7. Special Access Service (Cont'd)

7.2 Service Descriptions (Cont'd)

7.2.2 **Voice Grade Service** [1] (Cont'd) (C)

(B) Technical Specifications Packages (Cont'd)

	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
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

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

[1] **Effective November 1, 2021 Voice Grade Services are grandfathered. Availability to current customers is limited to circuits in service at existing locations.** (N) (N)

ACCESS SERVICE

7. Special Access Service (Cont'd)

7.2 Service Descriptions (Cont'd)

7.2.2 Voice Grade Service (Cont'd)

(B) Technical Specifications Packages (Cont'd)

	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
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

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

ACCESS SERVICE

7. s2ecial Access Service (Cont'd)

7.2 Service Descriptions (Cont'd)

7.2.2 Voice Grade Service (Cont'd)

(B) Technical Specifications Packages (Cont'd)

Parameter	Package VG-												
	_£,*	I.	/.	2	■		1.	§.	.2.	!.Q.	▮▮	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
Impulse Noise	X					X	X	X	X	X	X	X	X
!ntermodulation 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-e Message Noise					X								
Signal-to-e 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.

7. Special Access Service (Cont'd)

7.2 Service Descriptions (Cont'd)

7.2.3 **Voice Grade Service** [1] (Cont'd) (C)

(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 Publication TR-NWT-000335. The technical specifications for dropouts, phase hits, and gain hits are delineated in Technical Reference Publication MDP-326-584.

(C) 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 7.3.5(C) following.

[1] **Effective November 1, 2021 Voice Grade Services are grandfathered. Availability to current customers is limited to circuits in service at existing locations.** (N) (N)

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 Publication TR-NWT-000335. The technical specifications for dropouts, phase hits, and gain hits are delineated in Technical Reference Publication MDP-326-584.

(C) 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 7.3.5(C) following.

ACCESS SERVICE

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 *Publication TR-NWT-000335.* The technical specifications for dropouts, phase hits, and gain hits are delineated in Technical Reference *Publicat;on MDP-326-584.* (T) | (T)

(C) Channel Interfaces

The following channel interfaces for Voice Grade service do not require signaling capability: AH, OA, DB, DO, DE, OS, NO, PR and TF.

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

Compatible channel interfaces are set forth in 7.3.S(C} following.

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 TR-NPL-000335. 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 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 7.3.5(C) following.

ACCESS SERVICE

7. Special Access Service (Cont'd)

7.2 Service Descriptions (Cont'd)

7.2.3 **Voice Grade Service** [1] (Cont'd) (C)

(D) Optional Features and Functions

(1) Central Office Bridging Capability

(a) Voice Bridging (two-wire or four-wire)

(b) Data Bridging (two-wire or four-wire)

(c) Telephoto Bridging (two-wire or four-wire)

(d) DATAPHONE Select-A-Station bridging with sequential arrangement ports or addressable arrangement ports

(e) Telemetry and Alarm Bridging

Split Band, Active Bridging
Passive Bridging
Summation, active Bridging

(2) Reserved for Future Use

[1] **Effective November 1, 2021 Voice Grade Services are grandfathered. Availability to current customers is limited to circuits in service at existing locations.** (N) (N)

ACCESS SERVICE

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

(1) Central Office Bridging Capability

(a) Voice Bridging (two-wire or four-wire)

(b) Data Bridging (two-wire or four-wire)

(c) Telephoto Bridging (two-wire or four-wire)

(d) DATAPHONE Select-A-Station bridging with sequential arrangement ports or addressable arrangement ports

(e) Telemetry and Alarm Bridging

Split Band, Active Bridging
Passive Bridging
Summation, active Bridging

(2) Reserved for Future Use

.1\CCESS SERVICE

7. Special Access Service (Cont'dl

7.2 Service Descriptions (Cont'd)

7.2.3 Voice Grade Service (Cont'd)

(D) Optional Features and Functions

(ll Central Office Bridging Capability

(a) Voice Bridging (two-wire or four-wire)

(b) Data Bridging (two-wire or four-wire)

(c) Telephoto Bridging (two-wire or four-wire)

{d) DATAPHONE Select-A-Station bridging with sequential arrangement ports *or* addressable arrangement ports

(e} Telemetry and Alarm Bridging

Split Band, Active Bridging
Passive Bridging
Summation, active Bridging

(2) Reserved For Future Use (C) (O) | (D)

ACCESS SERVICE

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

(1) Central Office Bridging Capability

(a) Voice Bridging (two-wire or four-wire)

(b) Data Bridging (two-wire or four-wire)

(c) Telephoto Bridging (two-wire or four-wire)

(d) DATAPHONE Select-A-Station bridging with sequential arrangement ports or addressable arrangement ports

(e) Telemetry and Alarm Bridging

Split Band, Active Bridging
Passive Bridging
Summation, active Bridging

(2) Central Office Multiplexing

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

ISSUED:
September 17, 1992

BY: John L Roe
Vice President - Administration
5454 West 110th Street
Overland Park, Kansas 66211

EFFECTIVE:
October 17, 1992

NOV 7 1992

ACCESS SERVICE

7. Special Access Service (Cont'd)

7.2 Service Descriptions (Cont'd)

7.2.3 **Voice Grade Service** [1] (Cont'd) (C)

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

(3) Conditioning

Conditioning provides more specific transmission characteristics for Voice Grade services.

More stringent specifications than those provided with C-Type conditioning are available separately for attenuation distortion and envelope delay distortion. The customer has the option of ordering Improved Attenuation Distortion and/or Improved Envelope Delay Distortion in lieu of C-Type conditioning.

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.

[1] **Effective November 1, 2021 Voice Grade Services are grandfathered. Availability to current customers is limited to circuits in service at existing locations.** (N)
(N)

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) Conditioning

Conditioning provides more specific transmission characteristics for Voice Grade services.

More stringent specifications than those provided with C-Type conditioning are available separately for attenuation distortion and envelope delay distortion. The customer has the option of ordering Improved Attenuation Distortion and/or Improved Envelope Delay Distortion in lieu of C-Type conditioning. (Z)

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.

ACCESS SERVICE

7. Special Access Service (Cont'd)

7.2 Service Desc iEtions (Cont'd)

7.2.3 Voice Grade Service (Cont'dl

(D) Optional Features and functions (Cont'd)

(3) Conditioning

Conditioning provides more specific transmission characteristics for Voice Grade services. (C)

More strigent specifications than those provided with C-Type conditioning are available separately for attenuation distortion and envelope delay distortion. The customer has the option of ordering Improved Attenuation Distortion and/or Improved Envelope Delay Distortion in lieu of C-Type conditioning. (C)

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.

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) 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•

7. Special Access Service (Cont'd)

7.2 Service Descriptions (Cont'd)

7.2.3 **Voice Grade Service** [1] (Cont'd) (C)

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

(3) Conditioning (Cont'd)

(500) 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

Frequency Range (Hz)	Variation (db)
400-2800	-1.0 to +2.0
300-3000	-1.0 to +3.0
3000-3200	-2.0 to +6.0

Envelope Delay Distortion

Frequency Range (Hz)	Variation (micro-seconds)
1000-2600	100
800-2600	200
600-2600	300
500-2800	600
500-3000	3000

[1] **Effective November 1, 2021 Voice Grade Services are grandfathered. Availability to current customers is limited to circuits in service at existing locations.** (N) (N)

ACCESS SERVICE

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) 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

Frequency Range (Hz)	Variation (db)
400-2800	-1.0 to +2.0
300-3000	-1.0 to +3.0
3000-3200	-2.0 to +6.0

Envelope Delay Distortion

Frequency Range (Hz)	Variation (micro-seconds)
1000-2600	100
800-2600	200
600-2600	300
500-2800	600
500-3000	3000

ACCESS SERVICE

7. Special Access Service (Cont'd)

7.2 Service Descriptions (Cont'd)

7.2.3 Voice Grade Service (Coot'd)

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

(3) 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

Frequency Range (Hz)	Variation (db)
400-2800	-1.0 to +2.0
300-3000	-1.0 to +3.0
3000-3200	-2.0 to +6.0

Envelope Delay
Distortion

Frequency Range (Hz)	Variation (micro-seconds)
1000-2600	100
800-2600	200
600-2600	300
500-2800	600
500-3000	3000

7. Special Access Service (Cont'd)

7.2 Service Descriptions (Cont'd)

7.2.3 **Voice Grade Service** [1] (Cont'd) (C)

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

(3) Conditioning (Cont'd)

(b) Reserved for Future Use

© Sealing Current Conditioning

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

[1] **Effective November 1, 2021 Voice Grade Services are grandfathered. Availability to current customers is limited to circuits in service at existing locations.** (N) (N)

ACCESS SERVICE

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) Conditioning (Cont'd)

(b) Reserved for Future Use

(c) Sealing Current Conditioning

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

ACCESS SERVICE

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) Conditioning (Cont'd)

(b} Reserved For Future Use

(c) Sealing Current Conditioning

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

ISSUED:
September 17, 1992

BY: John L Roe
Vice President - Administration
5454 West llOth Street
Overland Park, Kansas 66211

EFFECTIVE:
NOV 7 1992

7. Special Access Service (Cont'd)

7.2 Service Descriptions (Cont'd)

7.2.3 **Voice Grade Service** [1] (Cont'd) (C)

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

(4) 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 Publication TR-NWT-000335.

(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 Publication TR-NWT-000335.

(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 Publication TR-NWT-000335.

[1] **Effective November 1, 2021 Voice Grade Services are grandfathered. Availability to current customers is limited to circuits in service at existing locations.** (N) (N)

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)

(4) 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 Publication TR-NWT-000335.

(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 Publication TR-NWT-000335.

(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 Publication TR-NWT-000335.

ACCESS SERVICE

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)

(4) 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 *Publication TR-NWT-000335.* (T)

(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 *Publication TR-NWT-000335.* (T) (T)

(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 *Publication TR-NWT-000335.* (T)

SEP 17 1992

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)

(4) 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.

(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 TR-NPL-000335.

(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 TR-NPL-000335.

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7. Special Access Service (Cont'd)

7.2 Service Descriptions (Cont'd)

7.2.3 **Voice Grade Service** [1] (Cont'd) (C)

(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 inter-modulation distortion parameters for 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.

[1] **Effective November 1, 2021 Voice Grade Services are grandfathered. Availability to current customers is limited to circuits in service at existing locations.** (N) (N)

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 inter-modulation distortion parameters for 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.

ACCESS SERVICE

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 intennodulation distortion parameters for 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.

ISSUED:
September 17, 1992

BY: John L Roe
Vice President - Administration
5454 West llOth Street
Overland Park. Kansas 66211

EFFECTIVE:
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NOV 7 19!1'

7. Special Access Service (Cont'd)

7.2 Service Descriptions (Cont'd)

7.2.3 **Voice Grade Service** [1] (Cont'd) (C)

(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
(1004 Hz Reference)

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

Envelope Delay Distortion

Frequency Range (Hz)	Variation (mcs)
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.

