

ACCESS SERVICE

7. SPECIAL ACCESS SERVICE

7.1 Provision of Special Access Service

Special Access Service provides a dedicated 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 may also be combined with Switched Access Services in the provision of a customer's intrastate communications service (WATS, 800 or WATS-type Services). Special Access Service includes all exchange access not utilizing Telephone Company central office switches.

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

7.1.1 Circuit Types

There are nine types of circuits used to provide Special Access Services:

- Metallic (MT)
- Low Speed Data (LSD)
- Voice Grade (VG)
- Program Audio (AP)
- Video (TV)
- Wideband Analog (WA)
- Wideband Data (WD)
- Digital Data (DA)
- High Capacity (HC)

* The Telephone Company Centrex CO-like switches are considered to be customer premises for purposes of this tariff.

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7. SPECIAL ACCESS SERVICE (Cont'd)

7.1 Provision of Special Access Service (Cont'd)

7.1.1 Circuit Types (Cont'd)

These circuits can be either analog or digital. Analog circuits are differentiated by frequency spectrum and bandwidth. Digital connections are differentiated by bit rate.

Each of the nine circuits has its own characteristics. All of the circuit types are subdivided by one or more of the following:

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

The circuit descriptions as set forth in this section specify the characteristics of the basic circuit and indicates whether the circuit is provided between customer designated premises or 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 telephone company office capable of combining switched or special access services or a WATS serving office.

Customers can order a basic circuit and select from a list of available technical specifications packages (customized or pre-defined), channel interfaces, and optional features to design a circuit which meets the Customer's specific communications needs. For purposes of ordering circuits, each has been identified as a type of Special Access circuit. However, such

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7. SPECIAL ACCESS SERVICE (Cont'd)**7.1 Provision of Special Access Service (Cont'd)****7.1.1 Circuit Types (Cont'd)**

identification is not intended to limit a customer's use of the circuit, nor to imply that a circuit is limited to a particular use.

The optional features and functions available with each type of basic circuit are included in the individual service description sections following. The optional features and functions information also indicates with which technical specifications packages they are available.

When a customized circuit is ordered, the Telephone Company may determine that Additional Engineering is required to meet the customer's request for service. The customer will be notified whether Additional Engineering charges apply and will be given an estimate of the hours to be billed before any further action is taken on the order. Additional engineering charges are determined as set forth in Section 8.1 following.

7.1.2 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. A Voice Grade Special Access Circuit may be provided as a

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7. SPECIAL ACCESS SERVICE (Cont'd)

7.1 Provision of Special Access Service (Cont'd)

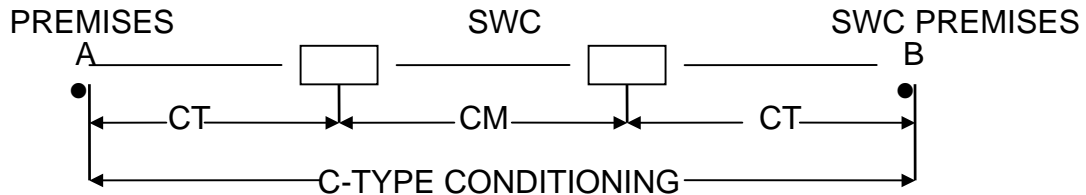
7.1.2 Service Configurations (Cont'd)

(A) Two-Point Service (Cont'd)

two-point service connecting an end user premise and a Telephone Company switch when Special Access is used in conjunction with Switched Access as set forth in Section 6 for Combined Access Service Arrangements. (T)

All types of Special Access Service may be provided as two-point service.

The following diagram depicts an example of a two-point Voice Grade service connecting two customer-designated premises located 15 miles apart. The service is provided with the optional feature of C-Type conditioning.



CT - Circuit Termination
 CM - Circuit Mileage
 SWC- Serving Wire Center

Applicable rate elements are:

- Circuit Termination (2 applicable)
- Circuit Mileage (fixed rate plus rate per airline mile between SWC)
- C-Type Conditioning Optional Feature

In addition, charges for additional Optional Features and Functions may apply.

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7. SPECIAL ACCESS SERVICE (Cont'd)**7.1 Provision of Special Access Service (Cont'd)****7.1.2 Service Configurations (Cont'd)****(B) Multipoint Service**

Multipoint service connects three or more customer designated premises through a Telephone Company hub (i.e., bridging locations). Only certain types of Special Access Service are provided as multipoint service. These are so designated in the Service Descriptions for the appropriate circuit.

The circuit between hubs on a multipoint service is a mid-link. There is no limitation on the number of mid-links, but the use of more than three mid-links in tandem may degrade the quality of multi-point facilities.

Multipoint service utilizing a customized technical specifications package, as set forth in 7.1.3, will be provided when technically possible.

When ordering, the customer will specify the desired bridging hub(s). Section 15 of this tariff references serving wire centers, hub locations and the type of bridging functions available.

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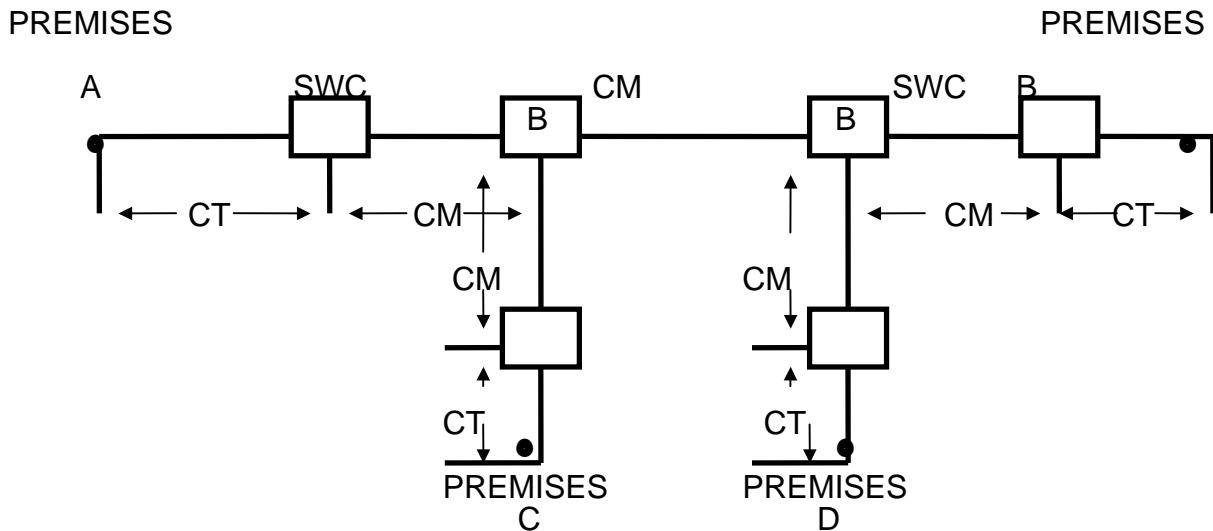
7. SPECIAL ACCESS SERVICE (Cont'd)

7.1 Provision of Special Access Service (Cont'd)

7.1.2 Service Configurations (Cont'd)

(B) Multipoint Service (Cont'd)

The following diagram depicts an example of a Voice Grade multi-point service connecting four customer premises via two customer specified bridging hubs.



