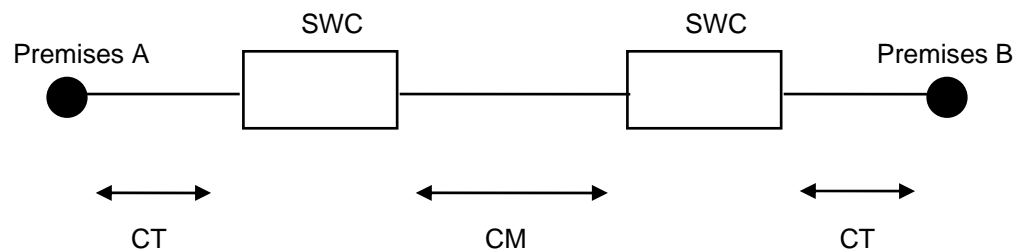
A two-point service connects two customer designated premises either on a directly connected basis or through a Hub where multiplexing functions are performed.

Applicable rate elements are:

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

In addition, a Special Access Surcharge, as described in 7.4.2 following , may be applicable.

The following diagram depicts two-point Voice Grade service connecting two customer designated premises located 15 miles apart. The service is provided with C-Type conditioning.



Applicable rate elements are:

- CT - Channel Terminations (two applicable)
- CM - Channel Mileage (may consist of
channel mileage facility and
channel mileage termination)
- Optional Features as ordered by customer

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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 a Telephone Company Hub. Only certain types of Special Access Service are provided as multipoint service. These are so designated in the Service Descriptions set forth in 7.2 following.

Multipoint service utilizing a customized technical specifications package, as set forth in 7.2 following, will be provided when technically possible. If the Telephone Company determines that the requested characteristics for 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 bridging Hub(s). Specific bridging hub location information is incorporated in Exchange Carrier Association Tariff F.C.C. No. 4.

Applicable Rate Elements are:

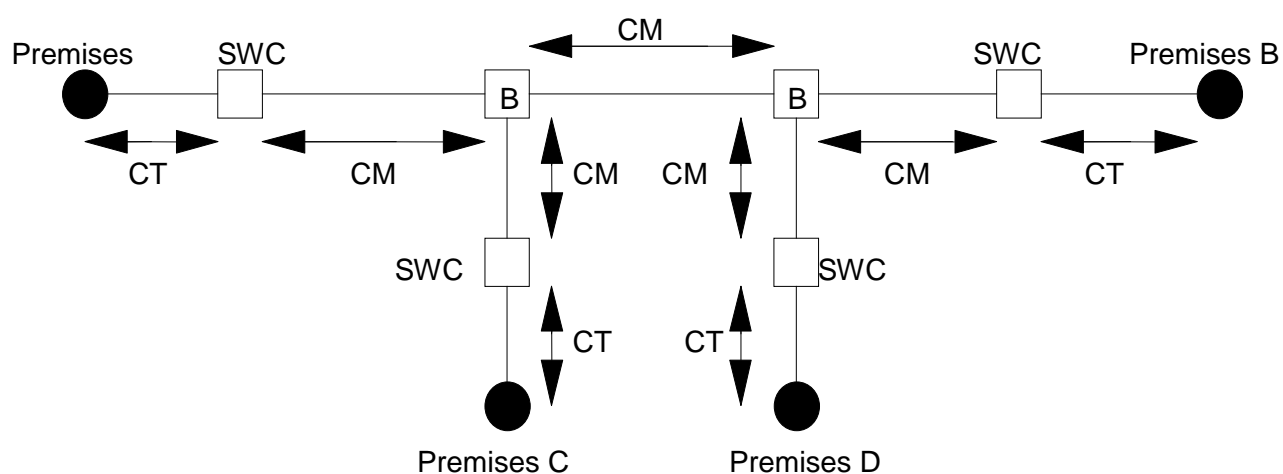
- Channel Termination (one per customer designated premises).
- Channel Mileage (as applicable between each customer designated premises and the Hub and between Hubs).
- Bridging.
- Additional Optional Features and Functions (when applicable).

In addition, the Special Access Surcharge, as described in 7.4.2 following, may apply.

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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 (Cont'd)

Example: Voice Grade Multipoint service connecting four customer premises via two customer specified bridging Hubs.



Applicable rate elements

CT - Channel Terminations (four

CM - Channel Mileage (5 sections;

consist of channel mileage

and channel mileage

B - Bridging Optional Feature (6 bridge

Other Optional Features as ordered by

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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. The customer may use a service in any privately beneficial manner. However, where technical 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 12., 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 and Channel Mileage [as applicable] and Optional Features [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 11. 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, at the time of installation, the following parameters:

- (A) For analog services, acceptance tests will include tests for loss, 3-tone slope, DC continuity, operational signaling, C-notched noise, frequency response, harmonic distortion, phase jitter, impulse noise, C-message noise, and delay distortion when these parameters are specified in the order for 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 services, acceptance tests will include tests for the parameters specified 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 13.3.6 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 provision set forth in 5. preceding. Also included in that section are other charges which may be associated with ordering Special Access Service (e.g., Service Date Change Charge, Cancellation Charge, etc.).

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7. Special Access Service (Cont'd)7.2 Service Descriptions

For the purposes of ordering, there are seven categories of Special Access Service. These are:

Metallic	MT
Telegraph Grade	TG
Voice Grade	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. Each of the components of the service are described in this section.

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 given an estimate of the hours to be billed before any further action is taken on the order.

The channel description specifies the characteristics of the basic channel and indicates whether the channel is provided between customer designated premises or is provided between a customer designated premises and a Telephone Company Hub where bridging or multiplexing functions are performed or between a customer designated premises and a WATS Serving Office.

The technical specifications packages information indicates the transmission parameters that are available with each technical specifications package. This information is displayed in a matrix with the transmission parameters listed down the left side and the packages listed across the top. Each package is identified by a code, e.g., VGC. The first two letters of the code indicate the category of Special Access Service to which the parameters are applicable. These two letter codes are shown in parentheses following the category of Special Access Service above.

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7. Special Access Service (Cont'd)7.2 Service Descriptions (Cont'd)

The letter "C" following the two letter code indicates the technical specifications package for a customized service. A numeric or alpha-numeric designation following the two letter code indicates the specific predefined package. For a customized service, the customer may select any parameters available with that category of service as long as the parameters are compatible. When appropriate, the Technical Reference which contains detailed specifications for the parameters is shown following the matrix.

Channel interface at each Point of Termination on a two-point service may be symmetrical or asymmetrical. On a multipoint service they must 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 7.3.5 following, in a combination format.

Only certain channel interface combinations are available with the predefined technical specifications packages. These are delineated in the Technical References set forth at the end of this 7.2. When a customized channel is requested, all channel interface combinations available with the specified type of service are available with the customized channel.

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 a matrix with the optional feature or function listed down the left side and the technical specifications package listed across the top.

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 excluding the standard listed in this provision will be maintained at the performance levels specified in this tariff.

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7. Special Access Service (Cont'd)7.2 Service Descriptions (Cont'd)

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

Metallic	PUB 62502
Telegraph Grade	PUB 62502
Voice Grade	PUB 62501 and associated Addendum PUB 41004, Table 4
Program Audio	PUB 62503 and associated Addendum
Video	PUB 62504 and associated Addendum
Digital Data	PUB 62507 PUB 62310 TA-TSY-000192 TA-TSY-000280
High Capacity	PUB 62508 PUB 62411 TR-NPL-000054

7.2.1 Metallic Service(A) Basic Channel Description

A Metallic channel is an unconditioned two-wire channel 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 where bridging functions are performed. Interoffice metallic facilities will be limited in length to a total of five miles per circuit.

(B) Technical Specifications Packages

<u>Parameter</u>	<u>C*</u>	<u>Package MT-</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 Reference PUB 62502.

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7. Special Access Service (Cont'd)7.2 Service Descriptions (Cont'd)7.2.1 Metallic Service (Cont'd)(C) Channel Interfaces

The following channel interface combinations represent channel interfaces without signaling:

DC to DC
DS to DC

All other channel interfaces for Metallic Service are provided with signaling.

Compatible channel interfaces are set forth in 7.3.5(A) following.

(D) Optional Features and Functions(1) Central 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 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 Premises Bridging	X	X		X
Series Bridging	X		X	

(2) Digiline

Provides digital interface capability as further described in Section 7.2.3(D)(10) following.

** No additional charge applies for series bridging.

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7. Special Access Service (Cont'd)7.2 Service Descriptions (Cont'd)7.2.2 Telegraph Grade Service(A) Basic Channel Description

A 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.