(9) Reserved for Future Use

[1] **Effective November 1, 2021 Voice Grade Services are grandfathered. Availability to current customers is limited to circuits in service at existing locations.** (N) (N)

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
(1004 Hz Reference)

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

Envelope Delay Distortion

Frequency Range (Hz)	Variation (mcs)
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.

(9) Reserved for Future Use

ACCESS SERVICE

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
(1004 Hz Reference)

Frequency Range (Hz)	Variation (dB}
500-3000	-0.5 to +1.S
300-3200	-1.0 to +2.5

Envelope Delay Distortion

Frequency Range {Hz)	Variation (mcs)
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.

(9) *Reserved For Future Use*

{C)
(D)
(D)

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
(1004 Hz Reference)

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

Envelope Delay Distortion

Frequency Range (Hz)	Variation (mcs)
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.

(9) Selective Signaling Arrangement

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

ACCESS SERVICE

7. Special Access Service (Cont'd)

7.2 Service Descriptions (Cont'd)

7.2.3 Voice Grade Service (Cont'd)

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

(10) Reserved for Future Use

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A.CCESS SERVICE

7. Special Ac ess Service (Cont'd)

7.2 Service Descriptions (Cont'd)

I.2.3 Voice Grade Service (Cant'd)

(D) Optional features and Functions (Cont'd)

(10) Reserved 2or Future Use (C)

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ISSUED:
September 10, 1999

Richacd D. Lawson
State Executive, External Affai s

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) 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 another channel that terminates in either the same or different customer premises. A key activated or dial-up control service is required to operate the transfer arrangement. A spare channel, if required, is not included as part of the option.

7. Special Access Service (Cont'd)

7.2 Service Descriptions (Cont'd)

7.2.3 **Voice Grade Service** [1] (Cont'd) (C)

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

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

	Available with Technical Specifications Package VG-												
	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
For Effective Two-Wire Transmission		X		X	X				X				
Sealing Current Conditioning	X						X						
Signaling Capability	X	X	X	X				X	X	X			
Telephoto Capability	X											X	

[1] **Effective November 1, 2021 Voice Grade Services are grandfathered. Availability to current customers is limited to circuits in service at existing locations.** (N) (N)

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)

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

	Available with Technical Specifications Package VG-												
	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
For Effective Two-Wire Transmission		X		X	X				X				
Sealing Current Conditioning	X						X						
Signaling Capability	X	X	X	X				X	X	X			
Telephoto Capability	X											X	

ACCESS SERVICE

7. Special Access Service (Cont'd)

7.2 Service Descriptions (Cont'd)

7.2.3 Voice Grade Service (Cont'd)

(0} Optional Features and Functions (Cont'd}

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

	Available with Technical Specifications Package VG-											
	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 Prt>mises 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
For Effective Two-Wire Transmission		X		X	X				X				
Sealing Current Conditioning	X						X						
Signaling Capability	X	X	X	X				X	X	X			
Telephoto Capability	X												

(D)
(D)

7. Special Access Service (Cont'd)

7.2 Service Descriptions (Cont'dl

7.2.3 Voice Grade Service (Cont'd)

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

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

	1:\.vailable with Technical Specifications Package VG-												
	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
For Effective Two-Wire Transmission		X		X	X				X				
Sealing Current Conditioning	X						X						
Selective Signaling Arrangement	X		X										
Signaling Capability	X	X	X	X				X	X	X			
Telephoto Capability	X											X	

(D)

ISSOED:
September 10, 1999

Richard D. Lawson
State Executive, External Affairs

EFFECTIVE:
October 15, 1999

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)

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

	Available with Technical Specifications Package VG-											
	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
For Effective Two-Wire Transmission		X		X	X				X				
Sealing Current Conditioning	X						X						
Selective Signaling Arrangement	X		X										
Signaling Capability	X	X	X	X				X	X	X			
Telephoto Capability	X											X	
Transfer Arrangement	X	X	X	X	X	X	X	X	X	X	X	X	

ACCESS SERVICE

7. Special Access Service (Cont'd)

7.2 Service Descriptions (Cont'd)

7.2.3 **Voice Grade Service** [1] (Cont'd) (C)

(E) Four-Wire/Two-Wire Conversions

When a customer requests that an effective four-wire channel be terminated with a two-wire channel interface at the customer designated premises, a four-wire to two-wire conversion is required. The rate for the conversion is included as part of the basic Channel Termination rate.

7.2.4 Reserved for Future Use

[1] **Effective November 1, 2021 Voice Grade Services are grandfathered. Availability to current customers is limited to circuits in service at existing locations.** (N) (N)

7. Special Access Service (Cont'd)

7.2 Service Descriptions (Cont'd)

7.2.3 Voice Grade Service (Cont'd)

(E) Four-Wire/Two-Wire Conversions (Z)

When a customer requests that an effective four-wire channel be terminated with a two-wire channel interface at the customer designated premises, a four-wire to two-wire conversion is required. The rate for the conversion is included as part of the basic Channel Termination rate.

7.2.4 Reserved for Future Use

(D)

7. Special Access Service (Confd)

7.2 Service Descriptions (Cont'd)

7.2.3 Voice Grade Service {Cont'd)

E. Four-Wire/Two-Wire Conversions

When a customer requests that an effective four-wire channel be terminated with a two-wire channel interface at the customer designated premises, a four-wire to two-wire conversion is required. The rate for the conversion is included as part of the basic ChannelTermination rate.

7.2.4 *Resetved for Future Use* {D)

(D)

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

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Jufy2, 2002

Richard D.lawson
State Executive, External Affairs
319 Madison
Jefferson City,MO 65101

EFFECTIVE:
August

ACCESS SERVICE

7. Special Access Service (Cont'd)

7.2 Service Descriptions (Conl'd)

7.2.3 Voice Grade Service (Conl'd)

E. Four-Wire/Two-Wire Conversions

When a customer requests that an effective four-wire channel be terminated with a two-wire channel interface at the customer designated premises, a four-wire to two-wire conversion is required. The rate for the conversion is included as part of the basic Channel Termination rate.

7.2.4 Program Audio Service

(A) Basic Channel Description

A Program Audio channel is a channelmeasured in Hertz 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

Parameter	Package AP-				
		1	Z	}	1
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 *Publication GR-337.* (T) (T)

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

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Richard D.

Lawson

ISSUED:

Missouri Public

January 15, 2002

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Service Commission

EFFECTIVE:
February 15, 2002

Slate Executive, External Affairs
319 Madison
Jefferson City, MO 65101

7. Special Access Service (Cont'd)

7.2 Service Descriptions (Cont'd)

7.2.3 Voice Grade Service (Cont'd)

E. Four-Wire/Two-Wire Conversions

When a customer requests that an effective four-wire channel be terminated with a two-wire channel interface at the customer designated premises, a four-wire to two-wire conversion is required. The rate for the conversion is included as part of the basic Channel Termination rate.

7.2.4 Program Audio Service

(A) Basic Channel Description

A Program Audio channel is a channel measured in Hertz 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

Parameter	Package AP-				
	£!	I.	1.	/.	
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 TR-NPL-000337.

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

ACCESS SERVICE

7. Special Access Service (Cont'd)

7.2 Service Descriptions (Cont'd)

7.2.4 Reserved for Future Use

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ACCESS SERVICE

7. Special Access Service (Cont'd)

7.2 Service Descriptions (Cont'd)

7.2.4 *Reserved for Future Use*

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July 2,2002

Richard D. Lawson
State Executive.ExternalAffairs
319 Madison
Jefferson City, MO 65101

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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:

	Bandwidth
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 OdB ± 0.5dB.

(3) Stereo

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

ACCESS SERVICE

7. Special Access Service (Cont'd)

7.2 Service Descriptions (Cont'd)

7.2.4 Reserved for Future Use

7.2.5 Reserved for Future Use

7. Special Access Service (Cont'd)

7.2 Service Descriptions (Cont'd)

7.2.4 *Reserved for Future Use*

(D)

7.2.5 *Reserved for Future Use*

(D)

7. Special Access Service (Cont'd)

7.2 Service Descriptions (Cont'd)

7.2.4 Program Audio Service {Cont'd)

(D) Optional Features and Functions {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-			
e	1	2	3	4
Central Office Bridging Capability	X	X	X	X	X
Gain Conditioning	X	X	X	X	X
Stereo	X				X

7.2.5 Video Service

(A) Basic Channel Description

A Video channel is a channel with one-way transmission capability for a standard 525 line/60 field monochrome, or National Television Systems Committee color, video signal and up to four associated 5 or 15 kHz audio signal(s). The associated audio signal(s) may be either diplexed or provided as one or two separate channels. The bandwidth for a video channel is either 30 "z to 4.5 MHz or 30Hz to 6.6 MHz. The provision and the bandwidth of the associated audio signal(s) is a function of the channel interface selected by t:1.e customer. Video channels are provided between customer designated premises or between a customer designated premises and a Telephone Company Hub. (C)

7. Special Access Service (Cont'd)

7.2 ~~Service Descriptions~~ (Cont'd)

7.2.4 Program Audio Service (Cont'd)

(D) Optional Features and Functions (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-e	1	2	3	4
Central Office Bridging Capability	X	X	X	X	X
Gain Conditioning	X	X	X	X	X
Stereo	X				X

7.2.5 Video Service

(A) Basic Channel Description

A Video channel is a channel with one-way transmission capability for a standard 525 line/60 field monochrome, or National Television Systems Committee color, video signal and one or two associated 5 or 15kHz audio signal(s). The associated audio signal(s) may be either diplexed or provided as one or two separate channels. The bandwidth for a video channel is either 30 Hz to 4.5 MHz or 30 Hz to 6.6 MHz. The provision and the bandwidth of the associated audio signal(s) is a function of the channel interface selected by the customer. Video channels are provided between customer designated premises or between a customer designated premises and a Telephone Company Hub.