- CT - Circuit Termination
- CM - Circuit Mileage
- B - Bridging
- SWC- Serving Wire Center

Applicable rate elements are:

- Circuit Termination (4 applicable)
- Circuit Mileage (5 sections-fixed rate plus rate per mile between SWC)
- Bridging Optional Features (6 applicable, i.e., each bridge port)

In addition, charges for other Optional Features and Functions may be applicable.

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7. SPECIAL ACCESS SERVICE (Cont'd)**7.1 Provision of Special Access Service (Cont'd)****7.1.3 Technical Specifications Packages**

Information pertaining to the technical specifications packages indicates the transmission parameters that are available with each package. This information is included in each individual service description section in 7.3 through 7.11 following, in a matrix format 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 above in parentheses following the category of Special Access Service.

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.

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

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7. SPECIAL ACCESS SERVICE (Cont'd)**7.1 Provision of Special Access Service (Cont'd)****7.1.3 Technical Specifications Packages (Cont'd)**

Metallic	PUB 62502
Low Speed Data	PUB 62502
Voice Grade	PUB TR-NPL-000335
	PUB 41004, Table 4
Program Audio	PUB 65203 and associated Addendum
Video	PUB 62504 and associated Addendum
Wideband Analog	PUB 62505 and associated Addendum
Wideband Data	PUB 62506
Digital Data	PUB 62507
	PUB 62310
High Capacity	PUB 64508
	PUB 62411

The Telephone Company will maintain existing transmission specifications on services installed prior to the effective date of this tariff, except that existing services with performance specifications exceeding the standards listed in this provision will be maintained at those levels until disconnected and all new services will be maintained at the performance levels specified in this tariff.

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.

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7. SPECIAL ACCESS SERVICE (Cont'd)

7.1 Provision of Special Access Service (Cont'd)

7.1.4 Channel Interfaces

Channel interfaces at each point of termination on a two-point service may be symmetrical or asymmetrical. On a multipoint service they may also be symmetrical or asymmetrical, but communications can only be provided between compatible channel interfaces. Only certain channel interfaces are compatible. These are set forth in Section 9 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 in 7.1.3 preceding. When a customized circuit is requested, all channel interface combinations available with the specified type of service are available with the customized circuit.

7.1.5 Alternate Use

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

The arrangement required to transfer the service from one operation to the other (i.e., the transfer relay and control

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7. SPECIAL ACCESS SERVICE (Cont'd)**7.1 Provision of Special Access Service (Cont'd)****7.1.5 Alternate Use (Cont'd)**

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., Circuit Terminations, Circuit Mileage [as applicable] and Optional Features and Functions [if any]).

7.1.6 Special Facilities Routing

A customer may request that the Special Access used be specially routed. The regulations, rates and charges for Special Facilities Routing are as set forth in Section 11 following.

7.1.7 Design Layout Report

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

7.1.8 Acceptance Testing

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

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7. SPECIAL ACCESS SERVICE (Cont'd)

7.1 Provision of Special Access Service (Cont'd)

7.1.8 Acceptance Testing (Cont'd)

- (A) For Voice Grade analog services, acceptance testing will include tests for loss, 3-tone slope, DC continuity, operational signaling, C-notched noise, and C-message noise as applicable according to the order for service. Voice Grade services acceptance testing will also include a balance (improved loss) test if the customer has ordered that optional feature.
- (B) For services other than Voice Grade, acceptance tests will include tests for the parameters applicable to the service as specified by the customer in the order for service.

In addition to the above tests, Additional Cooperative Acceptance Testing and Nonscheduled Testing, as described in Section 8.4 following, are available at the customer's request. All test results will be made available to the customer upon request.

7.2 Rate Categories, Applications and Regulations

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

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7. SPECIAL ACCESS SERVICE (Cont'd)

7.2 Rate Categories, Applications and Regulations (Cont'd)

7.2.1 Rate Categories

The following rate categories apply to Special Access Service:

- Circuit Terminations
- Circuit Mileage
- Optional Features and Functions
- Nonrecurring Charges

These rate categories are described in Sections 7.2.1(A) through (D) following.

(A) Circuit Termination

The Circuit Termination rate category provides for the communications path between a customer designated premises and the serving wire center of that premises. Included as part of the Circuit Termination is a standard channel interface arrangement which defines the technical characteristics associated with the type of facilities to which the access service is to be connected at the Point of Termination (POT) and the type of signaling capability, if any. The signaling capability itself is provided as an optional feature as set forth in (C) following. One Circuit Termination charge applies per customer designated premises at which the circuit is terminated. This charge will apply even if the customer designated premises and the serving wire center are co-located in a Telephone Company building.

For the avoidance of any doubt when a customer orders Special Access Service to a Telephone Company Switch, that switch is a Customer Designated Premise (CDP) where the Special Access terminates.

(N)
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(N)

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7. SPECIAL ACCESS SERVICE (Cont'd)

7.2 Rate Categories, Applications and Regulations (Cont'd)

7.2.1 Rate Categories (Cont'd)

(B) Circuit Mileage

The Circuit Mileage rate category provides for the end office equipment and transmission facilities between serving wire centers and/or Telephone Company hubs. In addition, when Special Access is used in conjunction with Switched Access Service as set forth in Section 6 preceding for Combined Access Service Arrangements, and the end office serving the customer's end user premises is not capable of combining Switched and Special Access or is not a WATS Serving Office, Circuit Mileage is used to extend the Special Access Circuit to a WATS Serving Office or office capable of combining Switched and Special Access Services. The Circuit Mileage charge is composed of a flat monthly charge plus a rate per mile. (T)

(1) Fixed Rate

The fixed rate component of Circuit Mileage is applied only once per Circuit Mileage facility and is also applied when two or more customer designated premises are served by a common serving wire center (i.e., mileage is zero). When Special Access is used in conjunction with Switched Access where the customer's end user premises for the Special Access facility is served by a Telephone Company office capable of combining Switched and Special Access Service, or a WATS Serving Office, the fixed rate does not apply.

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7. SPECIAL ACCESS SERVICE (Cont'd)**7.2 Rate Categories, Applications and Regulations (Cont'd)****7.2.1 Rate Categories (Cont'd)****(B) Circuit Mileage (Cont'd)****(2) Per Mile Rate**

The mileage to be used to determine the monthly rate for the per mile portion of Circuit Mileage is calculated on the airline distance 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, between two Telephone Company hubs, or between a Telephone Company end office and a WATS serving office, or Telephone Company office capable of combining Switched and Special Access Services. The serving wire center associated with a customer designated premise is the serving wire center from which this customer disengaged premise would normally receive dial tone. The information for mileage calculation and serving wire center V&H coordinates are specified in Section 15 of this tariff. Where the calculated miles include a fraction, the value is always rounded up to the next full mile.