(B) Technical Specifications Packages

<u>Parameter</u>	<u>Package TG-</u>		
	<u>C*</u>	<u>1</u>	<u>2</u>
Telegraph Distortion	X	X	X

The technical specifications are delineated in Technical Reference PUB 62502.

(C) Channel Interfaces

Compatible channel interfaces are set forth in 7.3.5(B) following.

(D) Optional Features and Functions(1) Telegraph Bridging (two-wire and four-wire)

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

	<u>Available with Technical Specifications Package TG-</u>		
	<u>C</u>	<u>1</u>	<u>2</u>
Telegraph Bridging	X	X	X

(2) Digiline

Provides digital interface capability as further described in Section 7.2.3(D)(10) following.

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7. Special Access Service (Cont'd)7.2 Service Descriptions (Cont'd)7.2.3 Voice Grade Service(A) Basic Channel Description

A Voice Grade channel, including a special access line used in connection with switched access service, 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 or four-wire. Voice Grade channels are provided between customer designated premises or between a customer designated premises and a Telephone Company Hub. A special access line used in connection with switched access service is provided between a customer designated premises and a Telephone Company end office. When the end office serving the customer is not a WATS serving office, the mileage between the customer's end office and WATS serving office will be charged channel mileage rates.

(B) Technical Specifications Packages

	Package VG-												
Parameter	C*	1	2	3	4	5	6	7	8	9	10	11	12
Attenuation													
Distortion	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
Echo Control	X	X	X	X		X		X	X			X	X
Envelope Delay													
Distortion	X						X	X	X	X	X	X	X
Frequency													
Shift	X						X	X	X	X	X	X	X
Improved													
Return Loss	X	X	X	X	X	X	X	X	X	X	X	X	X
Impulse Noise	X					X	X	X	X	X	X	X	X
Intermodulation													
Distortion	X						X	X	X	X	X	X	
Loss Deviation	X	X	X	X	X	X	X	X	X	X	X	X	X
Phase Hits, Gain Hits, and Dropouts	X												
Phase Jitter	X						X	X	X	X	X	X	
Signal-to-C Message													
Noise			X										
Signal-to-C Notch Noise	X					X	X	X	X	X	X	X	X

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7. Special Access Service (Cont'd)7.2 Service Descriptions (Cont'd)7.2.3 Voice Grade Service (Cont'd)(B) Technical Specifications Packages (Cont'd)

The technical specifications for these parameters (except for dropouts, gain hits, and phase hits) are delineated in Technical Reference PUB 62501 and associated Addendum. The technical specifications for dropouts, phase hits, and gain hits are delineated in Technical Reference PUB 41004, Table 4.

(C) Channel Interfaces

The following channel interface combinations represent channel interfaces without signaling:

DA to DA	NO to DA
DB to DA	NO to NO
DB to NO	TF to TF

All other channel interfaces for Voice Grade are provided with signaling.

Compatible channel interfaces are set forth in 7.3.5(C) following.

(D) Optional Features and Functions(1) Central Office Bridging Capability

- (a) Voice Bridging (two-wire and four-wire)
- (b) Data Bridging (two-wire and four-wire)
- (c) Telemetry and Alarm Bridging (Passive Bridging)

(2) Conditioning

Conditioning provides more specific transmission characteristics for voice grade services. C-Type conditioning controls attenuation distortion and envelope delay distortion. Sealing Current helps maintain continuity on dry metallic loops.

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

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7. Special Access Service (Cont'd)7.2 Service Descriptions (Cont'd)7.2.3 Voice Grade Service (Cont'd)(D) Optional Features and Functions (Cont'd)(2) Conditioning (Cont'd)(a) 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:

Attenuation Distortion
(Frequency Response)
Relative to 1004 Hz

<u>Frequency Range (Hz)</u>	<u>Variation (dB)</u>
400-2800	-1.0 to +2.0
300-3000	-1.0 to +3.0
3000-3200	-2.0 to +6.0

<u>Envelope Delay Distortion</u>	
<u>Frequency Range (Hz)</u>	<u>Variation (micro- seconds)</u>
1000-2600	100
800-2600	200
600-2600	300
500-2800	600
500-3000	3000

(b) Sealing Current Condition

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

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7. Special Access Service (Cont'd)7.2 Service Descriptions (Cont'd)7.2.3 Voice Grade Service (Cont'd)(D) Optional Features and Functions (Cont'd)(3) Customer Specified Premises Receive Level

This option allows the customer to specify the receive level at the Point of Termination. This level must be within a specific range on effective four-wire transmission. The ranges are delineated in Technical Reference PUB 62501.

(4) Hybrid

Provides conversion from a four-wire channel to two-wire termination at a customer designated premises. Required to meet effective four-wire performance with a two-wire customer designated premise channel interface.

(5) Improved Return Loss

(a) 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 PUB 62501.

(b) 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 PUB 62501.

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7. Special Access Service (Cont'd)7.2 Service Descriptions (Cont'd)7.2.3 Voice Grade Service (Cont'd)(D) Optional Features and Functions (Cont'd)(6) Data Capability

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 multipoint services.

The Signal to C-Notched Noise Ratio and intermodulation distortion parameter or Data Capability are:

- Signal to C-Notched Noise Ratio is equal to or greater than 32db
- Intermodulation distortion:
 - Signal to second order modulation products (R2) is equal to or greater than 38db.
 - Signal to third order modulation products (R3) is equal to or greater than 42db.

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

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7. Special Access Service (Cont'd)7.2 Service Descriptions (Cont'd)7.2.3 Voice Grade Service (Cont'd)(D) Optional Features and Functions (Cont'd)(7) 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:

Attenuation Distortion
(1004Hz Reference)

<u>Frequency Range (Hz)</u>	<u>Variation (dB)</u>
500-3000	-0.5 to +1.5
300-3200	-1.0 to +2.5

Envelope Delay Distortion

<u>Frequency Range (Hz)</u>	<u>Variation (mcs)</u>
1000-2600	110
800-2800	180

(8) Signaling Capability

Signaling Capability provides for the process by which one customer premises alerts another customer premises on the same service with which it wishes to communicate.

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7. Special Access Service (Cont'd)7.2 Service Descriptions (Cont'd)7.2.3 Voice Grade Service (Cont'd)(D) Optional Features and Functions (Cont'd)

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

	C	Available with Technical Specifications Package VG-											
		1	2	3	4	5	6	7	8	9	10	11	12
C-Type													
Conditioning	X					X	X	X	X	X	X		
Central Office													
Bridging													
Capability	X		X			X	X				X	X	X
Customer													
Specified													
Premises													
Receive													
Level	X		X	X				X	X	X			
DA-Type													
Conditioning	X					X	X				X		
Improved Return													
Loss:													
For Effective													
Four-Wire													
Transmission	X	X	X	X	X	X	X	X	X	X	X	X	X
For Effective													
Two-Wire													
Transmission	X		X	X				X					
Sealing Current													
Conditioning	X						X						
Telephoto													
Capability	X											X	

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7. Special Access Service (Cont'd)7.2 Service Descriptions (Cont'd)7.2.3 Voice Grade Service (Cont'd)(D) Optional Features and Functions (Cont'd)(10) Digiline Option Description

The DIGILINE option allows individual channel services to be terminated on a two-wire or four-wire digital basis to a customer.

This option is provided to allow a digital interface between a customer serving central office and a Telephone Company designated Hub wire center terminating in a Digital Access Cross-connect System (DACS). The DIGILINE option rates consist of nonrecurring and monthly charges for the digital interface as well as an interoffice transport rate between the customer's serving office and a Telephone Company designated Hub wire center location. DIGILINE rates apply in addition to any monthly recurring and non-recurring charges for the basic analog service ordered.

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7. Special Access Service (Cont'd)7.2 Service Descriptions (Cont'd)7.2.4 Program Audio Service(A) Basic Channel Description

A Program Audio channel is a channel 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.

(B) Technical Specifications Packages

<u>Parameter</u>	<u>Package AP-</u>				
	<u>C*</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>
Actual Measured Loss	X	X	X	X	X
Amplitude Tracking	X				
Crosstalk	X	X	X	X	
Distortion Tracking	X				
Gain/Frequency					
Distortion	X	X	X	X	X
Group Delay	X				
Noise	X	X	X	X	X
Phase Tracking	X				
Short-Term Gain					
Stability	X				
Short-Term Loss	X				
Total Distortion	X	X	X	X	X

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

ACCESS SERVICE

7. Special Access Service (Cont'd)7.2 Service Descriptions (Cont'd)7.2.4 Program Audio Service (Cont'd)(C) Channel Interfaces

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

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

Compatible channel interfaces are set forth in 7.3.5(D) following.