ISSUED:
September 17, 1992

BY: John L Roe
Vice President - Administration
5454 West l10th Street
Overland Park, Kansas 66211

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7. Special Access Service (Cont'd)

7.2 Service Descriptions (Cont'd)

7.2.5 Reserved for Future Use (Cont'd)

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7. Special Access Service (Cont'd)

7.2 Service Descriptions (Cont'd)

7.2.5 Reserved *for Future* Use

ISSUED
July 2, 2002

Richard O. lawson
State Executive, External Affairs
319 Madison
Jefferson City, MO 65101

EFFECTIVE:
[redacted]
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7. Special Access Service (Cont'd)

7.2 Service Descriptions (Cont'd)

7.2.5 Video Service (Cont'd)

(B) 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 Intermodu1ation	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
Gain Stability	X	X	X
Insertion Gain	X	X	X
Line-Time Distortion	X	X	X
Long-Time Distortion	X	X	X

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

ISSUED:

BY: John L Roe

EFFECTIVE: NOV 17 1992

September 17, 1992

Vice President - Administration
5454 West 110th Street
Overland Park, Kansas 66211

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7. Special Access Service (Cont'd)

7.2 Service Descriptions (Cont'd)

7.2.5 Reserved for Future Use (Cont'd)

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ACCESS SERVICE

7. Special Access Service (Cont'd)

7.2 Service Descriptions (Cont'd)

7.2.5 *Reserved for Future Use*

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July 2. 2002

Richard D. Lawson
State Executive. External Affairs
319 Madison
Jefferson City, MO 65101

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7. Special Access Service (Cont'd)

7.2 Service Descriptions (Cont'd)

7.2.5 Video Service (Cont'd)

(B) Technical Specifications Packages (Cont'd)

Parameter	Package TV-C*	Package TV-1	Package TV-2
Luminance Nonlinearity	X		
Luminance Signai/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 ***Publication GR-338.*** (T) (T)

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

7. Special Access Service (Cont'd)

7.2 Service Descriptions (Cont'd)

7.2.5 Video Service (Cont'd)

(B) Technical Specifications Packages (Cont'd)

Parameter	Package TV- £*	.!	£
Luminance Nonlinearity	X		
Luminance Signal/CCIR Weighted Noise	X	X	X
Short-Time Distortion			
2 T Pulse	X	X	X
T - Bar Ringing	X	X	X
Signal/15 kHz Flat Weighted Noise	X	X	X
Signal/Low Frequency Noise	X		
Stereo Gain Difference	X	X	
Stereo Phase Difference	X	X	
Total Harmonic Distortion	X	x	X
Transient Sync Signal Non-Linearity	X		
Video/Audio Delay Difference	X		

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

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

ISSUED:
September 17, 1992

BY: John L Roe
Vice President - Administration
5454 West llOth Street
Overland Park, Kansas 66211

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7. Special Access Service (Cont'd)

7.2 Service Descriptions (Cont'd)

7.2.5 Reserved for Future Use (Cont'd)

7.2.6 Reserved for Future Use

7.2.7 Reserved for Future Use

7. Soecial Access Service (Cont'd)

7.2 Service Descriptions {Cont'd}

7.2.5 *Reserved for Future Use*

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7.2.6 Reserved for Future Use

7.2.7 Reserved for Future Use

ISSUED:
July 2, 2002

Richard *D.* Lawson
State Executive, External Affairs
319 Madison
Jefferson City.MO 65101

EFFECTIVE:
August 1, 2002

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7. Special Access Service (Cont'd)

7.2 Service Descriptions (Cont'd)

7.2.5 Video Service (Cont'd)

(C) Channel Interfaces

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

CI	Audio Bandwidth	Provision
2TV6-1	15 kHz	1 Channel, diplexed
2TV6-2	15 kHz	2 Channels, diplexed
2TV7-1	15 kHz	1 Channel, diplexed
2TV7-2	15 kHz	2 Channels, diplexed
4TV6-5	5 kHz	1 Channel, separate
4TV6-15	15 kHz	1 Channel, separate
4TV7-5	5 kHz	1 Channel, separate
4TV7-15	15 kHz	1 Channel, separate
6TV6-5	5 kHz	2 Channels, separate
6TV6-15	15 kHz	2 Channels, separate
	kHz	2 Channels, separate
6TV7-5	5	
6TV7-15	15 kHz	2 Channels, separate

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

7.2.6 Reserved for Future Use

7.2.7 Reserved for Future Use

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September 17, 1992

BY: John L Roe
Vice President - Administration
5454 West llOth Street
Overland Park, Kansas 66211

7. Special Access Service (Cont'd)

7.2 Service Descriptions (Cont'd)

7.2.8 **Digital Data Service** [1] (C)

(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 designated premises and a Telephone Company Hub where appropriate digital facilities are available as determined by the Telephone Company.

A Digital Service Unit/Channel Service Unit (DSU/CSU) or appropriate digital terminating equipment provided by the customer is required at the customer's premise to provide the proper interface between the Telephone Company network and the customer's equipment. The interim program for interconnection of such equipment is set forth in Technical Reference Publication PUB AS No. 1.

(B) Technical Specifications Packages

	Package DA-			
Parameter	1	2	3	4
Error-Free Seconds	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 while the channel is in service, if it is measured through a CSU equivalent which is designed, manufactured, and maintained to conform with the specifications contained in Technical Reference Publication MDP-326-726.

[1] **Effective November 1, 2021 Digital Data Services are grandfathered. Availability to current customers is limited to circuits in service at existing locations.** (N) (N)

7. Special Access Service (Cont'd)

7.2 Service Descriptions (Cont'd)

7.2.8 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 designated premises and a Telephone Company Hub where appropriate digital facilities are available as determined by the Telephone Company.

A Digital Service Unit/Channel Service Unit (DSU/CSU) or appropriate digital terminating equipment provided by the customer is required at the customer's premise to provide the proper interface between the Telephone Company network and the customer's equipment. The interim program for interconnection of such equipment is set forth in Technical Reference Publication PUB AS No. 1.

(B) Technical Specifications Packages

	Package DA-			
Parameter	1	2	3	4
Error-Free Seconds	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 while the channel is in service, if it is measured through a CSU equivalent which is designed, manufactured, and maintained to conform with the specifications contained in Technical Reference Publication MDP-326-726.

7. Soecial Access Service {Cont'd)

7.2 Service Descriptions (Cont'd)

7.2.8 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 designated premises and a Telephone Company Hub where appropriate digital facilities are available as determined by the Telephone Company.

A Digital Service Unit/Channel Service Unit (OSU/CSU) or appropriate digital terminating equipment provided by the customer is required at the customer's premise to provide the proper interface between the Telephone Company network and the customer's equipment. The interim program for interconnection of such equipment is set forth in Technical Reference *Publication* PUB AS No. 1. (T)

(B) Technical Specifications Packages

Parameter	Package DA-1			4
Error-Free Seconds	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 while the channel is in service, if it is measured through a CSU equivalent which is designed, manufactured, and maintained to conform with \he specifications contained in Technical Reference *Publication MDP-326-726.* (T)

ACCESS SERVICE

7. Special Access Service (Cont'd)

7.2 Service Descriptions (Cont'd)

7.2.8 Digital Data Service (T)

(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 designated premises and a Telephone Company Hub where appropriate digital facilities are available as determined by the Telephone Company. (T) (T)

A Digital Service Unit/Channel Service Unit (DSU/CSU) or appropriate digital terminating equipment provided by the customer is required at the customer's premise to provide the proper interface between the Telephone Company network and the customer's equipment. The interim program for interconnection of such equipment is set forth in Technical Reference PUB AS No. 1.

(B) Technical Specifications Packages

	E-ackage DA-			
Parameter	1	2	3	4
Error-Free Seconds	X	X	X	X

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

(D)

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ACCESS SERVICE

7. Special Access Service (Cont'd)

7.2 Service Descriptions (Cont'd)

7.5.8 United njgJ.jnk..§l!l Sendee

(A) Basic Channel Description

A United DigiLink-"" 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 (C) ctual 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. United DigiLink-"" channels are provided between customer designated premises or between a customer designated premises and a Telephone Company Hub where appropriate digital facilities are available as determined by the Telephone Company.

A Digital Service Unit/Channel Service Unit (DSU/CSU) or appropriate digital terminating equipment provided by the customer is required at the customer's premise to provide the proper interface between the Telephone Company network and the customer's equipment. The interim program for interconnection of such equipment is set forth in Technical Reference PUB AS No. 1.

(B) Technical Specifications Packages

	Package DA-			
Parameter	■	/.	/	.!!.
Error-Free Seconds	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 while the channel is in service, if it is measured through a CSU equivalent which is designed, manufactured, and maintained to conform with the specifications contained in Technical Reference PUB 62310.

smRegistered service mark of United Telecommunications, Inc.

ISSUED:
December 7, 1995

BY: John L. Roe
Vice President - Carrier and Regulatory Services
5454 West 110th Street
Overland Park, Kansas 66211

EFFECTIVE:
January 8, 1996

ACCESS SERVICE

7. Special Access Service (Cont'd)

7.2 Service Descriptions (Cont'd)

7.2.8 Untited DigiLink•Service

(A) Basic Channel Description

A United DigiLink• 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 or 56 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. United DigiLink•channels are provided between customer designated premises or between a customer designated premises and a Telephone Company Hub where appropriate digital facilities are available as determined by the Telephone Company.

A Digital Service Unit/Channel Service Unit (DSU/CSU) or appropriate digital terminating equipment provided by the customer is required at the customer's premise to provide the proper interface between the Telephone Company network and the customer's equipment. The interim program for interconnection of such equipment is set forth in Technical Reference PUB AS No. 1.

(B) Technical Specifications Packages

Parameter	Package DA-1	Package DA-2	Package DA-.1
Error-Free Seconds	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 while the channel is in service, if it is measured through a CSU equivalent which is designed, manufactured, and maintained to conform with the specifications contained in Technical Reference PUB 62310.

• Registered service mark of United C cations, Inc•

ISSUED:
September 17, 1992

BY: John L Roe
Vice President - Administration
5454 West 110th Street
Overland Park, Kansas 66211

EFFECTIVE:
NOV 7 1992

7. Special Access Service (Cont'd)

7.2 Service Descriptions (Cont'd)

7.2.8 **Digital Data Service** [1] (Cont'd) (C)

(C) Channel Interfaces

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

CI	Bit Rate
DU-24	2.4 Kbps
DU-48	4.8 Kbps
DU-96	9.6 Kbps
DU-19	19.2 Kbps
DU-56	56.0 Kbps
DU-64	64.0 Kbps

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

(D) Optional Features and Functions

(1) Central Office Bridging Capability

Provides for the parallel connection of one virtual circuit to another virtual circuit without interrupting the integrity or continuity of the first. This service is only available from a company-designated digital hub.

[1] **Effective November 1, 2021 Digital Data Services are grandfathered. Availability to current customers is limited to circuits in service at existing locations.** (N) (N)

7. Special Access Service (Cont'd)

7.2 Service Descriptions (Cont'd)

7.2.8 Digital Data Service (Cont'd)

(C) Channel Interfaces

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

CI	Bit Rate
DU-24	2.4 Kbps
DU-48	4.8 Kbps
DU-96	9.6 Kbps
DU-19	19.2 Kbps
DU-56	56.0 Kbps
DU-64	64.0 Kbps

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

(D) Optional Features and Functions

(1) Central Office Bridging Capability

Provides for the parallel connection of one virtual circuit to another virtual circuit without interrupting the integrity or continuity of the first. This service is only available from a company-designated digital hub.