When hubs are involved, mileage is computed and rates applied separately for each section of the Circuit Mileage, i.e., customer designated premises serving wire center to hub, hub to hub and/or hub

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to customer designated premise 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.

When more than one Telephone Company is involved in the provision of Special Access Service, the mileage for the per mile component of Circuit Mileage for each Telephone Company is calculated as set forth in Section 2.4.7 preceding.

(C) Optional Features and Functions

Optional Features and Functions may be added to a basic circuit service to improve its quality or utility to meet the customer's specific communications requirements. These optional features and functions are identifiable with specific equipment, and represent the end result in terms of performance characteristics which may be

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7. SPECIAL ACCESS SERVICE (Cont'd)**7.2 Rate Categories, Applications and Regulations (Cont'd)****7.2.1 Rate Categories (Cont'd)****(C) Optional Features and Functions (Cont'd)**

obtained. These characteristics may be obtained by using various combinations of equipment. Although the equipment necessary to perform a specified function may be installed at various locations along the path of the service, they will be charged for a single rate element.

Descriptions for each of the available Optional Features and Functions are set forth in Sections 7.3 through 7.11 following. Specific rate applications for multiplexing are set forth in 7.2.4 following.

(D) Nonrecurring Charges

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

(1) Access Service Request (ASR) Order Charge

This charge applies on a per ASR basis for customer requests for installation of Special Access Services. The ASR Order Charge shall apply regardless of whether the service is installed.

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7. SPECIAL ACCESS SERVICE (Cont'd)

7.2 Rate Categories, Applications and Regulations (Cont'd)

7.2.1 Rate Categories (Cont'd)

(D) Nonrecurring Charges (Cont'd)

(2) Installation Charge

Installation charges apply to each service installed. The charges for the installation of service are applied per Circuit Termination.

(3) Installation of Optional Features and Functions

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

The optional features for which installation charges apply are:

- Voice Grade Data Capability
- Voice Grade Telephoto Capability
- Program Audio Gain Conditioning
- Program Audio Stereo
- Wideband Data Transfer Arrangement

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7. SPECIAL ACCESS SERVICE (Cont'd)**7.2 Rate Categories, Applications and Regulations (Cont'd)****7.2.1 Rate Categories (Cont'd)****(D) Nonrecurring Charges (Cont'd)****(4) Moves**

A move involves a change in the physical location of either the customer's premises or a point of termination at the customer's premises. The charges for the move are dependent on whether the move is to 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 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 a start of service and all associated nonrecurring charges will apply. New minimum period requirements will be established for the new services. The customer will also remain responsible for satisfying all outstanding minimum period charges for the discontinued service.

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7. SPECIAL ACCESS SERVICE (Cont'd)**7.2 Rate Categories, Applications and Regulations (Cont'd)****7.2.1 Rate Categories (Cont'd)****(D) Nonrecurring Charges (Cont'd)****(5) Service Rearrangements**

Service rearrangements are changes to existing (installed) services which may be administrative only in nature, or that involves actual physical change to the service. Changes to pending orders are set forth in Section 5.3.1 preceding.

(a) A charge will not apply to administrative changes 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.

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7. SPECIAL ACCESS SERVICE (Cont'd)

7.2 Rate Categories, Applications and Regulations (Cont'd)

7.2.1 Rate Categories (Cont'd)

(D) Nonrecurring Charges (Cont'd)

(5) Service Rearrangements (Cont'd)

(b) All other service arrangements will be charged for as follows:

- If the change involves the addition of other customer designated premises to an existing multipoint service, the installation charge for the Circuit Termination rate element and ASR order charge will apply. The charge(s) will apply only for the location(s) that is being added.
- If the change involves the addition of an optional feature or function which has a separate nonrecurring charge, that nonrecurring charge will apply.
- If the change involves changing the type of signaling on a Voice Grade service, a charge equal to the Voice Grade Circuit Termination rate element nonrecurring charge will apply. The charge will apply per service termination affected.

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7. SPECIAL ACCESS SERVICE (Cont'd)

7.2 Rate Categories, Applications and Regulations (Cont'd)

7.2.1 Rate Categories (Cont'd)

(D) Nonrecurring Charges (Cont'd)

(5) Service Rearrangements (Cont'd)

(b) (Cont'd)

- For all other changes, including the addition of optional feature or function without a separate nonrecurring charge, a charge equal to a Circuit Termination rate element nonrecurring charge will apply. Only one such charge will apply per service, per change.

7.2.2 Minimum Periods

The minimum service period for all services except part-time and occasional Video and Program Audio services is one month. The minimum service period for part-time Video and Program Audio Services is one day, even though the service will be provided only for the duration of the event specified on the order (e.g., one-half hour, two hours, five hours, etc.).

7.2.3 Application of Daily and Monthly Rates

(A) Daily Rates

Daily rates are recurring rates that apply to each 24 hour period or fraction thereof that a Video or Program Audio

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7. SPECIAL ACCESS SERVICE (Cont'd)**7.2 Rate Categories, Applications and Regulations (Cont'd)****7.2.3 Application of Daily and Monthly Rates (Cont'd)****(A) Daily Rates (Cont'd)**

Special Access Service provided for part-time or occasional use. For purposes of applying daily rates, the 24 hour period is not limited to a calendar day.

Part-time Program Audio or Video Service ordered on one Access Service Request and provided within a consecutive 30 day period will be charged the daily rate, not to exceed an amount equal to the monthly rate. For each subsequent day or part day, a charge equal to 1/30th of the monthly rate shall apply.

(B) Monthly Rates

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

7.2.4 Facility Hubs and Multiplexing

A customer has the option of ordering Voice Grade facilities or High Capacity facilities (i.e., Group, Supergroup, Mastergroup, DS1, DS1C, DS2, DS3 or DS4) to a facility hub for multiplexing to individual services of a lower capacity or bandwidth (e.g., Telegraph, Voice, Program Audio, etc.). Additionally, the customer may specify optional features for the individual circuits derived from the facility to further tailor the circuit to meet specific communications requirements.

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7. SPECIAL ACCESS SERVICE (Cont'd)**7.2 Rate Categories, Applications and Regulations (Cont'd)****7.2.4 Facility Hubs and Multiplexing (Cont'd)**

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 circuits

A hub is a Telephone Company designated wire center at which multiplexing functions are performed.

Different locations may be designated as hubs for different facility capacities, e.g., multiplexing from digital to digital may occur at one location while multiplexing from digital to analog may occur at a different location. When placing an Access Service Request the customer will specify the desired hub. Section 15 of this tariff identifies serving wire centers, hub locations, and the type of multiplexing functions available.

Point to point services may be provided on circuits of these facilities to a hub. The transmission performance for the point to point service provided between the customer designated premises will be that of the lower capacity or bit rate.