(D) Optional Features and Functions(1) Central Office Bridging Capability

Distribution Amplifier

(2) Gain Conditioning

Control of 1004 Hz AML at initiation of service to 0dB \pm 0.5 dB.

(3) Stereo

Provision of a pair of gain/phase equalized channels for stereo applications. (Additional AP channel must be ordered separately.)

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

	<u>Available with Technical Specifications Package AP-</u>				
	<u>C</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>
Central Office Bridging Capability	X	X	X	X	X
Gain Conditioning	X	X	X	X	X
Stereo	X				X

ACCESS SERVICE

7. Special Access Service (Cont'd)7.2 Service Descriptions (Cont'd)7.2.5 Digital Data Service(A) 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 or 64 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 between customer designated premises or between a customer premises and a Telephone Company Hub. Sub rating is not available at the 19.2 kbps speed and the 64 kbps speed requires B82S line code formatted signal.

Secondary Channel Capability (SSC) is a derived companion digital transmission path that is independent of the primary data path and operates at a substantially lower bit rate. This derived channel allows the customer to perform network management functions during the normal operation of the network. This diagnostic channel utilizes a portion of a customer's previously unavailable data bit stream allowing for the ability to remotely control and test the network out of service. Special customer equipment is necessary to utilize the benefits of the SSC. Customers not wishing to utilize the capability will not be impacted. Due to the transmission equipment restrictions, SSC cannot be provided on 56.0 Kbps circuits that require the installation of loop repeater equipment for provision of service.

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 interim program for interconnection of such equipment is set forth in Technical Reference PUB AS No. 1.

ACCESS SERVICE

7. Special Access Service (Cont'd)7.2 Service Descriptions (Cont'd)7.2.5 Digital Data Service (Cont'd)(B) Technical Specifications Packages

<u>Parameter</u>	<u>Package DA-</u>					
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>
Error-Free Seconds	X	X	X	X	X	X

The Telephone Company will provide a channel capable of meeting a monthly average performance equal to or greater than 99.875% error-free seconds.

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

(C) Channel Interfaces

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

<u>CI</u>	<u>Bit Rate</u>
DU5-19	19.2 kbps
DU5-24	2.4 kbps
DU5-48	4.8 kbps
DU5-56	56.0 kbps
DU5-64	64.0 kbps
DU5-96	9.6 kbps

Compatible channel interfaces are set forth in 7.3.5(F) following.

ACCESS SERVICE

7. Special Access Service (Cont'd)7.2 Service Descriptions (Cont'd)7.2.5 Digital Data Service (Cont'd)(D) Optional Features and Functions

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

	Available with Technical Specifications Package DA-			
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>
Central Office Bridging Capability	X	X	X	X

(1) DIGILINE

Provides digital interface capability as further described in Section 7.2.3(D)(10) preceding.

(2) Secondary Channel

Digital Data Service Secondary Channel is an option available to customers of Digital Data Service. This option is a separate digital channel that operates in concert with a companion Digital Data Service primary channel but at a substantially lower bit rate than the primary channel. The secondary Channel permits a customer to perform network management functions, including testing of the network and peripheral devices, without taking the network out of service or reducing the speed of the primary channel. Technical parameters and specifications associated with this option are set forth in Bellcore Technical Reference TR-NPL-000157 ISSUE 2, 1986.

(3) Digital Data Service Bridging

Digital Data Service Bridging is a service which allows a customer the ability to bridge either 2.4, 4.8, 9.6 or 56 kbs data circuit using a Multipoint Junction Module with six multi-junction units (MJUs), each consisting of four branch legs and a control leg. The control leg transmits and receives from all of the branch legs. The branch legs transmit to and receive from the control leg only, and not other branch legs. This service is only available between a customer premises and a Telephone Company designated digital hub.

ACCESS SERVICE

7. Special Access Service (Cont'd)7.2 Service Descriptions (Cont'd)7.2.6 High Capacity Service(A) Basic Channel Description

A High Capacity channel is a channel for the transmission of 1.544 or 44.736 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.

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

(B) Technical Specifications Packages

<u>Parameters</u>	<u>Package HC-</u>				
	<u>1</u>	<u>1C</u>	<u>2</u>	<u>3</u>	<u>4</u>
Error-Free Seconds	X	X	X	X	X

A channel with technical specifications package HC1 will be capable of an error-free second performance of 98.75% over a continuous 24 hours 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.

(C) Channel Interfaces

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

<u>CI</u>	<u>Bit Rate</u>
DS-15*	1.544 Mbps (DS1)
DS-44	44.736 Mbps (DS3)

Compatible channel interfaces are set forth in 7.3.5(G) following.

* A 64.0 kbps channel is available as a channel(s) of a 1.544 Mbps facility to a Telephone Company Hub.

ACCESS SERVICE

7. Special Access Service (Cont'd)7.2 Service Descriptions (Cont'd)7.2.6 High Capacity Service (Cont'd)(D) Optional Features and Functions(1) Automatic Protection Switching

Switching equipment placed at both ends of a duplicate standby service to automatically switch the standby service to the active state in the event of service failure. Duplicate 1.544 Mbps Service must also be ordered. Equipment at the customer premises will be provided under tariff only if it existed in the Telephone Company inventory as of November 18, 1983. This feature is not available with channels utilizing the clear channel capability (B8ZS) line code.

(2) 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 premises. A key activated or dial up control service is required to operate the transfer arrangement. A spare line, if required, is not included as part of the option. This feature is not available with channels utilizing the clear channel capability (B8ZS) line code.

(3) Central Office Multiplexing(a) DS3 to DS1

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

ACCESS SERVICE

7. Special Access Service (Cont'd)7.2 Service Descriptions (Cont'd)7.2.6 High Capacity Service (Cont'd)(D) Optional Features and Functions (Cont'd)(3) Central Office Multiplexing (Cont'd)(b) DS1 to Voice

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

(c) DS1 to DS0

An arrangement that converts a 1.544 Mbps channel to twenty-three 64.0 kbps channels utilizing digital time division multiplexing. Required with DS1 to Digital Data channels hub multiplexing capability (MQ1).

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

	Available with Technical Specifications Package HC-				
	<u>1</u>	<u>1C</u>	<u>2</u>	<u>3</u>	<u>4</u>
Automatic Protection Switching	X				
Central Office Multiplexing:					
DS3 to DS1				X	
DS1 to Voice	X				
DS1 to DS0	X				
Transfer Arrangement	X				
Clear Channel Capability	X				

ACCESS SERVICE

7. Special Access Service (Cont'd)7.2 Service Descriptions (Cont'd)7.2.6 High Capacity Service (Cont'd)(D) Optional Features and Functions (Cont'd)(4) DIGILINE HC Option Description

The DIGILINE HC option provides a digital interface between a customer's High Capacity service and a Telephone Company designated Hub wire center terminating in a Digital Access Cross-connect system. The DIGILINE HC option rates are applied in addition to a customer's High Capacity service recurring and non-recurring charges from the Telephone Company designated Hub wire center to the customer's designated premises.

(5) Clear Channel Capability

- (a) Clear Channel Capability is an arrangement that allows a customer to transport 1.536 Mbs information rate signals over a 1.544 Mbs High Capacity Channel with no constraint on the quantity or sequence of ones (mark) or zeros (space) bits. The customer signal at the channel interface must conform to Bipolar with Eight Zero substitution (B8ZS) line code as described in Technical Reference TR-NPL-000054 and Technical Reference PUB 62508.
- (b) Clear Channel Capability is available on 1.544 Mbs High Capacity Channels only and is subject to the availability of facilities.
- (c) This option may be ordered at the same time the 1.544 Mbs high Capacity Service is ordered or it may be ordered as an addition to an existing channel. If this option is ordered on an existing 1.544 High Capacity Channel the customer's service will be temporarily interrupted while this service is added.
- (d) This option is provided on a per circuit basis. After a High Capacity Circuit (i.e., 24 channels) has been modified to provide this service, a customer may request Clear Channel Capability on any or all of the channels of that circuit at no additional charge.

Should any of the monthly recurring charge rate elements for a term discount plan increase by more than 10% from the rates in effect at the start of the term of any given plan, the customer may, at their option, terminate the service without penalty or liability.