7. Special Access Service (Cont'd)

7.2 Service Descriptions (Cont'd)

7.2.8 Digital Data Service (Cont'd)

(D)
|
(D)

(C) Channel Interfaces

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

_g_	Bit Rate	
DU-24	2.4 Kbps	
DU-48	4.8 Kbps	
DU-96	9.6 Kbps	
DU-19	19.2 Kbps	(Z)
DU-56	56.0 Kbps	
DU-64	64.0 Kbps	

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

(D) Optional Features and Functions

(1) Central Office Bridging Capability

Provides for the parallel connection of one virtual circuit to another virtual circuit without interrupting the integrity or continuity of the first. This service is only available from a company-designated digital hub. (T)

ACCESS SERVICE

7. Special Access Service (Cont'd)

7.2 Service Descriptions (Cont'd)

7.2.8 Digital Data Service{Cont'd)

(B) Technical Specifications Packages (Cont'd)

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:

CI	Bit Rate
DU-24	2.4 kbps
DU-48	4.8 kbps
DU-96	9.6 kbps
	19.2 kbps
DU-56	56.0 kbps
DU-64	64.0 kbps

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

(D) Optional Features and Functions

(1) Central Office Bridging Capability

(N)

Provides for the parallel connection of one virtual circuit to another virtual circuit without interrupting the integrity or continuity of the first. This service is only available from a Company designated digital hub.

(N)

7. Special Access Service {Cont'd)

7.2 Service Desc iptions (Cont'd)

7.2.8 Digital Data Service(Cont'd) (T)

{B) Technical Specifications Packages (Cont'd)

Voltages which are compatible with Digital Data service are delineated in Technical Reference PUB 62507. (T)

(C) Channel Interfaces

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

CI	Bit Rate
DU-24	2.4 kbps
DU-48	4.8 kbps
DU-96	9.6 kbps
	19.2 kbps
DU-56	56.0 kbps
DU-64	64.0 kbps

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

(D) Optional Features and Functions

(1) Central Office Bridging Capability

(D)

(D)

ACCESS SERVICE

7. Special Access Service (Cont'd)

7.2 Service Descriptions (Cont'd)

7.2.8 Tm ited Dj gil ink.!!!l Send rn (Contd)

(B) Technical Specifications Packages (Cont'd)

Voltages which are compatible with United DigiLink 5m Service are delineated in Technical Reference PUB 62507.

(C) Channel Interfaces

The following channel interfaces (Cis) define the bi- rates that are available for a United DigiLink channel:

CI	Bit Rate
DU-24	2.4 kbps
DU-48	4.8 kbps
DU-96	9.6 kbps
	19.2 kbps
DU-56	56.0 kbps
DU-64	64.0 kbps (N)

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

(D) Optional Features and Functions

(1) Central Office Bridging Capability

(2) Transfer Arrangement

An arrangement that affords the customer an additional measure of protection and/or flexibility in the use of their access channel(s) on a lxN basis. The arrangement can be utilized to transfer a leg of a Special Access Service to either a spare or working channel that terminates in either the same or a different customer premises. This arrangement available at a Telephone Company designat tiJ key activated or dial-up control service q r d to operate the transfer arrangement. A spare c annel if required, *is* not included as a part of the

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ISSUED:
December 7, 1995 BY: John L. Roe
Vice President - Carrier and Regulatory Services
5454 West llOth Street
Overland Park, Kansas 66211

7. Special Access Service (Cont'd)

7.2 Service Descriptions (Cont'd)

7.2.8 United DigiLinkW Service (Cont'd)

(B) Technical Specifications Packages (Cont'd)

Voltages which are compatible with United DigiLinkW 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 United DigiLink"' channel:

CI	Bit Rate
DU-24	2.4 kbps
DU-48	4.8 kbps
DU-96	9.6 kbps
	19.2 kbps
DU-56	56.0 kbps

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

(D) Optional Features and Functions

(1) Central Office Bridging Capability

(2) Transfer Arrangement

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

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7. Special Access Service (Cont'd)

7.2 Service Descriptions (Cont'd)

7.2.8 **Digital Data Service** [1] (Cont'd) (C)

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

(2) Data Amplification

Provides for data transmission when the customer is located beyond the normal range of 42 decibel (dB) loss for digital data service (56.0 kbps and 64.0 kbps). The dB loss is determined by the route and length of the cable in addition to the gauge of the cable from the last signaling point (usually, but not always the switching office) to the customer's premise. When the dB loss is greater than 42, a repeater and associated equipment must be installed to regenerate the digital signal for accurate and acceptable data transmission to occur.

[1] **Effective November 1, 2021 Digital Data Services are grandfathered. Availability to current customers is limited to circuits in service at existing locations.** (N) (N)

ACCESS SERVICE

7. Special Access Service (Cont'd)

7.2 Service Descriptions (Cont'd)

7.2.8 Digital Data Service (Cont'd)

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

(2) Data Amplification

Provides for data transmission when the customer is located beyond the normal range of 42 decibel (dB) loss for digital data service (56.0 kbps and 64.0 kbps). The dB loss is determined by the route and length of the cable in addition to the gauge of the cable from the last signaling point (usually, but not always the switching office) to the customer's premise. When the dB loss is greater than 42, a repeater and associated equipment must be installed to regenerate the digital signal for accurate and acceptable data transmission to occur.

SPRINT MISSOURI, INC.
d/b/a SPRINT

Second Revised Page 318.1
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ACCESS SERVICE

7. Special Access Service (Cont'dl

7.2 Secvice Descci tions (Cont'd)

7.2.8 Digital Data Service (Cont'd)

(D) Optional Features and Functions (Cont'dl

(2) Data Amplification

Pcovides for data transmission when the customer is located beyond the normal range of 42 decibel (dB) loss for digital data service (56.0 kbps and 64.0 kbps). The dB loss *is* determined by the route and length of the cable in addition to the gauge of the cable from the last signaling point (usually, but not always the switching office) to the customer's premise. When the dB loss is greater than 42, a repeater and associated equipment must be installed to regenerate the digital signal for accurate and acceptable data transmission *to* occur. (C) (C)

ISSUED:
!'lay 3, 2000

Richard D. Lawson
State Executive, External Affairs

EFFECTIVE:
June 2, 2000

ACCESS SERVICE

7. Special Access Service (Cont'd)

7.2 Service Descriptions (Cont'd) (T)

7.2.8 Digital Data Service (Cont'd)

{D) Optional Features and Functions (Cont'd)

(2) Data Amplification (T)

Provides for data transmission when the customer is located beyond the normal range of 42 decibel (dB) loss for high speed digital data service. The dB loss is determined by the route and length of the cable in addition to the gauge of the cable from the last signaling point (usually, but not always the switching office) to the customer's premise. When the dB loss is greater than 42, a repeater and associated equipment must be installed to regenerate the digital signal for accurate and acceptable data transmission to occur.

ACCESS SERVICE

7. Special Access Service (Cont'd)

7.2 Service Descriptions (Cont'd)

7.2.8 United DigiLinkService (Cont'd}

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

(3) Data Amplification

Provides for data transmission when the customer is located·beyond the normal range of 42 decibel (dB) loss for high speed digital data service. The dB loss is determined by the route and length of the cable in addition to the gauge of the cable from the last signaling point {usually, but not always the switching office) to the customer's premise. When the dB loss is greater than 42, a repeater and associated equipment must be installed to regenerate the digital signal for accurate and acceptable data transmission to occur.

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ACCESS SERVICE

7. Special Access Service (Cont'd)

7.2 Service Descriptions (Cont'd)

7.2.8 **Digital Data Service** [1] (Cont'd) (C)

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

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

	Available with Technical Specifications Package DA-			
	1	2	3	4
Central Office Bridging Capability	X	X	X	X
Data Amplification				X

7.2.9 High Capacity Service

(A) Basic Channel Description

A High Capacity channel is a channel for the transmission of nominal 1.544, 3.152, 6.312, 44.736, and 274.176 Mbps isochronous serial data. The actual bit rate and framing format 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, where appropriate digital facilities are available as determined by the Telephone Company.

The customer must furnish the Digital 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 Publication PUB AS No. 1.

[1] **Effective November 1, 2021 Digital Data Services are grandfathered. Availability to current customers is limited to circuits in service at existing locations.** (N) (N)

ACCESS SERVICE

7. Special Access Service (Cont'd)

7.2 Service Descriptions (Cont'd)

7.2.8 Digital Data Service (Cont'd) (T)

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

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

	Available with Technical Specifications Package DA-			
	1	2	3	4
Central Office Bridging Capability	X	X	X	X
Data Amplification				X

7.2.9 High Capacity Service

(A) Basic Channel Description

A High Capacity channel is a channel for the transmission of nominal 1.544, 3.152, 6.312, 44.736, and 274.176 Mbps isochronous serial data. The actual bit rate and framing format 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, where appropriate digital facilities are available as determined by the Telephone Company.

The customer must furnish the Digital 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 Publication PUB AS No. 1.

ACCESS SERVICE

7. Special Access Service (Cont'd)

7.2 SeNice Descriptions (Cont'd)

(D) Optional Features and Functions (Cont'd}

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

	Available with Technical Specifications Package DA-			
	1	.f		.4
Central Office Bridging Capability	X	X	X	X
Data Amplification				X

7.2.9 High Capacity Service

{A) Basic ChannelDescription

A High Capacity channel is a channel for the transmission of nominal 1.544, 3.152. 6.312. 44.736, and 274.116 Mbps isochronous serial data. The actual bit rate and framing formalis 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, where appropriate digital facilities are available as determined by \he Telephone Company.

The customer must furnish the Digital 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 TechnicalReference *Publication* PUB AS No.1. (T)

ACCESS SERVICE

7. Special Access Service (Cont'd)

7.2 Service Descriptions (Cont'd)

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

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

	Available with Technical Specifications Package DA-			
	1	2	3	4
Central Office Bridging Capability	X	X	X	X
Data Amplification				X (D)

7.2.9 High Capacity Service (T)

(A) Basic Channel Description

A High Capacity channel is a channel for the transmission of nominal 1.544, 3.152, 6.312, 44.736, and 274.176 Mbps isochronous serial data. The actual bit rate and framing format 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, where appropriate digital facilities are available as determined by the Telephone Company. (T) (C) (C) (T)

The customer must furnish the Digital 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. (T)

(D)

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7. Special Access Service (Cont'd)

7.2 Ser ice Descriptions (Cont'd)

7.2.8 United DigiLink'" Service (Cont'd) 1'11\J.t'UDLJII i:il:hWl t. WIiUVI

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

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

	Available with Technical Specifications Package DA-				
	1	2	3	4	
Central Office Bridging Capability	X	X	X	X	
Transfer Arrangement	X	X	X	X	
Data Amplification				X	(N)

7.2.9 United TransLink

(A) Basic Channel Description

A United TransLink channel is a channel for the transmission of nominal 64.0 kbps* or 1.544 Mbps isochronous serial data. The actual bit rate and framing format is a function of the channel interface selected by the customer. *United* TransLink channels are provided between customer designated premises or between a customer designated premises and a Telephone Company Hub, where appropriate digital facilities are available as determined by the Telephone Company.