The Telephone Company will commence billing the monthly rate for the facility to the hub on the date specified by the customer on the Access Service Request. The customer will be billed for a High Capacity or Voice Grade Circuit Termination, Circuit Mileage and the multiplexer for the service at the time the facility is installed. Individual services

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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. Individual service rates (by service type) will apply for a Circuit Termination and additional Circuit 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 circuit is de-multiplexed to provide circuits with a lesser capacity and one of the lesser capacity circuits is further de-multiplexed. When cascading multiplexing is performed, whether in the same or a different hub, a charge for the additional multiplexing unit also applies. When cascading multiplexing is performed at different hubbing locations, Circuit Mileage charges also apply 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 20 for a Circuit Termination, and Circuit Mileage and Optional Features and Functions as applicable. The customer may order part-time and occasional Program Audio or Video services as needed between the hub and a second customer designated premises. The rate elements required to provide the part-time or occasional service (i.e., Circuit Termination, and Circuit Mileage and Optional Features as applicable) will be billed at daily rates for the duration of the service requested.

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7. SPECIAL ACCESS SERVICE (Cont'd)**7.2 Rate Categories, Applications and Regulations (Cont'd)****7.2.5 Shared Use Analog and Digital High Capacity Services**

Shared use refers to a rate application applicable only when the customer orders High Capacity or Wideband Analog facilities between a customer designated premises and a Telephone Company hub where the Telephone Company performs multiplexing/demultiplexing functions and the same customer then orders the derived circuits as Special and Switched Access Services.

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

As each individual circuit is activated for Switched Access Service, the High Capacity or Wideband Analog Special Access Circuit Termination and Circuit Mileage rates will be reduced accordingly (e.g., 1/24th for a DS1 service, etc.). Switched Access Service rates and charges, as set forth in Section 6 preceding, will apply for each circuit of the shared use facility that is used to provide a Switched Access Service.

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

When Special Access Service is provided utilizing a circuit of the shared use facility to a hub, High Capacity or Wideband Analog rates and charges will apply for the facility to the hub, as set forth preceding, and individual service rates and charges will apply from the hub to the customer designated premises. The rates and charges that will apply to the portion from the hub to the customer designated premises will be dependent on the specific type of Special Access Service that is provided (e.g., Voice Grade, Telegraph, etc.). The applicable rates and charges will include a Circuit Termination and Circuit Mileage, if applicable. Rates and charges for optional features and functions associated with the service, if any, will apply for the appropriate circuit type.

7.3 Metallic Service**7.3.1 Basic Circuit Description**

A Metallic circuit is an unconditioned two-wire circuit capable of transmitting low speed varying signals at rates up to 30 baud. Metallic circuits are provided between customer designated premises or between a customer designated

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ACCESS SERVICE

7. SPECIAL ACCESS SERVICE (Cont'd)

7.3 Metallic Service (Cont'd)

7.3.1 Basic Circuit Description (Cont'd)

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.

7.3.2 Technical Specifications Packages

Parameter	Package MT-			
	C	1	2	3
DC Resistance				
Between Conductors	X	X	X	
Loop Resistance	X			X
Shunt Capacity	X		X	

The technical specifications are delineated in Technical Reference PUB 62502.

7.3.3 Channel Interfaces

Compatible channel interfaces are set forth in Section 9 following.

7.3.4 Optional Features and Functions

(A) Central Office Bridging Capability

- (1) 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 premises.

Continued

ACCESS SERVICE

7. SPECIAL ACCESS SERVICE (Cont'd)

7.3 Metallic Service (Cont'd)

7.3.4 Optional Features and Functions (Cont'd)

(A) Central Office Bridging Capability (Cont'd)

(2) Series Bridging of up to 26 customer premises. The following table shows the technical specifications packages with which the optional features and functions are available.

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

7.4 Low Speed Data

7.4.1 Basic Service Description

A Low Speed Data circuit is an unconditioned circuit capable of transmitting binary signals at rates of 0-75 baud or 0-150 baud. This circuit is furnished for half-duplex or duplex operation. Low Speed Data circuits are provided between customer designated premises or between a customer designated premises and a Telephone Company hub.

Continued

ACCESS SERVICE

7. SPECIAL ACCESS SERVICE (Cont'd)

7.4 Low Speed Data (Cont'd)

7.4.2 Technical Specifications Packages

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

The technical specifications are delineated in Technical Reference PUB 62502.

7.4.3. Channel Interfaces

Compatible channel interfaces are set forth in Section 9 following.

7.4.4 Optional Features and Functions

(A) Data 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>
Data Bridging	X	X	X

Continued

ACCESS SERVICE

7. SPECIAL ACCESS SERVICE (Cont'd)

7.5 Voice Grade Service

7.5.1 Basic Circuit Description

A Voice Grade Circuit is a circuit, 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. Effective 2-wire and 4-wire circuits are available as an Optional Feature and Function. Voice Grade circuits are provided between customer designated premises or between a customer designated premises and a Telephone Company hub.

Voice Grade Service may be ordered in conjunction with Switched Access services as set forth in Section 6 preceding to provide access for a customer's communication service; e.g., WATS, 800, or WATS-type service. When the customer orders the Combined Access Service Arrangement, Voice Grade Circuits provide voice frequency transmission capability between an end user premises and Telephone Company offices capable of combining Special and Switched Access services or between an end user premises and a

(T)

Continued

ACCESS SERVICE

7. SPECIAL ACCESS SERVICE (Cont'd)

7.5 Voice Grade Service (Cont'd)

7.5.1 Basic Circuit Description (Cont'd)

WATS Serving Office (WSO). All applicable Special Access rates and charges apply (including Optional Features and Functions charges). Technical Specifications and Optional Features and Functions available with this arrangement are indicated under Package VG-CA in 7.5.2 and 7.5.5 following.

7.5.2 Technical Specifications Packages

Parameter	Package VG-												CA	
	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	X
C-Message Noise	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Echo Control	X	X	X	X		X		X	X			X	X	X
Envelope Delay														
Distortion	X							X	X	X	X	X	X	X
Frequency Shift	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	X
Phase Hits, Gain, Hits, and Dropouts	X													
Phase Jitter	X							X	X	X	X	X	X	X
Return Loss														X
Signal-to-C Message Noise						X								
Signal-to-C Notch Noise	X						X	X	X	X	X	X	X	X

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

Continued

ACCESS SERVICE

7. SPECIAL ACCESS SERVICE (Cont'd)

7.5 Voice Grade Service (Cont'd)

7.5.2 Technical Specifications Packages (Cont'd)

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

7.5.3 Channel Interfaces

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

The following channel interfaces for Voice Grade service require signaling capability: AB, AC, CT, DX, DY, EA, EB, EC, EX, GO, GS, LA, LB, LC, LO, LR, LS, RV, and SF.

Compatible channel interfaces are set forth in Section 9 following.

7.5.4 Optional Features and Functions

(A) Central Office Bridging Capability

- (1) Voice Bridging (two-wire or four-wire)
- (2) Data Bridging (two-wire or four-wire)
- (3) Telephoto Bridging (two-wire and four-wire)

Continued

ACCESS SERVICE

7. SPECIAL ACCESS SERVICE (Cont'd)**7.5 Voice Grade Service (Cont'd)****7.5.4 Optional Features and Functions (Cont'd)****(A) Central Office Bridging Capability (Cont'd)**

- (4) Dataphone Select-A-Station Bridging with sequential arrangement ports or addressable arrangement ports
- (5) Telemetry and Alarm Bridging, Split Band-Active Bridging, Passive Bridging, Summation-Active Bridging

(B) Central Office Multiplexing

Voice to Telegraph Grade: An arrangement that converts a Voice Grade circuit to Telegraph Grade circuits using frequency division multiplexing.