ACCESS SERVICE

7. Special Access Service (Cont'd)**7.2 Service Descriptions (Cont'd)****7.2.6 High Capacity Service (Cont'd)****(D) Optional Features and Functions (Cont'd)****(7) Fiber Loop Diversity**

- (a) The Fiber Loop Diversity (FLD) option provides for separate fiber protect path to the customer's serving wire center. This option is available where facilities permit. For a list of those locations, see the National Exchange Carrier Association Tariff F.C.C. No. 4.
- (b) This option is provisioned solely on a fiber optic ring and offers protection on the channel termination (local loop) portion of a 1.544 Mbps (DS1) service only.
- (c) This option may be ordered in conjunction with the installation of a new DS1 service, or it may be ordered as a option to an existing DS1 service. If the FLD option is ordered concurrent with a new DS1 service installation, no additional installation charges apply. If, however, the FLD option is provisioned on an existing DS1 service, the current nonrecurring rate stated in Section 16 following of this tariff will apply.
- (d) Unless otherwise requested by the customer, the FLD option and the primary loop will enter the customer premises via the same entrance. The customer may request that the FLD option be provisioned using a separate entrance. If a separate entrance for the FLD option is requested by the customer and additional construction is required by the Telephone Company, then special construction charges will be assessed in accordance with the terms and conditions stated in the applicable Interstate Special Construction Tariff.

(C)
(C)

(8) Digital Cross Connect

The Digital Cross Connect option provides for a connection between two Telephone Company owned Multiplexers in the same Central Office. A nonrecurring charge, set forth in Section 16 following, is assessed per Digital Cross Connect.

ACCESS SERVICE

7. Special Access Service (Cont'd)7.2 Service Descriptions (Cont'd)7.2.6 High Capacity Service (Cont'd)(D) Optional Features and Functions (Cont'd)(9) Fractional T-1

- (a) Fractional T-1 is an optional feature available as part of the High Capacity Digital Service. The feature provides for the transmission of signals in N x 56 Kbps or N x 64 Kbps, ordered in increments of 2, 3, 4, 5, or 6 DSO channels. Channels must be sequential. Signaling can either be digital or analog, and will handle AMI or B8ZS options. The speeds at which the service may be ordered are as follows:

<u>N x 56</u>	<u>N x 64</u>
2 x 56 = 112 Kbps	2 x 64 = 128 Kbps
3 x 56 = 168 Kbps	3 x 64 = 192 Kbps
4 x 56 = 224 Kbps	4 x 64 = 256 Kbps
5 x 56 = 280 Kbps	5 x 64 = 320 Kbps
6 x 56 = 336 Kbps	6 x 64 = 384 Kbps

- (b) Fractional T-1 service is deployed, where available, using a Digital Access Cross-connect System (DACS), or D4-type channel bank located in the Telephone Company central office. The link (local loop) from the customers serving wire center (SWC) to the customers premises must be a 4-wire non-loaded copper facility. The maximum length over which the service may be provided is 12,000 feet from the SWC to the customers premises. Rates for Fractional T-1 service are set forth in Section 16, following.
- (c) Interoffice transport, when applicable, will be assessed at the current tariff rate for the type of transport selected (i.e., Digiline, DDS).

ACCESS SERVICE

7. Special Access Service (Cont'd)**7.2 Service Descriptions (Cont'd)****7.2.6 High Capacity Service (Cont'd)****(D) Optional Features and Functions (Cont'd)****(10) Enhanced Diversity Management Service****(a) General**

Enhanced Diversity Management Service ("EDMS") is a service option that provides for Telephone Company management of a customer's diverse routing of two or more special access DS1 or DS3 circuits terminating at the same location. The Telephone Company assumes responsibility for the facility assignment and routing of the customer's dedicated circuits over the Telephone Company network. Requests for EDMS service option will be through the standard Access Service Request ("ASR") provisioning process. EDMS service option may be ordered on new service installations as well as existing service. Any Rearrangements required to provide EDMS on existing circuits will be assessed the standard tariff charges as describe in Section 7.4.1(C)(3), following. EDMS is provided at two levels of service, EDMS Level 1 and EDMS Level 2. Any special construction required to provide a particular level of EDMS will be charged to the customer in accordance with the terms and conditions of the applicable Interstate Special Construction Tariff, in addition to standard tariff rates for the High Capacity service ordered under this tariff.

(C)
(C)
(C)
(C)
(C)

(b) Service Description**EDMS Level 1**

Diversity from the Serving Wire Center ("SWC") serving the Interexchange Carrier ("IXC") to the SWC serving the terminating end of the circuit. Facilities from the IXC POP SWC to the IXC may be common.

ACCESS SERVICE

7. Special Access Service (Cont'd)7.2 Service Descriptions (Cont'd)7.2.6 High Capacity Service (Cont'd)(D) Optional Features and Functions (Cont'd)(10) Enhanced Diversity Management Service (Cont'd)(b) Service Description (Cont'd)EDMS Level 2

Total diversity from the IXC POP to the terminating end of the circuit. Facilities may be through common SWCs, but on physically separate facilities.

(c) Provisioning

The customer will supply diversity requirements to the Telephone Company for an embedded or new customer network. The Telephone Company will determine the routing scheme for the DS1 or DS3 that will take the fullest advantage of the existing Telephone Company network. The design objective will be the complete physical separation of circuits such that route diversity is maintained according to the level of service ordered.

A block diagram of the circuit routing will be provided upon initial installation as well as with any subsequent changes to the circuit. A report will be issued to the customer on a quarterly basis, providing the end user customer name, service type, and circuit identification number of each diverse circuit.

(d) Rates

Recurring and non-recurring charges associated with this service are set forth in Section 16, following. All charges are in addition to the standard tariff rates associated with High Capacity DS1 and DS3 service.

ACCESS SERVICE

7. Special Access Service (Cont'd)7.3 Channel Interface and Network Channel Codes

This section explains the Channel Interface codes and Network Channel codes that the customer must specify when ordering Special Access Service. Included is an example which explains the specific characters of the code, a glossary of Channel Interface codes, impedance levels, Network Channel codes and compatible Channel Interfaces.

Example: If the customer specifies a NT Network Channel Code and a 2DC8-3 Channel Interface at the customer's premises, the following is being requested:

NT	=	Metallic Channel with a Predefined Technical Specification Package (1)
2	=	Number of physical wires at customer premises
DC	=	Facility interface for direct current or voltage
8	=	Variable impedance level
3	=	Metallic facilities (DC continuity) for direct current/low frequency control signals or slow speed data (30 baud)

7.3.1 Glossary Channel Interface Codes and Options

<u>Code</u>	<u>Option</u>	<u>Definition</u>
AB	-	accepts 20 Hz ringing signal at customer's point of termination
AC	-	accepts 20 Hz ringing signal at customer's end user's point of termination
CT	-	Centrex Tie Trunk Termination
DA	-	data stream in VF frequency band at customer's end user's point of termination
DB	-	data stream in VF frequency band at customer's point of termination
	- 10	VF for TG1 and TG2
	- 43	VF for 43 Telegraph Carrier type signals, TG1 and TG2
DC	-	direct current or voltage
	- 1	monitoring interface with series RC combination (McCulloh format)
	- 2	Telephone Company energized alarm channel
	- 3	Metallic facilities (DC continuity) for direct Current/low frequency control signals or Slow Speed data (30 baud)
DD	-	DATAPHONE Select-A-Station (and TABS) interface at customer's point of termination
DE	-	DATAPHONE Select-A-Station (and TABS) interface at the customer's end user's point of termination.
DO	-	digital interface at customer's point of termination at the digital signal level zero A (DS-OA)

ACCESS SERVICE

7. Special Access Service (Cont'd)7.3 Channel Interface and Network Channel Codes (Cont'd)7.3.1 Glossary Channel Interface Codes and Options (Cont'd)

<u>Code</u>	<u>Option</u>	<u>Definition</u>
DS	-	digital hierarchy interface
	- 15	1.544 mbps (DS1) format per PUB41451 plus D4
	- 15E	8-bit PCM encoded in one 64 kbps of the DS1 signal
	- 15F	8-bit PCM encoded in two 64 kbps of the DS1 signal
	- 15G	8-bit PCM encoded in three 64 kbps of the DS1 signal
	- 15H	14/11-bit PCM encoded in six 64 kbps of the DS1 signal
	- 15J	1.544 mbps format per PUB 41451
	- 27	274.176 mbps (DS4)
	- 27L	274.176 mbps (DS4) with SF signaling
	- 31	3.152 mbps (DS1C)
	- 31L	3.152 mbps(DS1C) with SF signaling
	- 44	44.736 mbps (DS3)
	- 44L	44.736 mbps (DS3) with SF signaling
	- 63	6.313 mbps (DS2)
	- 66L	6.313 mbps (DS2) with SF signaling
DU	-	digital access interface
	- 15S	1.544 mbps format per PUB 41451 plus extended framing format
	- 19	19.2 kbps
	- 24 *	2.4 kbps
	- 48 *	4.8 kbps
	- 56 *	56.0 kbps
	- 64 *	64.0 kbps
	- 96 *	9.6 kbps
	- A	1.544 Mbps format per PUB 41451
	- B	1.544 Mbps format per PUB 41451 plus D4 format
	- C	1.544 Mbps format per PUB 41451 plus extended framing format
	- S	1.544 Mbps (DS1) with B8ZS Clear Channel Capability per Technical Reference TR-NPL-000054
DX	-	duplex signaling interface at customer's point of termination
DY	-	duplex signaling interface at customer's end user's point of termination

* Is an additional Telephone Company designation for use when the Optional Secondary Channel feature is required.