The customer must furnish the Digital Network Channel Terminating Equipment associated with the United TransLinkor other High capacity channel at the customer's premises. The interim program for interconnection of such equipmer; t_ s sJ 5'6 1tf Technical Reference PUB AS No *Mb ,Itlf) :s*

* Available only as a channel of a 1.544 Mbps facility between two Telephone Company Digital Data Hubs or as a cross connect of two 2.4, 4.8, 9.6, 19.2, 56.0 or 64.0 kbps channels of two 1.544 Mbps facilities to *a* Digital Data Hub. The customer must provide system and channel assignment data.

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7. Special Access Service (Cont'd)

7.2 Service Descriptions (Cont'd)

7.2.8 United DigiLinkService (Cont'd)

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

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

	Available with Technical Specifications Package DA-			
	1.	/.	/.	.11.
Central Office Bridging Capability	X	X	x	X
Transfer Arrangement	X	X	x	X

7.2.9 United TransLink

(A) Basic Channel Description

A United TransLinkchannel is a channel for the transmission of nominal 64.0 kbps* or 1.544 Mbps isochronous serial data. The actual bit rate and framing format is a function of the channel interface selected by the customer. United TransLink•channels are provided between customer designated premises or between a customer designated premises and a Telephone Company Hub, where appropriate digital facilities are available as determined by the Telephone Company.

The customer must furnish the Digital Network Channel Terminating Equipment associated with the United TransLink or other 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.

* Available only as a channel of a 1.544 Mbps facility between two Telephone Company Digital Data Hubs or as a cross connect of two 2.4, 4.8, 9.6, 19.2, 56.0 or 64.0 kbps channels of two 1.544 Mbps facilities to a Digital Data Hub. The customer must provide system and channel assignment data.

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7. Special Access Service (Cont'd)

7.2 Service Descriptions (Cont'd)

7.2.9 High Capacity Service (Cont'd)

(A) Basic Channel Description (Cont'd)

Fractional DS1 channels [1] provide simultaneous, two-way transmission at contiguous bit rates of 128.0, 256.0 and 384.0 kbps. Fractional DS1 channels operate over the combined bandwidth of adjacent channels to create a contiguous bit rate. Due to technical limitations associated with the provision of Fractional DS1, this service will be offered only in end offices where a compatible channel bank exists and the distance between the central office and the customer designated premises is less than or equal to 12,000 feet. (C)

(B) Technical Specifications Packages

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

A channel with technical specifications package HC1 will be capable of 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 Publication GR-54.

(C) Channel Interfaces

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

CI	Bit Rate
DS-15	1.544 Mbps (DS1)
DS-31	3.152 Mbps (DS1C)
DS-44	44.736 Mbps (DS3)

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

[1] **Effective November 1, 2021 Fractional DS1 Services are grandfathered. Availability to current customers is limited to circuits in service at existing locations.** (N) (N)

ACCESS SERVICE

7. Special Access Service (Cont'd)

7.2 Service Descriptions (Cont'd)

7.2.9 High Capacity Service (Cont'd)

(A) Basic Channel Description (Cont'd)

Fractional DS1 channels provide simultaneous, two-way transmission at contiguous bit rates of 128.0, 256.0 and 384.0 kbps. Fractional DS1 channels operate over the combined bandwidth of adjacent channels to create a contiguous bit rate. Due to technical limitations associated with the provision of Fractional DS1, this service will be offered only in end offices where a compatible channel bank exists and the distance between the central office and the customer designated premises is less than or equal to 12,000 feet.

(B) Technical Specifications Packages

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

A channel with technical specifications package HC1 will be capable of 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 Publication GR-54.

(C) Channel Interfaces

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

CI	Bit Rate
DS-15	1.544 Mbps (DS1)
DS-31	3.152 Mbps (DS1C)
DS-44	44.736 Mbps (DS3)

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

7. Special Access Service (Cont'd)

7.2 Service Descriptions (Cont'd)

7.2.9 High Capacity Service (Cont'd)

(A) Basic Channel Description (Cont'd)

Fractional OS1 channels provide simultaneous, hNo-way transmission at contiguous bit rates of 128.0, 256.0 and 384.0 kbps. Fractional DS1 channels operate over the combined bandwidth of adjacent channels to create a contiguous bit rate. Due to technical limitations associated with the provision of Fractional DS1, this service will be offered only in end offices where a compatible channel bank exists and the distance behNeen the central office and the customer designated premises is less than or equal to 12,000 feet.

(B) Technical Specifications Packages

	Package HC-				
Parameter	Q	1	IC	2	3
Error-Free Seconds	X	X			

A channel with technical specifications package HC1 will be capable of 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 *Publication GR-54.* (T)

(C) ChannelInterfaces

The following channel interface (Cis) defined the bit rates that are available for a High Capacity channel:

g_	Bit Rate
DS-15	1.544 Mbps (OS1)
DS-31	3.152 Mbps (DS1C} (D)
DS-44	44.736 Mbps (DS3) (D)

Compatible channelinterlaces are set forth in 7.3.5(1) following.

ISSUED:
January 7, 2002

Richard D. Lawson
State Executive, External Affairs
319 Madison
Jefferson City, MO 65101

February 7, 2002

ACCESS SERVICE

7. Special Access Service (Cont'd)

7.2 Service Descriptions (Cont'd)

7.2.9 High Capacity Service (Cont'd) (T)

(A) Basic Channel Description (cont'd) (M)

Cractional DSl channels provide simultaneous, two-way transmission at contiguous bit rates of 128.0, 256.0 and 384.0 kbps. Fractional DSl channels operate over the combined bandwidth of adjacent channels to create a contiguous bit rate. Due to technical limitations associated with the provision of Fractional DSl, this service Will be offered only in end offices where a compatible channel bank exists and the distance between the central office and the customer designated premises is less than or equal to 12,000 feet. (M)

(B) Technical Specifications Packages

Parameter	Package HC-0	HC-1	HC-IC	HC-2	HC-3	HC-4	
Error-Free Seconds	X	X					(TI

A channel with technical specifications package HCl will be capable of error-free second performance of 98.75% over 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.

(C) Channel Interfaces (D)

The following channel interface (Cis) defined the bit rates that are available for a High Capacity channel: (T}

CI	Bit Rate	
DS-15	1.544 Mbps (DS1)	
DS-27	274.176 Mbps (DS4)	(M)
DS-31	3.152 Mbps (DS1C)	
DS-44	44.736 Mbps (DS3)	
DS-63	6.312 Mbps (DS2)	(M)

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

Certain material found on this page was moved from pages 324 and 325.

7. Special Access Service (Cont'd)

7.2 ~~Service Descriptions~~ (Cont'd)

7.2.9 United TransLink•Service (Cont'd)

(B) Technical Specifications Packages

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

A channel with technical specifications package HCl will be capable of 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.

(C) Channel Interfaces

The following channel interface (Cis) defined the bit rates that are available for a United TransLink•channel:

CI	Bit Rate
DS-15*	1.544 Mbps (DSl)

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

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

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ISSUED:

September 17, 1992

BY: John L Roe
Vice President - Administration
5454 Vest llOth Street
Overland Park, Kansas 66211

7. Special Access Service (Cont'd)

7.2 Service Descriptions (Cont'd)

7.2.9 High Capacity Service (Cont'd)

(D) 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 channel when a working channel fails. Spare channel priority is given to the lowest numbered slot based upon slot position. Slot position number one is given highest priority. The spare channel is not included as a part of the option. This option requires compatible equipment at both the serving wire center and the customer premises. The customer is responsible for providing the equipment at its premises. This feature is not available with 1.544 Mbps channels having the B8ZS line code.

7. Special Access Service (Cont'd)

7.2 Service Descriptions (Cont'd)

7.2.9 High Capacity Service (Cont'd)

(D) 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 channel when a working channel fails. *Spare channel priority is given to the fowest numbered sfot based upon slot position. Slot position number one is given highest priority.* The spare channel is not included as a part of the option. This option requires compatible equipment at both the serving wire center and the customer premises. The customer is responsible for providing the equipment at its *premises. This feature is not available with 1.544 Mbps channels having the BSZS line code.* (C) (C) (C) (C)

ACCESS SERVICE

7. Special Access Service (Cont'd)

7.2 Service Descriptions (Cont'd)

7.2.9 High Capacity Service (Cont'd) (T)

(D) Optional Features and Functions

(1) Automatic Loop Transfer

The Automatic Loop Transfer provides protection on a lxN basis against failure of the facilities between a customer designated premises and the wire center serving that premises. Protection *is* furnished through the use of a switching arrangement that automatically switches to a spare channel when a working channel fails. The spare channel is not included as a part of the option. This option requires compatible equipment at both the serving wire center and the customer 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. (D)

(D)

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7. Special Access Service (Cont'd)

7.2 Service Descriptions (Cont'd)

7.2.9 United TransLink* Service (Cont'd)

(D) 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 channel when a working channel fails. The spare channel *is* not included as a part of the option. This option requires compatible equipment at both the serving wire center and the customer 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.

(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 channel. if required, is not included as a part of the option.

* Registered service mark of United Telecommunications, Inc.

ISSUED:
September 17, 1992

BY: John L Roe
Vice President - Administration
5454 West 110th Street
Overland Park, Kansas 66211

EFFECTIVE:
NOV 7 1992

ACCESS SERVICE

7. Special Access Service (Cont'd)

7.2 Service Descriptions (Cont'd)

7.2.9 High Capacity Service (Cont'd)

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

(2) 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.

(b) DS1C to DS1

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

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dlb/a SPRINT

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Cancels First Revised Page 322

ACCESS SERVICE

7. Special Access Service (Cont'd)

7.2 Service Descriptions (Cont'd)

7.2.9 High Capacity Service (Cont'd)

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

(2) Central Office Multiplexing

T
(D)

(a) DS3 to DS1 (T)

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

(r
(D)

(b) DS1C to DS1 (T)

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

ISSUED:
January 7, 2002

Richard D. Lawson
State Executive, External Affairs
319 Madison
Jefferson City, MO 65101

EFFECTIVE:
February 7, 2002

ACCESS SERVICE

7. Special Access Service (Cont'd)

7.2 Service Descriptions (Cont'd)

7.2.9 High Capacity Service (Cont'd) (T)

(D) Optional Features and Functions {Cont'd)

(2) Central Office Multiplexing (T)

(a) DS4 to DSl (C) (M)

An arrangement that converts a 274.176 Mbps channel tb 168 DSl channel using digital time division multiplexing.

(b) DS3 to DSl (C)

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

(c) DS2 to DSl (C)

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

(d) DSlC to DSl (C)

An arrangement that converts a 3.152 Mbps channel to two DSl channels using digital time division multiplexing. (M)

(D)

Material found on this page was moved from page 325.