(C) 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 services, 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.

Continued

ACCESS SERVICE

7. SPECIAL ACCESS SERVICE (Cont'd)

7.5 Voice Grade Service (Cont'd)

7.5.4 Optional Features and Functions (Cont'd)

(C) Conditioning (Cont'd)

(1) C-Type Conditioning

C-Type Conditioning is provided for the additional control of attenuation distortion and envelope delay distortion on data services. The attenuation distortion and envelope delay distortion specifications for C-Type Conditioning are:

<u>Attenuation Distortion</u> (Frequency Response) <u>Relative to 1004 Hz</u>		<u>Envelope Delay</u> <u>Distortion</u>	
<u>Frequency</u> <u>Range (Hz)</u>	<u>Variation</u> <u>(dB)</u>	<u>Frequency</u> <u>Range (Hz)</u>	<u>Variation</u> (micro- <u>seconds)</u>
400-2800	-1.0 to +2.0	1000-2600	100
300-3000	-1.0 to +3.0	800-2600	200
3000-3200	-2.0 to +6.0	600-2600	300
		500-2800	600
		500-3000	3000

(2) Sealing Current

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.

Continued

ACCESS SERVICE

7. SPECIAL ACCESS SERVICE (Cont'd)**7.5 Voice Grade Service (Cont'd)****7.5.4 Optional Features and Functions (Cont'd)****(D) Customer Specified Premises Receive Level**

This option allows the customer to specify the receive level at the Point of Termination. This level must be within a specific range on effective four-wire transmission. The ranges are delineated in Technical Reference TR-NPL-000335.

(E) Improved Return Loss

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

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7. SPECIAL ACCESS SERVICE (Cont'd)

7.5 Voice Grade Service (Cont'd)

7.5.4 Optional Features and Functions (Cont'd)

(F) 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 for Data Capability are:

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

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

(G) Telephoto Capability

Telephoto Capability provides transmission characteristics suitable for telephotographic communications. Specifically, Telephoto Capability is provided for the

Continued

ACCESS SERVICE

7. SPECIAL ACCESS SERVICE (Cont'd)

7.5 Voice Grade Service (Cont'd)

7.5.4 Optional Features and Functions (Cont'd)

(G) Telephoto Capability (Cont'd)

control of attenuation distortion and envelope delay distortion of telephotographic services. The attenuation distortion and envelope delay distortion parameters for Telephoto Capability are:

<u>Attenuation Distortion</u> (1004Hz Reference)		<u>Envelope Delay Distortion</u>	
Frequency Range (Hz)	Variation ____(dB)____	Frequency Range (Hz)	Variation ____(mcs)____
500-3000	-0.5 to +1.5	1000-2600	110
300-3200	-1.0 to +2.5	800-2800	180

(H) Signaling Capability

Signaling Capability provides for the ability to transmit signals from one customer premises to another customer premises on the same service.

(I) Selective Signaling Arrangement

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

Continued

ACCESS SERVICE

7. SPECIAL ACCESS SERVICE (Cont'd)**7.5 Voice Grade Service (Cont'd)****7.5.4 Optional Features and Functions (Cont'd)****(J) Transfer Arrangement**

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

(K) Four-Wire/Two-Wire Conversions

The term "Effective 2-Wire" denotes a condition which permits the simultaneous transmission in both directions over a channel, but it is not possible to insure independent information transmission in both directions. Effective 2-wire channels may be terminated with 2-wire or 4-wire interfaces.

The term "Effective 4-Wire" denotes a condition which permits the simultaneous independent transmission of information in both directions over a channel. The method of implementing effective 4-wire transmission is at the discretion of the Telephone Company (physical, time domain, frequency-domain separation or echo cancellation techniques). Effective 4-wire channels may be terminated with a 2-wire interface at the customer's

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7. SPECIAL ACCESS SERVICE (Cont'd)**7.5 Voice Grade Service (Cont'd)****7.5.4 Optional Features and Functions (Cont'd)****(K) Four-Wire/Two-Wire Conversions (Cont'd)**

premises. However, when terminated 2-wire, simultaneous independent transmission cannot be supported because the two-wire interface combines the transmission paths into a single path.

When a customer requests that an effective four-wire circuit be terminated with a two-wire circuit interface at the customer designated premises, a four-wire to two-wire conversion is required. The customer will be charged the 4-wire Circuit Termination rate when an effective four-wire is specified in the customer's order. The rate for the conversion is included as part of the basic Circuit Termination rate.

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7. SPECIAL ACCESS SERVICE (Cont'd)

7.5 Voice Grade Service (Cont'd)

7.5.4 Optional Features and Functions (Cont'd)

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

Parameter	Package VG-													CA
	C	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	
Central Office														
Multiplexing	X						X							
Customer Specified														
Premises Receive														
Level	X		X	X				X	X	X				
Data Capability	X							X	X		X			
Improved Return Loss														
For Effective														
Four-Wire														
Transmission	X	X	X	X	X	X	X	X	X	X	X	X	X	X
For Effective														
Two-Wire														
Transmission	X		X	X				X					X	
Sealing Current														
Conditioning	X						X							
Selective Signaling														
Arrangement	X		X			X	X			X	X	X		
Signaling Capability	X	X	X	X				X	X	X				X
Transfer														
Arrangement	X	X	X	X	X	X	X	X	X	X	X	X	X	X

Continued

ACCESS SERVICE

7. SPECIAL ACCESS SERVICE (Cont'd)

7.6 Program Audio Service

7.6.1 Basic Circuit Description

A Program Audio circuit is a circuit 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. The nominal frequency bandwidths are from 50 to 15000 Hz, from 200 to 3500 Hz, from 100 to 5000 Hz or from 50 to 8000 Hz. Only one-way transmission is provided. Program Audio circuits are provided between customer designated premises or between a customer designated premises and a Telephone Company hub.

7.6.2 Technical Specifications Packages

Parameter	Package AP-				
	C* 1	2	3	4	
Actual Measured Loss	X	X	X	X	X
Amplitude Tracking	X				
Crosstalk	X	X	X	X	X
Distortion Tracking	X				
Gain/Frequency					
Distortion	X	X	X	X	X
Group Delay	X				
Noise	X	X	X	X	X
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

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

Continued

ACCESS SERVICE

7. SPECIAL ACCESS SERVICE (Cont'd)7.6 Program Audio Service (Cont'd)7.6.3 Channel Interfaces

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

<u>CI</u>	<u>Bandwidth</u>
PG-1	Nominal frequency from 50 to 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 Section 9 following.

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

Distribution Amplifier

(B) Gain Conditioning

Control of 1004 Hz AML at initiation of service to OdB
 \approx 0.5 dB.