ACCESS SERVICE

7. Special Access Service (Cont'd)7.3 Channel Interface and Network Channel Codes (Cont'd)7.3.1 Glossary Channel Interface Codes and Options (Cont'd)

<u>Code</u>		<u>Option</u>	<u>Definition</u>
EA	-	E	Type I E&M Lead Signaling. Customer at POT or customer's end user at POT originates on E Lead
EA	-	M	Type I E&M Lead Signaling. Customer at POT or customer's end user at POT originates on M Lead
EB	-	E	Type II E&M Lead Signaling. Customer at POT or customer's end user at POT originates on E Lead
EB	-	M	Type II E&M Lead Signaling. Customer at POT or customer's end user at POT originates on M Lead
EC	-		Type III E&M signaling at customer POT
EX	-	A	tandem channel unit signaling for loop start or ground start and customer supplies open end (dial tone, etc.) functions
EX	-	B	tandem channel unit signaling for loop start or ground start and customer supplies closed end (dial pulsing, etc.) functions.
GO	-		ground start loop signaling open end function by customer or customer's end user
GS	-		ground start loop signaling closed end function by customer or customer's end user
LA	-		E.I.A. (25 pin RS 232)
LA	-		end user loop start loop signaling Type A OPS
LB	-		registered port open end
LB	-		end user loop start loop signaling Type B OPS
LC	-		registered port open end
LC	-		end user loop start signaling Type C OPS registered port open end
LO	-		loop start loop signaling open end function by customer or customer's end user
LR	-		20 Hz automatic ringdown interface at customer with Telephone Company provided PLAR
LS	-		loop start loop signaling closed end function by customer or customer's end user
NO	-		no signaling interface, transmission only

ACCESS SERVICE

7. Special Access Service (Cont'd)7.3 Channel Interface and Network Channel Codes (Cont'd)7.3.1 Glossary Channel Interface Codes and Options (Cont'd)

<u>Code</u>	<u>Option</u>	<u>Definition</u>
PG	-	program transmission - no dc signaling
	- 1	nominal frequency from 50 to 15,000 Hz
	- 3	nominal frequency from 200 to 3,500 Hz
	- 5	nominal frequency from 100 to 5,000 Hz
	- 8	nominal frequency from 50 to 8,000 Hz
RV	- 0	reverse battery signaling, one-way operation, originate by customer.
	T	reverse battery signaling, one-way operation, terminate function by customer or customer's end user
SF	-	single frequency signaling with VF band at either customer POT or customer's end user's point of termination
TF	-	telephotograph interface
TT	-	telegraph/teletypewriter interface at either customer POT or customer's end user's point of termination
	- 2	20.0 milliamperes
	- 3	3.0 milliamperes
	- 6	62.5 milliamperes
	-	television interface
TV	- 1	combined (diplexed) video and one audio signal
	- 2	combined (diplexed) video and two audio signals
	- 5	video plus one (or two) audio 5 kHz signal(s) or one (or two) two wire
	- 15	video plus one (or two) audio 15 kHz signal(s)

ACCESS SERVICE

7. Special Access Service (Cont'd)7.3 Channel Interface and Network Channel Codes (Cont'd)7.3.2 Impedance

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

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

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

7.3.3 Digital Hierarchy Channel Interface Codes (4 DSX-*)

Customers selecting multiplexed four-wire DSX-1 or higher capacity interface options at the customer designated premises will be requested to provide subsequent system and channel assignment data. The various digital bit rates in the digital hierarchy employ the channel interface code 4DS9, 4DS0 or 4DS6 plus the speed options indicated below:

<u>Interface Code and Speed Option</u>	<u>Nominal Bit Rate (Mbps)</u>	<u>Digital Hierarchy Level</u>
4DS8-15	1.544	DS1
4DS8-15L	1.544	DS1
4DS6-44	44.736	DS3
4DS6-44L	44.736	DS3

ACCESS SERVICE

7. Special Access Service (Cont'd)7.3 Channel Interface and Network Channel Codes (Cont'd)7.3.4 Service Designator/Network Channel Code Conversion Table

The purpose of this table is to show the relationship between the service designator codes (e.g. VGC, MT2, etc.) and the network channel codes that are used for:

<u>Service Designator Code</u>	<u>Network Channel Code</u>
MTC	MQ
MT1	NT
MT2	NU
MT3	NV
TGC	NQ
TG1	NW
TG2	NY
VGC	LQ
VG1	LB
VG2	LC
VG3	LD
VG4	LE
VG5	LF
VG6	LG
VG7	LH
VG8	LJ
VG9	LK
VG10	LN
VG11	LP
VG12	LR
APC	PX
AP1	PE
AP2	PF
AP3	PJ
AP4	PK

ACCESS SERVICE

7. Special Access Service (Cont'd)7.3 Channel Interface and Network Channel Codes (Cont'd)7.3.4 Service Designator/Network Channel Code Conversion Table (Cont'd)

<u>Service Designator Code</u>	<u>Network Channel Code</u>
TVC	TX
TV1	TV
TV2	TW
DA1	XA
DA2	XB
DA3	XG
DA4	XH
DA5	XE
DA6	YN
HC1	HC
HC1C	HD
HC2	HE
HC3	HF
HC4	HG

ACCESS SERVICE

7. Special Access Service (Cont'd)7.3 Channel Interface and Network Channel Codes (Cont'd)7.3.5 Compatible Channel Interfaces

The following tables show the available channel interface codes (CIs) which are compatible:

(A) MetallicCompatible CIs

2DC8-1	2DC8-2
2DC8-3	2DC8-3
4DS9-*	2DC8-1
4DS9-*	2DC8-2

(B) Telegraph GradeCompatible CIs

2DB2-10	10IA2
2DB2-10	2TT2-2
2DB2-10	4TT2-2
2DB2-43+	10IA2
2DB2-43+	2TT2-2
2DB2-43+	2TT2-6
2DB2-43+	4TT2-2
4DB2-10	10IA2
4DB2-10	2TT2-2
4DB2-10	4TT2-2
4DB2-43+	10IA2
4DB2-43+	2TT2-6
4DB2-43+	4TT2-2
4DS9-*	10IA2
4DS9-*	2TT2-2
4DS9-*	4TT2-2
4DS9-*	2TT2-6
4DS9-*	4TT2-6
2TT2-2	2TT2-2
2TT2-3	2TT2-2
2TT2-3	4TT2-2
2TT2-6	4TT2-2
4TT2-2	4TT2-2
4TT2-6	2TT2-6

* See 7.3.3 preceding for explanation.

+ Supplemental Channel Assignment information required.

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Vice President, Government and Regulatory Affairs
180 S. Clinton Ave., Rochester, NY 14646

ACCESS SERVICE

7. Special Access Service (Cont'd)7.3 Channel Interface and Network Channel Codes (Cont'd)7.3.5 Compatible Channel Interfaces (Cont'd)(C) Voice Grade