7. Special Access Service (Cont'd)

7.2 Service Descriptions (Cont'd)

7.2.9 United TransLinkService (Cont'd)

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

(3) Central Office Multiplexing (Cont'd)

(a) Reserved for future use.

(b) Reserved for future use.

(c) Reserved for future use.

(d) Reserved for future use

'' Registered service mark of United Telecommunications, Inc.

ISSUED:
September 17, 1992

BY: John L Roe
Vice President - Administration
5454 West 110th Street
Overland Park, Kansas 66211

EFFECTIVE:
NOV 7 1992

ACCESS SERVICE

7. Special Access Service (Cont'd)

7.2 Service Descriptions (Cont'd)

7.2.9 High Capacity Service (Cont'd)

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

(2) Central Office Multiplexing (Cont'd)

(c) **DS1 to Voice** [1] (C)

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

(d) **DS1 to DS0** [1] (C)

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

[1] **Effective November 1, 2021 Voice Grade and Digital Data Services are grandfathered. Availability to current customers is limited to circuits in service at existing locations.** (N) (N) (N)

ACCESS SERVICE

7. Special Access Service (Cont'd)

7.2 Service Descriptions (Cont'd)

7.2.9 High Capacity Service (Cont'd)

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

(2) Central Office Multiplexing (Cont'd)

(c) DS1 to Voice (T)

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

(d) DS1 to DS0 (T)

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

ACCESS SERVICE

7. Special Access Service (Cont'd)

7.2 Service Descriptions (Cont'd)

7.2.9 High Capacity Service (Cont'd)

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

(2) Central Office Multiplexing (Conl'd)

(e) OSt to Voice

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

{f) DS1 to DSO

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

ISSUED:
July 2, 2002

Richard O. Lawson
State Executive, External Affairs
319 Madison
Jefferson City, MO 65101

EFFECTIVE:
August 12, 2002

ACCESS SERVICE

7. Special Access Service (Cont'd)

7.2 Service Descriptions (Cont'd)

7.2.9 High Capacity Service (Cont'd)

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

(2) Central Office Multiplexing (Cont'd)

(e) DS1 to Voice

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

(f) DS1 to DSO

An arrangement that converts a 1.544 Mbps channel to twenty-***four*** 64.0 Kbps channels utilizing digital time division multiplexing. (T)

ISSUED:
November 29, 2000

Richard D. Lawson
State Executive, External Affairs
319 Madison
Jefferson City, MO 65101

EFFECTIVE:
December 29, 2000

ACCESS SERVICE

7. Special Access Service (Cont'd)

7.2 Service Descriptions (Cont'd)

7.2.9 High Capacity Service (Cont'd)

{D) Optional Features and Functions (Cont'd)

(2) Central Office Multiplexing (Cont'd)

(e) DSl to Voice

An arrangement that converts a 1.544 Mbps channel to 24 channels for use with Voice Grade Services. A channel(s) of this DSl to the Hub can also be used for a Digital Data, Program Audio, or WATS Access Line Service.

(f) DSl to DSO

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

(D)

(D)

ACCESS SERVICE

7. Special Access Se vice (Cont'd)

7.2 Service Descriptions (Cont'd}

7.2.9 High Capacity Service (Cont'd} (T)

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

(2) Central Office Multiplexing (Cont'd) (T)

(e) DS1 to Voice

An arrangement that converts a 1.544 Mbps channel to 24 channels for use with Voice Grade Services. A channel(s) of this DSl to the Hub can also be used for a Digital Data, (T} Program Audio, or WATS Access Line Service. (C)

(f) DS1 to DSO

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

(g) DSO to Subrate

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

(D)

ISSUED:
September 10, 1999

Richard D. Lawson
State Executive, External Affairs

EFFECTIVE:
October [illegible] 1999

7. Special Access Service (Cont'd)

7.2 Service Descriptions (Cont'd)

7.2.9 United TransLinkService (Cont'd)

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

(3) Central Office Multiplexing (Cont'd)

(e) DSl to Voice

An arrangement that converts a 1.544 Mbps channel to 24 channels for use with Voice Grade Services. A channel(s) of this DS1 to the Hub can also be used for a United DigiLink . Program Audio, Metallic, or WATS Access Line Service.

(f) DSl to DSO

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

(g) DSO to Subrate

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

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ISSUED:
September 17, 1992

BY: John L Roe
Vice President - Administration
5454 West llOth Street
Overland Park, Kansas 66211

EFFECTIVE:
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NOV 7 1992

7. Special Access Service (Cont'd)

7.2 Service Descriptions (Cont'd)

7.2.9 High Capacity Service (Cont'd)

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

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:						
DS1 to Voice		X				
DS1 to DS0		X				
DS3 to DS1					X	
DS1C to DS1			X			
Clear Channel Capability		X			X	

7.2.10 Clear Channel Capability

Clear Channel Capability (CCC) is an arrangement that alters a DS1/1.544 Mbps signal with unconstrained information bits to meet pulse density requirements outlined in Technical Reference Publications GR-54 and GR-342. This will allow a customer to transport an all zero octet over a DS1/1.544 Mbps High Capacity channel providing an available combined maximum 1.536 Mbps data rate. This arrangement requires the customer signal at the channel interface to conform to Bipolar with 8 Zero Substitution (B8ZS) line code as described in Technical Reference Publications GR-54 and GR-342.

CCC is provided on DS1/1.544 Mbps High Capacity channels between two customer designated premises and is subject to the availability of facilities. This optional feature may be ordered at the same time the DS1/1.544 Mbps High Capacity channel is ordered, or it may be ordered as an additional feature of an existing channel.

7. Special Access Service (Cont'd)

7.2 Service Descriptions (Cont'd}

7.2.9 High Capacity Service (Cont'd)

(D) Optional Features and Functions (Conl'd)

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

	Available with Technical Specifications Package HC-				
	1	1C	2	3	4
Automatic Loop Transfer	X				
Central Office Multiplexing:					
DS1 to Voice	X				
DS1 lo DSO	X				
DS3 to DS1				X	
DS1C to DS1		X			
Clear Channel Capability	X			X	

7.2.10 Clear Channel Capability

Clear Channel Capability *(CCC) is an arrangement that alters a 051/1.544 Mbps signal with unconstrained information bits to meet pulse density requirements outlined in Technical Reference Publications GR-54 and GR-342. This will allow a customer to transport an all zero octet over a 05111.544 Mbps High Capacity channel providing an available combined maximum 1.536 Mbps data rate. This arrangement* requires the customer signal at the channel interface to conform to Bipolar with 8 Zero Substitution (B8ZS) line *code as* described in Technical Reference Publications GR-54 *and* GR-342. (CT)

CCC is *provided on 05111.544 Mbps High Capacity channels between two customer designated premises and is subject to the availability of facilities. This optional feature may be ordered at the same time the 05111.544 Mbps High Capacity channel is ordered, or it may be ordered as an additional feature of an existing channel.* (CT)

7. Special Access Service (Cont'd)

7.2 Service Descriptions (Cont'd)

7.2.g High Capacity Service (Cont'd)

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

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:						
DS1 to Voice		X				
DS1 to DSO		X				
DS3 to DS1					X	(D)
DS1C to DS1			X			(D)
Clear Channel Capability		X			X	

7.2.10 Clear Channel Capability

Clear Channel Capability provides an increase in usable bandwidth from 1.344 Mbps to 1.536 Mbps of an unconstrained data stream across the network. Clear Channel Capability is provided only in offices with existing technical capability on 1.544 Mbps High Capacity Service and on multiplexed 44.736 Mbps High Capacity Service, and requires the customer signal at the channel interface to conform to Bipolar with Eight Zero Substitution (BBZS) line code format as described in Technical Reference *Publications GR-54 and GR-342.* Customer equipment must be compatible with this method of providing the unconstrained signal. (T)

ACCESS SERVICE

7. Special Access Service (Cont'd)

7.2 Service Descriptions (Cont'd)

7.2.9 High Capacity Service (Cont'd)

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

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:							
DS1 to Voice		X					
DS1 to DSO		X					
DS4 to DS1						X	
DS3 to DS1					X		
DS2 to DS1				X			
DS1Cto DS1			X				
Clear Channel Capability		*X*			*X*		(N)

7.2.10 *Clear Channel Capability* (N)

Clear Channel Capability provides an increase in usable bandwidth from 1.344 *Mbps to 1.536 Mbps of an unconstrained data stream across the network. Clear Channel Capability is provided only in offices with existing technical capability on* 1.544 *Mbps High Capacity Service and on multiplexed 44.736 Mbps High Capacity Service, and requires the customer signal at the channel interface to conform to Bipolar with Eight Zero Substitution (BBZS) line code format as described in Technical Reference PUB 77323. Customer equipment must be compatible with this method of providing the unconstrained signal.* (N)

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7. Special Access Service (Cont'd)

7.2 Service Descriptions (Cont'd)

7.2.9 High Capacity Service (Cont'd)

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

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

	Available with Technical Specifications Package				
	0	1	lC	2	3	4
Automatic Loop Transfer		X				
Central Office Multiplexing:						
DSl to Voice		X				
DSl to DSO		X				
DS4 to DSl						X
DS3 to DSl					X	
DS2 to DSl				X		
DSlC to DSl			X			

(D)

7.2.10 Reserved For Future Use

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d D. Lawson

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EFFECTIVE: (D)

May 3, 2000 State Richar
Executive, External Affairs
June 2, 2000

7. Special Access Service (Cont'd)

7.2 Service Descriptions (Cont'd)

7.2.9 High Capacity Service (Cont'd) (T)

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

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

	Available with Technical Specifications Package						
	0	1	1C	2	3	4	
Automatic Loop Transfer		X					
Central Office Multiplexing:							
DSl to Voice		X					
DSl to DS0		X					
DS0 to Subrate	X						
DS4 to DS1						X	(M)
DS3 to DS1					X		
DS2 to DS1				X			|
DS1C to DS1			X				(M) (D)

7.2.10 Reserved For Future Use (C)

(M)

 (M) (D)

Certain material found on this page was moved from page 326.

Certain material found on this page was moved to pages 319 and 320.

7. Special Access Service (Cont'd)

7.2 Service Descriptions (Cont'd)

7.2.9 United TransLink[5M] Service (Cant' d)

(D) Optional Features and Functions (Cant'd)

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

	Available with Technical Specifications Package HC-.I
Automatic Loop Transfer	X
Central Office Multiplexing:	
DSl to Voice	X
DSl to DSO	X
oso to Subrate*	X
Transfer Arrangement	X

7.2.10 High Capacity Service

(A) Basic Channel Description

1) A high capacity channel is a channel for the trans-mission of 3.152, 6.312, 44.736 or 274.176 Mbps isochronous serial data. The actual bit rate and framing format 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 Tele-phone Company Hub.

The customer may provide the Network Channel Termi-nating 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.