(C) Stereo

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

Continued

ACCESS SERVICE

7. SPECIAL ACCESS SERVICE (Cont'd)

7.6 Program Audio Service (Cont'd)

7.6.4 Optional Features and Functions (Cont'd)

(C) Stereo (Cont'd)

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

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

7.7 Video Service

7.7.1 Basic Circuit Description

A Video circuit is a circuit with one-way transmission capability for a standard 525 line/60 field monochrome, or National Television Systems Committee color, video signal and one or two associated 5 or 15 kHz audio signal(s). The bandwidth for a video circuit is either 30 Hz to 4.5 MHz or 30 Hz to 6.6 MHz. The associated audio signal(s) may be either diplexed or provided as one or two separate circuits. The provision and the bandwidth of the associated audio signal(s)

Continued

ACCESS SERVICE

7. SPECIAL ACCESS SERVICE (Cont'd)7.7 Video Service (Cont'd)7.7.1 Basic Circuit Description (Cont'd)

is a function of the channel interface selected by the customer. Video circuits are provided between customer designated premises or between a customer designated premises and a Telephone Company Hub.

7.7.2 Technical Specifications Packages

Parameter	Package TV-		
	C*	1	2
Amplitude vs. Frequency Response	X		
Chrominance/Luminance Inequalities			
Gain	X	X	X
Delay	X	X	X
Chrominance/Luminance Intermodulation	X		
Chrominance Nonlinear Gain	X		
Chrominance Nonlinear Phase	X		
Crosstalk	X		X
Differential Gain	X	X	X
Differential Phase	X	X	X
Dynamic Gain (picture and sync signal)	X		
Field-Time Distortion	X	X	X
Gain/Frequency Distortion	X	X	X

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

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7. SPECIAL ACCESS SERVICE (Cont'd)

7.7 Video Service (Cont'd)

7.7.2 Technical Specifications Packages (Cont'd)

Parameter	Package TV-		
	C*	1	2
Gain Stability	X	X	X
Insertion Gain	X	X	X
Line-Time Distortion	X	X	X
Long-Time Distortion	X	X	X
Luminance Nonlinearity	X		
Luminance Signal/CCIR			
Weighted Noise	X	X	X
Short-Time Distortion			
2 T Pulse	X	X	X
T - Bar Ringing	X	X	X
Signal/15 kHz Flat			
Weighted Noise	X	X	X
Signal/Low Frequency Noise	X		
Stereo Gain Difference	X	X	
Stereo Phase Difference	X	X	
Total Harmonic Distortion	X	X	X
Transient Sync Signal			
Non-Linearity	X		
Video/Audio Delay Difference	X		

The technical specifications are delineated in Technical Reference PUB 62504 and associated Addendum.

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

Continued

ACCESS SERVICE

7. SPECIAL ACCESS SERVICE (Cont'd)7.7 Video Service (Cont'd)7.7.3 Channel Interfaces

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

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

Compatible channel interfaces are set forth in Section 9 following.

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7. SPECIAL ACCESS SERVICE (Cont'd)

7.7 Video Service (Cont'd)

7.7.4 Rates and Charges

(A) Circuit Termination
- Per Point of Termination

Monthly Rates and Nonrecurring Charges for all jurisdictions will be determined on an Individual Case Basis and filed in Section 20 following.

Available frequency bandwidths and USOC formats are as follows:

<u>Frequency Bandwidths</u>	<u>USOC</u>
- TV - 1 or 2	TWT++
- 4TV - 5	TWT++
- 6TV - 5	TWT++
- TV - 15	TWT++

(B) Circuit Mileage

Fixed and Per Mile Monthly Rates for all jurisdictions will be determined on an Individual Case Basis and filed in 7.12 following.

Available mileage bands and USOC formats are as follows:

Continued

ACCESS SERVICE

7. SPECIAL ACCESS SERVICE (Cont'd)

7.7 Video Service (Cont'd)

7.7.4 Rates and Charges (Cont'd)

(B) Circuit Mileage (Cont'd)

<u>Mileage Bands</u>	<u>USOC</u>
0	1LO++
Over 0 to 4	1LO++
Over 4 to 8	1LO++
Over 8 to 25	1LO++
Over 25 to 50	1LO++
Over 50	1LO++

7.8 Wideband Analog Service

7.8.1 Basic Circuit Description

A Wideband Analog circuit is a circuit with a bandwidth measured in kHz for the transmission of a wideband signal. The actual bandwidth is a function of the channel interface selected by the customer. The bandwidths are from 60 to 108 dHz (Group), from 312 to 552 kHz (Supergroup), from 564 to 3084 kHz (Mastergroup), from 300 Hz to 18 kHz, from 29 to 44 kHz or from 28 to 44 kHz. Wideband Analog circuits are provided between customer designated premises or between a customer designated premises and a Telephone Company hub.

Continued

ACCESS SERVICE

7. SPECIAL ACCESS SERVICE (Cont'd)

7.8 Wideband Analog Service (Cont'd)

7.8.2 Technical Specifications Packages

Parameter	Package WA-				
	1	2	2A	3	4
Amplitude Stability	X	X			
Background Noise	X	X	X	X	X
Frequency Shift	X	X	X		
Gain/Frequency Characteristics of:					
- Group Connections	X			X	X
- Supergroup Connections		X			
- Mastergroup Connections			X		
Impulse Noise	X	X	X		
Net Loss Variations	X	X	X	X	X
Pilot Slot	X	X	X		
Spurious Single Frequency Tone	X	X	X		

The technical specifications are delineated in Technical Reference PUB 62505 and associated Addendum.

7.8.3 Channel Interfaces

The following Channel Interface(s) (CIs) define the bandwidths that are available for a Wideband Analog channel:

Continued

ACCESS SERVICE

7. SPECIAL ACCESS SERVICE (Cont'd)

7.8 Wideband Analog Service (Cont'd)

7.8.3 Channel Interfaces (Cont'd)

<u>CI</u>	<u>Bandwidth</u>
AH-B	60 kHz to 108 kHz (Group)
AH-C	312 kHz to 552 kHz (Supergroup)
AH-D	564 kHz to 3084 kHz (Mastergroup)
WD-1	300 Hz to 18 kHz
WD-2	29 kHz to 44 kHz
WD-3	28 kHz to 44 kHz

Compatible channel interfaces are set forth in Section 9 following.

7.8.4 Optional Features and Functions

(A) Central Office Multiplexing

(1) Mastergroup to Supergroup

An arrangement that converts a Mastergroup circuit to ten Supergroup circuits using frequency division multiplexing.

(2) Supergroup to Group

An arrangement that converts a Supergroup circuit to five Group circuits using frequency division mutliplexing.

Continued

ACCESS SERVICE

7. SPECIAL ACCESS SERVICE (Cont'd)

7.8 Wideband Analog Service (Cont'd)

7.8.4 Optional Features and Functions (Cont'd)

(A) Central Office Multiplexing (Cont'd)

(3) Group to Voice

An arrangement that converts a Group circuit to twelve Voice Grade circuits using frequency division multiplexing.