<u>Compatible CIs</u>		<u>Compatible CIs</u>		<u>Compatible CIs</u>	
4AB2	4AC2	4DS9-*	9DY3	4DS9-*	6LS2
4AB3	4AC2	4DS9-*	4DY2	4DS9-*	4LS2
4AB2	2AC2	4DS9-*	6DY3	4DS9-*	2LS2
4AB3	2AC2	4DS9-*	6DY2	4DS9-*	2LS3
2AB2	2AC2	4DS9-*	4DY2		
2AB3	2AC2	4DS9-*	2DY2	4DS9-*	4NO2
			4DS9-*	2NO2	
4AB2	4SF2	4DS9-*	9EA2		
4AB3	4SF2	4DS9-*	9EA3	4DS9-*	4PR2
		4DS9-*	6EA2-E	4DS9-*	2PR2
6DA2	6DA2	4DS9-*	6EA2-M		
6DA2	4DA2	4DS9-*	4EA2-E	4DS9-*	4SF2
4DA2	4DA2	4DS9-*	4EA2-M	4DS9-*	4SF3
4DB2	6DA2	4DS9-*	8EB2-E	4DS9-*	4TF2
4DB2	4DA2	4DS9-*	8EB2-M	4DS9-*	2TF2
4DB2	2DA2	4DS9-*	6EB2-E		
2DB3	2DA2	4DS9-*	6EB2-M	6DX2	4SF2
2DB2	2DA2			4DX2	4SF2
		4DS9-*	2GO2	4DX3	4SF2
4DB2	4NO2			4DX2	4SF3
4DB2	2NO2	4DS9-*	6GS2	4DX3	4SF3
2DB2	2NO2	4DS9-*	4GS2		
		4DS9-*	2GS2	9EA3	4SF2
4DD3	4DE2	4DS9-*	2GS3	9EA2	4SF2
4DD3	2DE2			6EA2-E	4SF3
		4DS9-*	2LA2	6EA2-M	4SF3
4DS9-*	4AC2			6EA2-E	4SF2
4DS9-*	2AC2	4DS9-*	2LB2	6EA2-M	4SF2
			6EA3-E	4SF2	
4DS9-*	6DA2	4DS9-*	2LC2	4EA2-E	4SF2
4DS9-*	4DA2			4EA2-M	4SF2
4DS9-*	2DA2	4DS9-*	2LO2		
		4DS9-*	2LO3	8EB2-E	4SF2
4DS9-*	4DE2	8EB2-M	4SF2		
4DS9-*	2DE2	4DS9-*	4LR2	8EB2-E	4SF3
		4DS9-*	2LR2	8EB2-M	4SF3
4DS9-*	4DX3	6EB3-E	4SF2		
4DS9-*	4DX2	6EB2-E	4SF2	6EB2-M	4SF2

* See 7.3.3 preceding for explanation.

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ACCESS SERVICE

7. Special Access Service (Cont'd)7.3 Channel Interface and Network Channel Codes (Cont'd)7.3.5 Compatible Channel Interfaces (Cont'd)(C) Voice Grade (Cont'd)Compatible CIs

6EX2-A	4SF2
6EX2-B	4SF2
6GO2	4SF2
4GO2	4SF2
4GO3	4SF2
6LO2	4SF2
4LO2	4SF2
4LO3	4SF2
4LR2	4SF2
4LR3	4SF2
4SF2	4AC2
4SF2	2AC2
4SF3	9EA2
4SF3	9EA3
4SF3	9EA2-E
4SF3	4EA2-M
4SF3	6EB2-E
4SF3	6EB2-M
4SF3	6GS2
4SF2	6GS2
4SF2	4GS2
4SF3	4GS2
4SF2	2GS2
4SF2	2GS3
4SF3	2GS2
4SF3	2GS3
4SF3	4SF3
4SF3	4SF2
4SF2	4SF2
4TF2	4TF2
4TF2	2TF2
2TF3	2TF2

ACCESS SERVICE

7. Special Access Service (Cont'd)7.3 Channel Interface and Network Channel Codes (Cont'd)7.3.5 Compatible Channel Interfaces (Cont'd)(D) Program AudioCompatible CIs

2PG2-1	2PG1-1
2PG2-1	2PG2-1
2PG2-3	2PG1-3
2PG2-3	2PG2-3
2PG2-5	2PG1-5
2PG2-5	2PG2-5
2PG2-8	2PG1-8
2PG2-8	2PG2-8

(E) VideoCompatible CIs

2TV6-1	4TV6-15
2TV6-1	4TV7-15
2TV7-1	4TV6-15
2TV7-1	4TV7-15
4TV6-15	4TV6-15
4TV6-15	4TV7-15
4TV7-15	4TV6-15
4TV7-15	4TV7-15

ACCESS SERVICE

7. Special Access Service (Cont'd)7.3 Channel Interface and Network Channel Codes (Cont'd)7.3.5 Compatible Channel Interfaces (Cont'd)(F) Digital Data

<u>Compatible CIs</u>		<u>Compatible CIs</u>		<u>Compatible CIs</u>	
4AB2	4AC2	4DS9-*	9DY3	4DS9-*	6LS2
4DS8-15*	4DU5-24*#	4DS8-15*#	6DU5-56*#	4DU5-96*#	4DU5-96*#
4DS8-15*	4DU5-48*#	4DS8-15*#	6DU5-96*#	6DU5-24*#	6DU5-24*#
4DS8-15*	4DU5-56*#	4DU5-24*#	4DU5-24*#	6DU5-48*#	6DU5-48*#
4DS8-15*	4DU5-96*#	4DU5-48*#	4DU5-48*#	6DU5-56*#	6DU5-56*#
4DS8-15*	6DU5-24*#	4DU5-56*#	4DU8-56*#	6DU5-96*#	6DU5-96*#
4DS8-15*	6DU5-48*#				
4DS8-15	4DU5-19#				
4DS8-15	4DU5-64#				
4DS5-19	4DU5-19#				
4DS8-64	4DU5-64#				

(G) High Capacity

<u>Compatible CIs</u>		<u>Compatible CIs</u>	
4DS0-63	4DS0-63	4DS8-15	8DU8-B7
4DS0-63*	6DU8-A,B or C	4DS8-15J	6DU8-A
4DS0-63*	8DU8-A,B or C	4DS8-15J	8DU8-A
4DS6-27	4DS6-27	4DS8-15K	6DU8-B
4DS6-27*	6DU8-A,B or C	4DS8-15K	8DU8-B
4DS6-27*	8DU8-A,B or C	4DS8-15K	6DU8-C
4DS6-44	4DS6-44	4DS8-15K	8DU8-C
4DS6-44*	6DU8-A,B or C	4DS8-15S	8DU8-S
4DS6-44*	8DU8-A,B or C	4DS8-31	4DS8-31
4DS8-15	6DU8-B	4DS8-31*	6DU8-A,B or C
		4DS8-31*	8DU8-A,B or C
		4DS9-15*	4DU9-BN

* Available to customers selecting the multiplexed 4 wire DSX channel interface option and providing subsequent system and channel assignment data.

Is an additional Telephone Company designation for use when the Optional Secondary Channel feature is required.

ACCESS SERVICE

7. Special Access Service (Cont'd)7.4 Rate Regulations

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

7.4.1 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 flat recurring rates that apply to 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 flat 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 or occasional use. For purposes of applying daily rates, the 24 hour period is not limited to a calendar day. The maximum rate charged to a customer will be the daily rate for each of the first two days of service plus 1/30 of the monthly rate for each additional day within a 30 day period.

(C) Nonrecurring Charges

Nonrecurring charges are one-time charges that apply for a 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 feature(s) and function(s), and service rearrangements.

(1) Installation of Service

Nonrecurring charges apply to each service installed. The nonrecurring charges for the installation of service are set forth in Section 16 following as a nonrecurring charge for the Channel Termination rate element.

ACCESS SERVICE

7. Special Access Service (Cont'd)7.4 Rate Regulations (Cont'd)7.4.1 Types of Rates and Charges (Cont'd)(C) Nonrecurring Charges (Cont'd)(2) Installation of Optional Features and Functions

Nonrecurring charges apply for the installation of optional features and functions available with Special Access Service. The charge applies whether the feature or function is installed coincident with the installation of service or at any time subsequent to the initial installation of service.

(3) Service Rearrangements

All changes to existing services will be treated as the discontinuance of the existing service and an installation of new service, except for: changes involving the addition of optional features and functions having specific nonrecurring charges; changes involving administrative activities only; or an addition to a multipoint service. An existing service is one which has been installed and does not include services which have been ordered and not yet installed. The nonrecurring charge described in (1) preceding will apply for this work activity. If the change involves the addition of other customer designated premises to an existing multipoint service, the nonrecurring charge(s) will apply only to the location(s) being added. Moves that change the physical location of the point of termination are described in 7.4.4 following.

ACCESS SERVICE

7. Special Access Service (Cont'd)7.4 Rate Regulations (Cont'd)7.4.1 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 a 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.

7.4.2 Surcharge for Special Access Service(A) General

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

(B) Application

- (1) The Special Access Surcharge will apply to each interstate Special Access Service (e.g. Voice Grade 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.

ACCESS SERVICE

7. Special Access Service (Cont'd)7.4 Rate Regulations (Cont'd)7.4.2 Surcharge for Special Access Service (Cont'd)(B) Application (Cont'd)

- (2) 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:
- (a) an open-end termination in a Telephone Company switch of an FX line, including CCSA and CCSA-equivalent ONALs; or
 - (b) an analog channel termination that is used for radio or television program transmission; or
 - (c) a termination used for TELEX service; or
 - (d) 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
 - (e) 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
 - (f) 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.