2) Fractional DSl channels provide simultaneous, two-way transmission at contiguous bit rates of 128.0, 256.0 and 384.0 kbps. Fractional DS1 channels operate over the combined bandwidth of adjacent channels to create a contiguous bit rate. T (N)

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7. Special Access Service (Cont'd)

7.2 Service Descriptions (Cont'd)

7.2.9 United TransLinkService (Cont'd)

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

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

	Available with Technical Specifications Package HC-.!1.	I.
Automatic Loop Transfer		X
Central Office Multiplexing:		
DSl to Voice		X
DSl to DSO		X
DSO to Subrate*	X	
Transfer Arrangement		X

7.2.10 High Capacity Service

(A) Basic Channel Description

A high capacity channel is a channel for the transmission of 3.152, 6.312, 44.736 or 274.176 Mbps isochronous serial data. The actual bit rate and framing format 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. l.

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ACCESS SERVICE

7. Special Access Service (Cont'd)

7.2 Service Descriptions (Cont'd)

7.2.10 Reserved for Future Use (Cont'd)

ACCESS SERVICE

7. Special Access Service (Cont'd)

7.2 Service Descriptions {Cont'd)

7.2.10 Reserved for Future Use (Cont'd)

(C)

(M)

Material was relocated to pages 320 and 322.

(M)

7. Special Access Service (Cont'd)

7.2 Service Descriptions (Cont'd)

7.2.10 High Capacity Service (Cont'd)

A) Basic Channel Description (Cont'd) (N)

Due to technical limitations associated with the provision of Fractional DSl, this service will be offered only in end offices where a compatible channel bank exists and the distance between the central office and the customer designated premises is less than or equal to 12,000 feet.

B) Channel Interfaces (N)

The following channel interface {Cis) defines the bit rate that is available for a High Capacity channel:

CI	Bit Rate
DS-27	274.176 Mbps (OS4)
DS-31	3.152 Mbps (DS1C)
OS-44	44.736 Mbps (DS3)
DS-63	6.312 Mbps (DS2)

Compatible channel interfaces are set forth in 7.3.5{!) following.

(C) Optional Features and Functions

(1) Central Office Multiplexing

(a) OS4 to OS1

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

(b) DSJ to QS1

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

(c) DS2 to DS1

An arrangement that converts a 6.312 Mbps channel to four 051 channels using digital time division multiplexing.

(d) DS1C to OS1

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

7. ~~Special Access Service~~ (Cont'd)

7.2 Service Descriptions (Cont'd)

7.2.10 High Capacity Service (Cont'd)

(B) Channel Interfaces

The following channel interface (Cis) defines the bit rate that is available for a High Capacity channel:

CI	Bit Rate
DS-27	274.176 Mbps (DS4)
DS-31	3.152 Mbps (DSlC)
DS-44	44.736 Mbps (DS3)
DS-63	6.312 Mbps (DS2)

Compatible channel interfaces are set forth ELiAi following.

(C) Optional Features and Functions

(1) Central Office Multiplexing

(a) DS4 to DS1

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

(b) DS3 to DSl

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

(c) DS2 to DSl

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

(d) DS1C to DSl

An arrangement that converts flli(;)Mbps channel to two DSl channels usind tal time division multiplexingNQV "l19!.

7. Special Access Service (Cont'd)

7.2 Service Descriptions (Cont'd)

7.2.10 Reserved for Future Use (Cont'd)

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First Revised Page 326
Cancels Original Page 326

ACCESS SERVICE

7. Special Access Service (Cont'd)

7.2 Service Descriptions (Cont'd)

7.2.10 Reserved For Future Use (Cont'd) (C)

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(M)

Material was relocated to page 324.

ISSUED:
September 10, 1999

Richard D. Lawson
State Executive, External Affairs

OCT 15 1999

7. Special Access Service (Cont'd)

7.2 Service Descriptions (Cont'd)

7.2.10 High Capacity Service (Cont'd)

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

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

	Available with Technical Specifications Package HC-		
	1C	2	3
Central Office Multiplexing:			
DS4 to DS1			X
DS3 to DS1		X	
DS2 to DSl		X	
DSlC to DS1	X		

7. Special Access Service (Cont'd)

7.2 Service Descriptions (Cont'd)

7.2.11 **WATS Access Line (WAL) Service** [1] (C)

(A) Basic Channel Description

A WATS Access Line Service provides a channel for voice frequency transmission capability. The service provides a connection between a customer designated premises and a WATS serving office associated with the closed end of TFC Service, WATS or similar service. It is provided only for use with Feature Group C or D Switched Access Service as set forth in Section 6 preceding.

WAL Service is arranged for either originating calling only or terminating calling only. It is provided with either rotary dial or dual tone multifrequency address signaling and either loop start, ground start, E&M, or reverse battery supervisory signaling. The choice of the type of signaling is at the option of the customer

[1] **Effective November 1, 2021 WATS Access Line Services are grandfathered. Availability to current customers is limited to circuits in service at existing locations.** (N) (N)

ACCESS SERVICE

7. Special Access Service (Cont'd)

7.2 Service Descriptions (Cont'd)

7.2.11 WATS Access Line (WAL) Service

(A) Basic Channel Description

A WATS Access Line Service provides a channel for voice frequency transmission capability. The service provides a connection between a customer designated premises and a WATS serving office associated with the closed end of TFC Service, WATS or similar service. It is provided only for use with Feature Group C or D Switched Access Service as set forth in Section 6 preceding.

WAL Service is arranged for either originating calling only or terminating calling only. It is provided with either rotary dial or dual tone multifrequency address signaling and either loop start, ground start, E&M, or reverse battery supervisory signaling. The choice of the type of signaling is at the option of the customer

ACCESS SERVICE

7. Special Access Service (Cont'd)

7.2 Service Descriptions (Cont'd)

7.2.11 WATS Access Line CWAL> Seryice

(A) Basic Channel Description

A WATS Access Line Service provides a channel for voice frequency transmission capability. The service provides a connection between a customer designated premises and a WATS serving office associated with the closed end of TFC Service, WATS or similar service. It is provided only for use with Feature Group C or D Switched Access Service as set forth in Section 6 preceding. (T')

WAL Service is arranged for either originating calling only or terminating calling only. It is provided with either rotary dial or dual tone multifrequency address signaling and either loop start, ground start, E&M, or reverse battery supervisory signaling. The choice of the type of signaling is at the option of the customer

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BY: John L. Roe
Vice President - Carrier and Regulatory Services
5454 West llOth Street
Overland Park, Kansas 66211

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7. Special Access Service (Cont'd)

7.2 ~~Service Descriptions~~ (Cont'd)

7.2.11 WATS Access Line (WALl Service

(A) Basic Channel Description

A WATS Access Line Service provides a channel for voice frequency transmission capability. The service provides a connection between a customer designated premises and a WATS serving office associated with the closed end of 800 Service, WATS or similar service. It is provided only for use with Feature Group C or D Switched Access Service as set forth in Section 6 preceding.

WAL Service is arranged for either originating calling only or terminating calling only. It is provided with either rotary dial or dual tone multifrequency address signaling and either loop start, ground start, E&M, or reverse battery supervisory signaling. The choice of the type of signaling is at the option of the customer and

7. Special Access Service (Cont'd)

7.2 Service Descriptions (Cont'd)

7.2.11 **WATS Access Line (WAL) Service** [1] (Cont'd) (C)

(A) Basic Channel Description (Cont'd)

Subject to the technical limitations identified in the Technical Publication GR-3334. WATS Access Line Service is provided as an effective two-wire, an effective four-wire or a DS1 (i.e., 1.544 Mbps) transmission path.

(B) Technical Specification Packages

	Packages WAL		
Parameters	1	2	3
Attenuation Distortion	X	X	
Bit error rate			X
C-Message Noise	X	X	
Echo Control	X	X	
Envelop Delay Distortion	X	X	
Frequency Shift	X	X	
Impulse Noise	X	X	
Intermodulation Distortion	X	X	
Loss Deviation	X	X	
Phase Jitter	X	X	
Signal-to-C Notch Noise	X	X	

(C) Channel Interfaces

The following interfaces are available with WAL Service:

LO, LS, DS, GO, GS RV, EA, EB, SF

Compatible channel interfaces are set forth in 7.3.5.(J)

[1] **Effective November 1, 2021 WATS Access Line Services are grandfathered. Availability to current customers is limited to circuits in service at existing locations.** (N) (N)

7. Special Access Service (Cont'd)

7.2 Service Descriptions (Cont'd)

7.2.11 WATS Access Line (WAL) Service (Cont'd)

(A) Basic Channel Description (Cont'd)

Subject to the technical limitations identified in the Technical Publication GR-3334. WATS Access Line Service is provided as an effective two-wire, an effective four-wire or a DS1 (i.e., 1.544 Mbps) transmission path.

(B) Technical Specification Packages

	Packages WAL		
Parameters	1	2	3
Attenuation Distortion	X	X	
Bit error rate			X
C-Message Noise	X	X	
Echo Control	X	X	
Envelop Delay Distortion	X	X	
Frequency Shift	X	X	
Impulse Noise	X	X	
Intermodulation Distortion	X	X	
Loss Deviation	X	X	
Phase Jitter	X	X	
Signal-to-C Notch Noise	X	X	

(C) Channel Interfaces

The following interfaces are available with WAL Service:

LO, LS, DS, GO, GS RV, EA, EB, SF

Compatible channel interfaces are set forth in 7.3.5.(J)

7. Special Access Service (Cont'd)

7.2 Service Descriptions (Cont'd)

7.2.11 WATS Access line (WAU Service (Cont'd)

(A) Basic Channel Description (Cont'd)

Subject to the technical limitations identified in the Technical *Publication GR 3334*. WATS Access Line Service is provided as an effective two-wire, an effective four-wire or a DS1 (i.e., 1.544 Mbps} transmission path. (T) (n

(B) Technical Specificat on Packages

Parameters	Packages WilL-1	2	
Attenuation Distortion	X	X	
Bit error rate			X
C-Message Noise	X	X	
Echo Control	X	X	
Envelop Delay Distortion	X	X	
Frequency Shift	X	X	
Impulse Noise	X	X	
Intermodulation Distor1ion	X	X	
Loss Deviation	X	X	
Phase Jitter	X	X	
Signal-to-e Notch Noise	X	X	

(C) Channel Interfaces

The following interfaces are available with WAL Service:

LO, LS, DS, GO, GS RV, EA EB. SF

Compatible channelinterfaces are set forth in 7.3.5.(J)

7. Special Access Service (Cont'd)

7.2 Service Descriptions (Cont'd)

7.2.11 WATS Access Line (WALl Service (Cont'd)

(A) Basic Channel Description (Cont'd)

subject to the technical limitations identified in the Technical Pub 62500. WATS Access Line Service is provided as an effective two-wire, an effective four-wire or a DSl (i.e., 1.544 Mbps) transmission path.