(4) Group to DS1

An arrangement that converts two Group circuit to DS1 circuit using analog to digital conversion.

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

	Available with Technical Specifications Package WA-				
	1	2	2A	3	4
Central Office Multiplexing:					
Mastergroup to Supergroup					X
Supergroup to Group				X	
Group to Voice		X			
Group to DS1*					

Continued

ACCESS SERVICE

7. SPECIAL ACCESS SERVICE (Cont'd)

7.8 Wideband Analog Service (Cont'd)

7.8.5 Rates and Charges

(A) Circuit Termination
- Per Point of Termination

Monthly Rates and Nonrecurring Charges for all jurisdictions will be determined on an Individual Case Basis and filed in Section 20 following.

Available frequency bandwidths and USOC formats are as follows:

<u>Frequency Bandwidths</u>	<u>USOC</u>
60 kHz - 108 kHz	TWT++
312 kHz - 552 kHz	TWT++
564 kHz - 3084 kHz	TWT++
300 kHz - 18 kHz	TWT++
29 kHz - 44 kHz	TWT++

(B) Circuit Mileage

Fixed and Per Mile Monthly Rates for all jurisdictions will be determined on an Individual Case Basis and filed in Section 20 following.

Continued

ACCESS SERVICE

7. SPECIAL ACCESS SERVICE (Cont'd)7.8 Wideband Analog Service (Cont'd)7.8.5 Rates and Charges (Cont'd)(B) Circuit Mileage (Cont'd)

Available bandwidths and USOC formats are as follows:

<u>Frequency Bandwidth</u>	<u>USOC</u>
60-108 kHz	1LO++
312-552 kHz	1LO++
564-3084 kHz	1LO++
300 Hz-18 kHz	1LO++
29-44 kHz	1LO++

(C) Optional Features and Functions(1) Multiplexing

Fixed and Per Mile Monthly Rates for all jurisdictions will be determined on an Individual Case Basis and filed in Section 20 following.

Available multiplexing arrangements and USOC formats are as follows:

Continued

ACCESS SERVICE

7. SPECIAL ACCESS SERVICE (Cont'd)

7.8 Wideband Analog Service (Cont'd)

7.8.5 Rates and Charges (Cont'd)

(C) Optional Features and Functions (Cont'd)

(1) Multiplexing (Cont'd)

<u>Multiplexing Arrangement</u>	<u>USOC (Per Arrangement)</u>
Mastergroup to Supergroup	MQ9++
Supergroup to Group	MQS++
Group to Voice	MQV++
Group to DSI*	MQG++

7.9 Wideband Data Service

7.9.1 Basic Circuit Description

A Wideband Data circuit is an analog circuit for the transmission of synchronous serial data at the rate of 19.2, 50.0, or 230.4 kbps or of asynchronous serial data at ranges of up to 19.2, 50.0, or 230.4 kbps. Optional arrangements are available for transmission of synchronous serial data at 18.75 or 40.8 kbps. The actual bit rate is a function of the channel interface selected by the customer. This service requires a 303 Data Station(s). The 303 Data Station provides coupling between the customer's business machine and the wideband data transmission medium. A voice band coordinating channel is also provided. Wideband Data circuits are provided between customer designated premises.

* Requires two 60-108 kHz Circuit Terminations and Circuit Mileage, one 1.544 Mbps Circuit Mileage and either a 1.455 Circuit Termination or a DS1 to Voice Multiplexing optional feature, depending on whether the service terminates at a customers premises or was purchased as a facility, to a Telephone Company hub for multiplexing to Voice Grade.

Continued

ACCESS SERVICE

7. SPECIAL ACCESS SERVICE (Cont'd)

7.9 Wideband Data Service (Cont'd)

7.9.2 Technical Specifications Package

<u>Parameter</u>	<u>Package WD-</u>		
	<u>1</u>	<u>2</u>	<u>3</u>
Error-Free Seconds	X	X	X

While in service, the monthly average of error-free seconds will be equal to or greater than 98.75%.

7.9.3 Channel Interfaces

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

<u>CI</u>	<u>Bit Rate</u>
WB-18S	18.75 kbps, synchronous
WB-19A	up to 19.2 kbps, asynchronous
WB-19S	19.2 kbps, synchronous
WB-23A	up to 230.4 kbps, asynchronous
WB-23S	230.4 kbps, synchronous
WB-40S	40.8 kbps, synchronous
WB-50A	up to 50.0 kbps, asynchronous
WB-50S	50.0 kbps, synchronous

Compatible channel interfaces are set forth in Section 9 following.

Continued

ACCESS SERVICE

7. SPECIAL ACCESS SERVICE (Cont'd)

7.9 Wideband Data Service (Cont'd)

7.9.4 Optional Features and Functions

(A) Key Activated Transfer Arrangement

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

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

	<u>Available with Technical Specifications Package WD-</u>		
	<u>1</u>	<u>2</u>	<u>3</u>
Key Activated Transfer Arrangement	X	X	X

Continued

ACCESS SERVICE

7. SPECIAL ACCESS SERVICE (Cont'd)

7.9 Wideband Data Service (Cont'd)

7.9.5 Rates and Charges

(A) Circuit Termination

For data speeds other than 40.8 and 50.0 kbps:

Fixed and Per Mile Monthly Rates for the Circuit Termination rate element of Wideband Data Service for all jurisdictions will be determined on an Individual Case Bases and filed in 7.12 following.

Available data speeds and USOC formats are as follows:

<u>Data Speed</u>	<u>USOC</u>
18.75 kbps	TWT++
19.2 kbps	TWT++
230.4 kbps	TWT++

(B) Circuit Mileage

For data speeds other than 40.8 and 50.0 kbps

Fixed and Per Mile Monthly Rates for the Circuit Mileage rate element of Wideband Data Service for all jurisdictions will be determined on an Individual Case Bases and filed in 7.12 following.

Continued

ACCESS SERVICE

7. SPECIAL ACCESS SERVICE (Cont'd)

7.9 Wideband Data Service (Cont'd)

7.9.5 Rates and Charges (Cont'd)

(B) Circuit Mileage (Cont'd)

Available data speeds and USOC formats are as follows:

<u>Data Speed</u>	<u>USOC</u>	<u>S&E Code</u>
18.75 kbps	IL0XX	YU11/XU11
19.2 kbps	IL0XX	YU11/XU11
230.4 kbps	IL0XX	YU31/XU31

(C) Optional Features and Functions

Monthly Rates and Nonrecurring Charges for all jurisdictions will be determined on an Individual Case Basis and filed in 7.12 following.

Available Optional Features and Functions and USOC formats are as follows:

<u>Optional Features and Functions</u>	<u>USOC</u>	<u>S&E Code</u>
Key Activated Transfer Arrangement - Per Four Port Arrangement, including control circuit termination*	UTK++	YUKA/ XUKA

* The key activated control circuit is rated as a Metallic Circuit Termination (use USOC TMEME in lieu of TMECS) and Circuit Mileage, if applicable (use USOC 1L5MX in lieu of 1L5XX).