ACCESS SERVICE

7. Special Access Service (Cont'd)7.4 Rate Regulations (Cont'd)7.4.2 Surcharge for Special Access Service (Cont'd)(C) Exemption of Special Access Service

- (1) Special Access Services which are terminated as set forth in 7.4.2 (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 (1) at the time the Special Access Service is ordered or installed; (2) at such time as the service is terminated to a device which does not interconnect to the special access service to a local exchange subscriber line, or (3) at such time as the service becomes associated with a Switched Access Service that is subject to Carrier Common Line charges.
- (2) 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 7.4.2.(B) preceding, for each termination, and the date which the exemption is effective.
- (3) The customer shall also notify the Telephone Company when an exempted Special Access Service is changed or terminated such that the exemption is no longer applicable.
- (4) The Telephone Company will work cooperatively with the customer to resolve any questions regarding the exemption certification. However, the Telephone Company reserves the right to request additional information from the customer, when necessary, to assure qualifications for exemption of the surcharge are met. In addition, the Telephone Company may withhold exemption of the service until the dispute is resolved.

ACCESS SERVICE

7. Special Access Service (Cont'd)7.4 Rate Regulations (Cont'd)7.4.2 Surcharge for Special Access Service (Cont'd)(D) Rate Regulations

- (1) The Surcharge applies to each channel of a Special Access Service and per voice grade equivalent service derived from a Special Access Service as shown 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

One Surcharge will apply for each termination of a multipoint Special Access Service at a customer's designated premises minus one.

- (2) 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 7.4.2 (C) preceding.
- (3) 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 (4) following.
- (4) The Telephone Company will cease billing the Special Access Surcharge when certification, as set forth in 7.4.2(C) 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.
- (5) Rates for the Surcharge for Special Access are set forth in Section 16, following.

ACCESS SERVICE

7. Special Access Service (Cont'd)7.4 Rate Regulations (Cont'd)7.4.3 Minimum Periods

The minimum service period for all services except part-time and occasional Video and Program Audio and Term Discount Plan services is one month.

The minimum service period for part-time and occasional Video and Program Audio services is one day (i.e., a continuous 24-hour period, not limited to a calendar day).

The minimum service period for Term Discount Plan (TDP) services is the length of the specified TDP.

7.4.4 Moves

A move involves a change in the physical location of either a point of termination at a customer premises or a 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.

(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.

ACCESS SERVICE

7. Special Access Service (Cont'd)7.4 Rate Regulations (Cont'd)7.4.5 Mileage Measurement

The mileage to be used to determine the monthly rate for the Channel Mileage 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, 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.

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.

Mileage used to determine the billing of mileage sensitive rates is computed using the V&H coordinates method as set forth in the National Exchange Carrier Association Tariff F.C.C. No. 4. When the mileage calculation results in a fraction of the specified unit, it is rounded up as follows:

For rates specified as per mile, calculations resulting in a fraction of a mile are rounded up to the next whole mile to determine billable mileage.

For rates specified as units of greater than one mile (e.g., Program Audio Service), calculations resulting in a fraction of the specified unit are rounded up to the next whole specified unit to determine billable mileage.

When a meet point billing situation is involved, the mileage is calculated as described above, then multiplied by the appropriate mileage sensitive rate and the appropriate bill percentage from the National Exchange Carrier Association Tariff F.C.C. No. 4 to determine the dollar amount billed.

ACCESS SERVICE

7. Special Access Service (Cont'd)7.4 Rate Regulations (Cont'd)7.4.6 Facility Hubs

A customer has the option of ordering analog or digital high capacity facilities (i.e., Group, Supergroup, Mastergroup, 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. Specific hub location information is incorporated in Exchange Carrier Association Tariff F.C.C. No. 4.

Some of the types of multiplexing available include the following:

- from higher to lower bit rate
- from higher to lower bandwidth
- from digital to voice frequency channels

End to end services may be provided on channels of these facilities to a Hub. The transmission performance for the end to end service provided between the customer designated premises will be that of the lower capacity or bit rate. For example, when a 1.544 Mbps service 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 facility to the Hub on the date specified by the customer on the service order. Individual services utilizing these facilities may be installed coincident with the installation of the facility 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 high capacity analog or digital Channel Termination, Channel Mileage (when applicable), and the multiplexer at the time the facility is installed. Individual service rates (by service type) will apply for the 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 channel is de-multiplexed to provide channels with a lesser capacity and one of the lesser capacity channels is further de-multiplexed. For example, a Supergroup facility is de-multiplexed to five Group facilities and then one of the Group facilities is further de-multiplexed to individual voice grade channels.

ACCESS SERVICE

7. Special Access Service (Cont'd)7.4 Rate Regulations (Cont'd)7.4.6 Facility Hubs (Cont'd)

When cascading multiplexing is performed in the same Hub, a charge for the additional multiplexing unit and the channel interface charge for the resulting lower capacity channel apply. When cascading multiplexing is performed at different hubbing locations Channel Mileage also applies between the Hubs.

Although not requiring multiplexing, the Telephone Company will designate certain Hubs for Video and Program Audio Services. Full-time service will be provided between a customer designated premises and a Hub and billed accordingly at the monthly rates set forth in Section 16 following for a Channel Termination, Optional Features and Functions, and Channel Mileage, as applicable. The customer may order part-time and occasional Video and Program Audio services as needed between a Hub and a second customer designated premises. The rate elements required to provide the part-time or occasional service (i.e., Channel Termination, Optional Features and Functions, and Channel Mileage, as applicable) will be billed at daily rates for the duration of the service requested.

ACCESS SERVICE

7. Special Access Service (Cont'd)7.4 Rate Regulations (Cont'd)7.4.7 Shared Use Digital High Capacity Services

Shared use occurs when Special Access Service and Switched Access Service are provided over the same High Capacity (i.e., 1.544 Mbps or 45 Mbps) facility through a common interface. The facility will be ordered, provided and rated as Special Access Service (i.e., Channel Termination, Channel Mileage, as appropriate and Multiplexer). The nonrecurring charge that applies when the shared use facility is installed will be the nonrecurring charge associated with the appropriate Special Access Termination (i.e., 1.544 Mbps or 45 Mbps) and if applicable, the nonrecurring charge for the DS3 to DS1 multiplexer.

Rating as Special Access will continue until such time as the customer chooses to use a portion of the available capacity for providing Switched Access Service. As each individual channel is activated for Switched Access Service, the Special Access Channel Termination and Channel Mileage rates will be reduced accordingly (i.e., 1/24th for a DS1 service and 1/672nd for a DS3 service). The customer must place an order for each individual Switched or Special Access Service utilizing the Shared Use Facilities and specify the channel assignment for each such service.

Switched Access Service rates set forth in Section 16 following will apply for each channel of the shared use facility that is used to provide a Switched Access Service. Where Special Access Service is provided utilizing a channel of the shared use facility to a Hub, high capacity rates and charges will apply or 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 as set forth in Section 16, following.

ACCESS SERVICE

7. Special Access Service (Cont'd)

7.4 Rate Regulations (Cont'd)

(D)

(D)

ACCESS SERVICE

7. Special Access Service (Cont'd)

7.4 Rate Regulations (Cont'd)

(D)

(D)

ACCESS SERVICE

7. Special Access Service (Cont'd)7.5 Expanded Interconnection Service7.5.1 General

Expanded Interconnection Service is an interstate service offering which allows customers to interconnect with Telephone Company Special Access facilities and services by means of either Physical (interconnector equipment is physically located in Telephone Company central office), or Virtual (interconnector equipment is located outside of Telephone Company central offices), connection. Unless otherwise stated, all terms, conditions and rates contained in this tariff are in reference to Physical collocation of interconnectors equipment and facilities.

7.5.2 Service Description

Expanded Interconnection service provides for the interconnection of Telephone Company provided loop facilities and other Company provided facilities and services to interconnect to provided fiber optic facilities. An interconnector is a customer who provides fiber-optic facilities through Telephone Company entrance manholes for connection to interconnector equipment located in a Telephone Company's central office. If space constraints in a central office prohibit the physical location of interconnector equipment the Telephone Company will designate the nearest connection point outside the central office for connection to the interconnector's equipment and facilities. Such facilities will be used solely for the carriage of interstate special access service.

The Telephone Company will provide interconnection to the following facilities and services:

1.544 Mbps Service
45 Mbps Service
Microwave

The Telephone Company will provide two points of entry to interconnectors in those central office where the Telephone Company utilizes two points of entry for its own services.

This service is subject to the availability of space and facilities in each central office where a bona fide request for Special Access Expanded Interconnection is received.

ACCESS SERVICE

7. Special Access Service (Cont'd)7.5 Expanded Interconnection Service (Cont'd)7.5.2 Service Description (Cont'd)(A) Service Availability

- (1) Subject to availability of space, this service will be provided to interconnectors on a first come, first served basis. Upon receipt of a bona fide request, including letters of agency for ordering and billing purposes, from an interconnector for interconnection in a Telephone Company central office, the Telephone Company will survey the central office to determine which form of interconnection is available in that particular central office. The survey and its results will be communicated to the interconnector in a reasonable time frame. In those instances where space becomes a limited resource, the Telephone Company reserves the right to petition the Commission for approval of any allocation plan necessary to accommodate bona fide interconnectors.
 - (a) The Telephone Company will provide interconnectors with at least 180 days to satisfy the requirement that floor space be efficiently used.
 - (b) The Telephone Company will make reasonable efforts to provide contiguous space when the interconnector requires it for expansion.
- (2) The minimum floor space allocated per interconnector will be 100 square feet per central office. This rate is a nonrecurring charge. Additional space may be requested on an as needed basis and will be made available where feasible. An interconnector may request additional space in increments of 100 square feet in the same central office. Upon request for additional contiguous 100 square feet of central office floor space will be filed in this tariff.
 - (a) The interconnector will be required to pay a \$7,500 deposit when it places its firm order. This deposit will be applied to the total central office Build Out nonrecurring charge.
- (3) Upon request, cage access in increments other than 100 square feet may be negotiated on an individual case basis and will be filed in this tariff and made generally available.
- (4) Power delivery provides for delivery of the Telephone Company DC power to one node. The rate is a nonrecurring charge.

ACCESS SERVICE

7. Special Access Service (Cont'd)7.5 Expanded Interconnection Service (Cont'd)7.5.2 Service Description (Cont'd)(B) Obligation of The Telephone Company

- (1) The Telephone Company will permit the interconnector to establish a "multiplexing node" at the specified Telephone Company central office to which the interconnector constructs fiber optic interconnection cable(s). That multiplexing node will be the location where the following interconnector's equipment is located within the Telephone Company central office.
 - (a) Optical Line Terminating Multiplexers (OLTM)
 - (b) DS3 to DS1 and DS1 to DS0 Multiplexers
 - (c) Digital Cross-Connect Systems (DACS)
- (2) The Telephone Company will provide the interconnector with the central office environmental and transmission standards in effect at the time of installation.
- (3) The Telephone Company will designate the floor space within each central office which will constitute the multiplexing node. The Telephone Company may, at the interconnector's expense, at rates specified or to be specified in this tariff enclose the interconnector's multiplexing node in a cage or room. The interconnector may locate in its space any central office equipment needed to terminate basic transmission facilities, including optical terminating equipment and multiplexers.
- (4) The Telephone Company will respond to requests for interconnection within thirty (30) days of receipt of a written request. If the Telephone Company determines that space is available, it shall complete all necessary site preparation work to permit the interconnector to occupy such space within six (6) months of such determination.

ACCESS SERVICE

7. Special Access Service (Cont'd)7.5 Expanded Interconnection Service (Cont'd)7.5.2 Service Description (Cont'd)(B) Obligation of The Telephone Company (Cont'd)

- (5) In addition to the floor space, the Telephone Company will provide DC power, battery and generator back-up power and environmental support to the interconnector's equipment in the same manner that it provides such support items to its own equipment within the central office. Terms, conditions, and rates for these services will be specified in individual agreements between the Telephone Company and the interconnector on an office-by-office basis. Recurring rates for these services (by office) may be found in Section 16 following. The Telephone Company will file such agreements in this tariff.
- (6) The Telephone Company will permit the interconnector's employees, agents and contractors approved by the Telephone Company (such approval will not be reasonably withheld) to have access, at all times, to the areas where the interconnector's multiplexing node is located. The interconnector's employees, agents and contractors must comply with the policies and practices of the Telephone Company pertaining to fire, safety and security.
- (7) The Telephone Company and/or vendors employed by the Telephone Company will install and repair the fiber optic cable(s) between the manhole and the multiplexing node at the interconnector's expense. This support will be provided in a timely and efficient manner consistent with the Telephone Company's treatment of its own facilities. The Telephone Company will absorb any costs related to troubles which it has caused.
- (8) The Telephone Company will designate DSX panels or distribution blocks as the point of termination (POT) within each central office as the point of physical demarcation between the interconnector's services and the Telephone Company's services. The Telephone Company will be responsible for all maintenance and related activities on the Telephone Company side of the POT.

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7. Special Access Service (Cont'd)7.5 Expanded Interconnection Service (Cont'd)7.5.2 Service Description (Cont'd)(B) Obligation of The Telephone Company (Cont'd)

- (9) The Telephone Company will, where reasonably feasible, provide Microwave Interconnection upon bonafide requests. Each instance will be negotiated on an Individual Case Basis and will be filed in this tariff and made generally available.

The Telephone Company and/or vendors employed by the Telephone Company will supply, install, and repair, at interconnector's expense, at rates specified or the to be specified in this tariff, all cables, racks, and central office termination equipment necessary to provide the interface required for connection to the Telephone Company's network between the POT and the multiplexing mode.

- (10) The Telephone Company will not terminate the interconnector's service for violating a tariff provision unless the interconnector has been given notice and an opportunity to cure the violator.

If an initial interconnector has paid a nonrecurring charge for an asset and is succeeded by another interconnector who uses that asset, the initial interconnector will be credited the remaining undepreciated amount of the equipment and the cage construction cost upon occupancy by the subsequent interconnector;

- (a) The subsequent interconnector will be responsible for paying the remaining undepreciated amount of the cost.

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7. Special Access Service (Cont'd)7.5 Expanded Interconnection Service (Cont'd)7.5.2 Service Description (Cont'd)(B) Obligation of The Telephone Company (Cont'd)

- (11) In the event of a catastrophic loss, resulting in damages to the central office and the physical collocation spare, the Telephone Company will inform interconnectors of plans to rebuild as soon as is practicable and the Telephone Company will restore service to interconnectors as soon as possible.

If the Telephone Company uses an asset for which an interconnector paid a nonrecurring charge, the Telephone Company will make a pro rate refund to the interconnector.

- (a) The pro rate refund will be based on the life of the equipment and interconnectors specific construction on the economic life of the equipment and the cage.
- (12) If the Telephone Company reasonably relocates an interconnector to another central office, the Telephone Company will make all reasonable efforts to minimize disruption of the interconnector's service.
- (a) If the Telephone Company relocates interconnectors to either a central office at a new location or to a new location within the central office for reasons other than an emergency, the Telephone Company will provide interconnection with at least 180 days' advance written notice.

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7. Special Access Service (Cont'd)7.5 Expanded Interconnection Service (Cont'd)7.5.2 Service Description (Cont'd)(C) Obligation of The Interconnector

- (1) The interconnector will be responsible for installing, maintaining, repairing and servicing its equipment located in the central office multiplexing node.
- (2) The interconnector will be responsible for supplying the fiber optic cable(s) from the manhole to the multiplexing node.
- (3) The interconnector will be responsible for any non-recurring costs incurred by the Telephone Company.
 - (a) If an interconnector withdraws a request for physical collocation, the interconnector will only be responsible for those amounts already expended on its behalf.
- (4) Interconnectors shall maintain, at its sole cost and expense, insurance specified below. Such insurance shall be underwritten by insurance companies licensed to do business in the State of New York and shall name the Telephone Company as an additional insured and loss payee.
 - (a) Comprehensive general liability coverage on per occurrence basis in the amount of \$3 million combined single limit for bodily injury and property damage.
 - (b) Umbrella/Excess Liability coverage in an amount of \$5 million.
 - (c) All Risk Property coverage on a full replacement cost basis insuring all of interconnector's real and personal property situated on or within the Telephone Company's location(s).
 - (d) Statutory Workers Compensation and Employers Liability coverage in an amount of \$2 million.
 - (e) Auto liability insurance with at least a \$3 million bodily injury and property damage combined single limit.

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7. Special Access Service (Cont'd)7.5 Expanded Interconnection Service (Cont'd)7.5.3 Types of Charges(A) Cross-Connect

A cross-connect charge will be charged on a monthly basis to recover the costs of the facilities and equipment required for the cable connection from the Telephone Company distribution frame to the central office electronic equipment owned or dedicated to the interconnector. Rates will be standard for each Telephone Company central office where an interconnector has established a multiplexing node. Rates may be found in Section 16 following.

(B) Connection Charge

Connection charges may reasonably differ by central office due to variations in costs. These charges recover the costs for central office space usage under physical collocation. Other such costs recovered by connection charges are, power, environmental conditioning, and use of riser and conduit space. These charges are set forth in Section 16 following, for each central office in which a cross-connect rate element is being assessed to an interconnector in a given central office. If an interconnector has established a multiplexing node via the Telephone Company Intrastate interconnect tariff, and is currently being assessed connection charges from that tariff and is requesting interstate special access interconnection service, only the cross-connect charges will be assessed from this tariff.