Continued

ACCESS SERVICE

7. SPECIAL ACCESS SERVICE (Cont'd)7.9 Wideband Data Service (Cont'd)7.9.5 Rates and Charges (Cont'd)(D) 303 Data Station

Monthly Rates and Nonrecurring Charges for all jurisdictions will be determined on an Individual Case Basis and filed in Section 7.12 following.

	<u>USOC</u>	<u>S&E Code</u>
303 Data Station		
- Per Point of Termination	TDQ++	YUDS/ XUDS

7.10 Digital Data Service7.10.1 Basic Circuit Description

A Digital Data circuit is a circuit for duplex four-wire transmission of synchronous serial data at the rate of 2.4, 4.8, 9.6 or 56 Kbps. The actual bit rate is a function of the channel interface selected by the customer. The circuit 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 circuits are only available via Telephone Company designated hubs and are provided between customer designated premises or between a customer designated premises and a Telephone Company hub.

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ACCESS SERVICE

7. SPECIAL ACCESS SERVICE (Cont'd)

7.10 Digital Data Service (Cont'd)

7.10.1 Basic Circuit Description (Cont'd)

The customer may provide the Channel Service Unit-type equipment or other Network Channel Terminating Equipment associated with the Digital Data circuit at the customer premises. The interim program for interconnection of such equipment is set forth in Technical References PUB AS No. 1.

7.10.2 Technical Specifications Packages

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

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

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

7.10.3 Channel Interfaces

The following Channel Interfaces (CIs) define the bit rates that are available for a Digital Data circuit.

Continued

ACCESS SERVICE

7. SPECIAL ACCESS SERVICE (Cont'd)7.10 Digital Data Service7.10.3 Channel Interfaces (Cont'd)

<u>CI</u>	<u>Bit Rate</u>
DU-24	2.4 kbps
DU-48	4.8 kbps
DU-96	9.6 kbps
DU-56	56.0 kbps

Compatible channel interfaces are set forth in Section 9 following.

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

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

(2) Transfer Arrangement

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

Continued

ACCESS SERVICE

7. SPECIAL ACCESS SERVICE (Cont'd)

7.11 High Capacity Service

7.11.1 Basic Circuit Description

A High Capacity circuit is a circuit for the transmission of nominal 64.0 kbps* or 1.544, 3.152, 6.312, 44.736, or 274.176 Mbps isochronous serial data. The actual bit rate is a function of the channel interface selected by the customer. High Capacity circuits are provided between a 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 circuit at the customer's premises. The interim program for interconnection of such equipment is set forth in Technical Reference PUB AS No. 1.

7.11.2 Technical Specifications Packages

Parameter	Package HC					
	0	1	1C	2	3	4
Error-Free Seconds		X				

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

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

Continued

ACCESS SERVICE

7. SPECIAL ACCESS SERVICE (Cont'd)7.11 High Capacity Service (Cont'd)7.11.3 Channel Interfaces

The following Channel Interfaces (CIs) define the bit rates that are available for a High Capacity circuit:

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

Compatible channel interfaces are set forth in Section 9.3.5 following.

7.11.4 Optional Features and Functions(1) Automatic Loop Transfer

The Automatic Loop Transfer provides protection on a 1xN basis against failure of the facilities between a customer designated premises and the wire center serving that premises. Protection is furnished through the use of a switching arrangement that automatically switches to a spare circuit line when a working line fails. The spare circuit is not included as a part of the option. This option requires compatible equipment at both the serving wire center and the customer premises. The customer is responsible for providing the equipment at its premises. Equipment at the customer premises will be provided under tariff only if it existed in the Telephone Company inventory as of November 18, 1983.

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

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7. SPECIAL ACCESS SERVICE (Cont'd)**7.11 High Capacity Service (Cont'd)****7.11.4 Optional Features and Functions (Cont'd)****(2) Transfer Arrangement**

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

(3) Central Office Multiplexing**(a) DS4 to DS1**

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

(b) DS3 to DS1

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

Continued

ACCESS SERVICE

7. SPECIAL ACCESS SERVICE (Cont'd)

7.11 High Capacity Service (Cont'd)

7.11.4 Optional Features and Functions (Cont'd)

(3) Central Office Multiplexing (Cont'd)

(c) DS2 to DS1

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

(d) DS1C to DS1

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

(e) DS1 to Voice

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

(f) DS1 to DS0

An arrangement that converts a 1.544 Mbps circuit to 23 64.0 kbps circuits utilizing digital time division multiplexing.

Continued

ACCESS SERVICE

7. SPECIAL ACCESS SERVICE (Cont'd)

7.11 High Capacity Service (Cont'd)

7.11.4 Optional Features and Functions (Cont'd)

(3) Central Office Multiplexing (Cont'd)

(g) DSO to Subrate

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

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

	Available with Technical Specifications Package HC-					
	0	1	1C	2	3	4
Automatic Loop Transfer			X			
Central Office Multiplexing:						
DS4 to DS1						X
DS3 to DS1					X	
DS2 to DS1				X		
DS1C to DS1			X			
DS1 to Voice	X					
DS1 to DS0	X					
DS0 to Subrate*	X					
Transfer Arrangement	X					

* Available only on a circuit of a 1.544 Mbps facility to a Telephone Company hub.

Continued

ACCESS SERVICE

7. SPECIAL ACCESS SERVICE (Cont'd)

7.11 High Capacity Service (Cont'd)

7.11.5 Rates and Charges

(A) Circuit Termination

Frequency bandwidths other than 1.544 mbps:

Monthly Rates and Nonrecurring Charges for the Circuit Termination rate element of High Capacity Service for all jurisdictions will be determined on an Individual Case Basis and filed in 7.12 following.

Available frequency bandwidths and USOC formats are as follows:

<u>Frequency Bandwidths</u>	<u>USOC</u>
64 Kbps	TWT++
3.152 Mbps	TWT++
6.312 Mbps	TWT++
44.736 Mbps	TWT++
274.176 Mbps	TWT++

Continued

ACCESS SERVICE

7. SPECIAL ACCESS SERVICE (Cont'd)

7.11 High Capacity Service (Cont'd)

7.11.5 Rates and Charges (Cont'd)

(B) Circuit Mileage

For frequency bandwidths other than 1.544 Mbps:

Fixed and Per Mile Monthly Rates for the Circuit Mileage rate element of High Capacity Service for all jurisdictions will be determined on an Individual Case Basis and filed in 7.12 following.

Available frequency bandwidths and USOC formats are as follows:

<u>Frequency Bandwidths</u>	<u>USOC</u>
64 Kbps	IL5XX (Fixed), IL5XX (Per Mile)
3.152 Mbps	1LO++
6.312 Mbps	1LO++
44.736 Mbps	1LO++
274.176 Mbps	1LO++

Continued

ACCESS SERVICE

7. SPECIAL ACCESS SERVICE (Cont'd)

7.12 Individual Case Filing

Rates and charges for Special Access Service provided on an individual case basis are filed following:

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