(B) Technical Specification Packages

Parameters	Packages WAL-1.	WAL-	WAL-1.
Attenuation Distortion	x	x	
Bit error rate			x
C-Message Noise	x	x	
Echo Control	x	x	
Envelop Delay Distortion	x	x	
Frequency Shift	x	x	
Impulse Noise	x	x	
Intermodulation	x	x	
Phase Jitter	x	x	
Signal-to-e Notch Noise	x	x	

(C) Channel Interfaces

The following interfaces are available with WAL Service:

LO, LS, DS, GO, GS RV, EA EB, SF

Compatible channel interfaces are set forth in 7.3.5.(J)

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BY: John L Roe
Vice President - Administration
5454 West !lOth Street
Overland Park, Kansas 66211

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7. Special Access Service (Cont'd)

7.2 Service Descriptions (Cont'd)

7.2.11 **WATS Access Line (WAL) Service** [1] (Cont'd) (C)

(D) Optional Features and Functions

(1) Two-wire and four wire Central office bridging capability.

(2) Improved two-wire and four-wire voice transmission specifications.

(3) Signaling Capability

(4) Certain other options associated with WAL services are available as Local Switching optional features as defined in Section 6 preceding.

7.2.12 Special Access Service Utilized for Connection with Switched Access Service

(A) Basic Service Description

A special access service utilized for connection with a switched access service implemented as a voice grade dedicated communications path between the customer's end user and a WATS Serving Office (WSO) equipped with Feature Groups A, B, C or D service, together, form the functional parts that are the major building blocks of the WATS* service. Switched access optional arrangements are available as set forth in Section 6.3. Both of these functional elements are necessary to provide service from the customer's end user to the customer's designated premises.

* Use of the Terms "WATS" and/or "WATS like" is descriptive only and is not intended to restrict provision of a WSAC to a specific type of service.

[1] **Effective November 1, 2021 WATS Access Line Services are grandfathered. Availability to current customers is limited to circuits in service at existing locations.** (N) (N)

ACCESS SERVICE

7. Special Access Service (Cont'd)

7.2 Service Descriptions (Cont'd)

7.2.11 WATS Access Line (WAL) Service (Cont'd)

(D) Optional Features and Functions

(1) Two-wire and four wire Central office bridging capability.

(2) Improved two-wire and four-wire voice transmission specifications.

(3) Signaling Capability

(4) Certain other options associated with WAL services are available as Local Switching optional features as defined in Section 6 preceding.

7.2.12 Special Access Service Utilized for Connection with Switched Access Service (N)

(A) Basic Service Description

A special access service utilized for connection with a switched access service implemented as a voice grade dedicated communications path between the customer's end user and a WATS Serving Office (WSO) equipped with Feature Groups A, B, C or D service, together, form the functional parts that are the major building blocks of the WATS* service. Switched access optional arrangements are available as set forth in Section 6.3. Both of these functional elements are necessary to provide service from the customer's end user to the customer's designated premises. (N)

(M)

(M)

* Use of the Terms "WATS" and/or "WATS like" is descriptive only and is not intended to restrict provision of a WSAC to a specific type of service.

(M) Material omitted from this page now appears on Page 329.2.

7. Special Access Service {Cont'd)

7.2 Service Descriptions (Cont'd)

7.2.11 WATS Access Line <WAL} Service (Cont'd)

(D) Optional Features and Functions

(1) Two-wire and four wire Central office bridging capability.

(2) Improved two-wire and four-wire voice transmission specifications.

(3) Signaling Capability

(4) Certain other options associated with WAL services are available as Local Switching optional features as defined in Section 6 preceding.

7.2.12 Reserved for Future Use

7.2.13 *Reserved for Future Use* (T)

(D)

(D)

ACCESS SERVICE

7. Special Access Service (Cont'd)

7.2 Service Descriptions (Cont'd)

7.2.11 WATS Access Line (WALl Service (Cont'd)

(D) Optional Features and Functions

(1) Two-wire and four wire Central office bridging capability.

(2) Improved two-wire and four-wire voice transmission specifications.

(3) Signaling Capability

(4) Certain other options associated with WAL services are available as Local Switching optional features as defined in Section 6 preceding. (l

7.2.12 Reserved for Future Use

7.2.13 Educational Video Technical Trial

The Company will perform a technical trial for Educational Video in cooperation with four schools centered in and around Warrensburg, Missouri. The purpose of the technical trial is to determine the effectiveness of the technology that will be used for Educational Video applications. Educational Video will **provide a video connection between classrooms *in* different** schools, thus allowing a teacher to conduct a class in multiple locations at the same time. The field trial will be conducted for one year, and will be initially tested at no charge.

7. Special Access Service (Cont'd)

7.2 Service Descriptions (Cont'd)

7.2.11 WATS Access Line (WALl Service (Cont'd)

(D) Optional Features and Functions

(1) Two-wire and four wire Central office bridging capability.

(2) Improved two-wire and four-wire voice transmission specifications.

(3) Signaling Capability

(4) Certain other options associated with WAL services are **available as either Line Termination common Switching** optional features as defined in Section 6 preceding.

7.2.12 Reserved for Future Use (T; i

7.2.13 Educational Video Technical Trial

The Company will perform a technical trial for Educational Video **in cooperation with four schools centered in and around** Warrensburg, Missouri. The purpose of the technical trial is to determine the effectiveness of the technology that will be used for Educational Video applications. Educational Video will **provide a video connection between classrooms in different** schools, thus allowing a teacher to conduct a class in multiple locations at the same time. The field trial will be conducted for one year, and will be initially tested at no charge. (

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BY: Jolin L. Roe
Vice President - Administration
5454 West 110th Street
Overland Park, Kansas 66211

ACCESS SERVICE

7. Special Access Service (Cont'd)

7.2 Service Descriptions (Cont'd)

7.2.11 WATS Access Line <WALl Service (Cont'd)

(D) Optional Features and Functions

(1) Two-wire and four wire Central office bridging capability.

(2) Improved two-wire and four-wire voice transmission specifications.

(3) Signaling Capability

(4) Certain other options associated with WAL services are available as either Line Termination common Switching optional features as defined in Section 6 preceding.

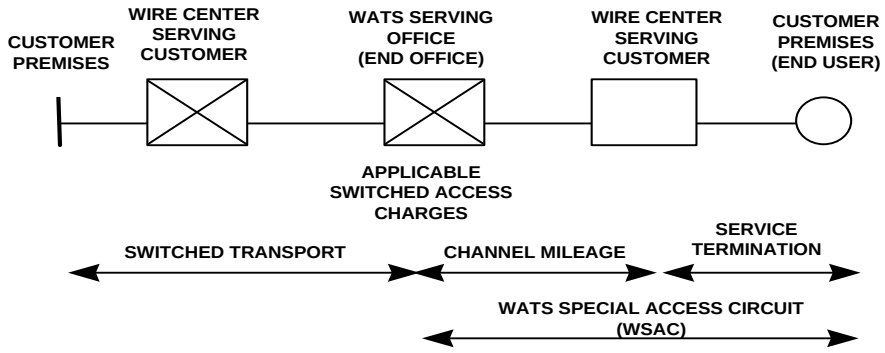
7. Special Access Service (Cont'd)

7.2 Service Descriptions (Cont'd)

7.2.12 Special Access Service Utilized for Connection with Switched Access Service (Cont'd)

(A) Basic Service Description (Cont'd)

A WATS special access circuit (WSAC) may be provided as an originating only, terminating only, or two way (originating and terminating) service, at the option of the customer. If a WSO is not capable of implementing a state-mandated restriction, the WSAC will be extended free of charge to the nearest WSO capable of performing the necessary function.



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7. Special Access Service (Cont'd)

7.2 Service Descriptions (Cont'd)

7.2.12 Special Access Service Utilized for Connection with Switched Access Service (Cont'd)

(B) WATS Special Access Circuit (WSAC)

A WATS Special Access Circuit (WSAC) is comprised of a Channel Termination between the customer's end user serving wire center and the customer's end user premises as specified in Section 7.1.2(A). If the WSO and the end user's serving wire center are not the same, Channel Mileage as specified in Section 7.1.2(B) preceding is applicable from the end user's serving wire center to the WSO.

The transmission path is offered as either effective two-wire, effective four-wire, or a high capacity access connection. This service is provided with rotary dial or dual tone multi-frequency address signaling, and with either loop start or ground start signaling. Additionally, other optional features such as improved return loss can be provided.

(C) Voice Grade Service Restrictions

When a WSAC, as described in (B) preceding, is used for multi-jurisdictional access, and when the Telephone Company's intrastate tariff provides for customer billing for these facilities, the Telephone Company will exempt the customer from the intrastate charges related to the WSAC and channel mileage where applicable. All calls carried over a special access line used in conjunction with common switching optional features for multi-jurisdictional access will be passed to the customer for completion except when state restrictions apply or when the end user voluntarily uses a multiple carrier access code (assuming 101XXXX dialing has not been restricted by the customer).

When the WSAC is provisioned with Feature Group A, it can only be used for service in the terminating direction. (N)

7.2.13 Reserved for Future Use (M)

(M) This material previously appeared on Page 329.

7. Special Access Service (Cont'd)

7.3 Channel Interface and Network Channel Codes

Network Channel Codes are comprised of four characters. The first and second characters describe the technical specifications package within the service type. The third and fourth characters describe and specify options associated with the service. The Telephone Company abides by nationally accepted standards in its use of Network Channel Codes and are available from the Telephone Company upon request.

Channel Interface Codes describe the electrical characteristics of the interface at the customer's premises. Compatible Channel Interface codes for the requested service must be specified by the customer when ordering the services. Channel Interface codes for each category of Special Access Service can be found in the Technical Reference Publications set forth in 7.2 preceding.

7.3.1 Glossary of Channel Interface Codes and Options

Code	Option		Definition
AB	-		accepts 20 Hz ringing signal at customer's point of termination
AC	-		accepts 20 Hz ringing signal at customer's end user's point of termination
AH	-		analog high capacity interface
	-	B	60 kHz to 108 kHz (12 channels)
	-	C	312 kHz to 552 kHz (60 channels)
	-	D	564 kHz to 3084 kHz (600 channels)
CT	-		Centrex Tie Trunk Termination
DA	-		data stream in VF frequency band at customer's end user's point of termination
DB	-		data stream in VF frequency band at customer's point of termination

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7. Special Access Service (Cont'd)

7.3 Channel Interface and Network Channef Codes

Network Channel Codes are comprised of four characters. The first and second characters describe the technical specifications package within the service type. The third and fourlh characters describe and specify options associated with the service. The Telephone Company abides by nationally accepted standards in its use of Network Channel Codes and are available from the Telephone Company upon request. (C)

Channel Interface Codes describe the electrical characteristics of the interface at the customer's premises. Compatible Channel Interface codes for the requested service must be specified by the customer when ordering the services. Channel Interface codes for each category of Special Access Service can be found in the Technical Reference Publications set forth in 7.2 preceding. (C)

7.3.1 Glossary of Channel Interface Codes and Options

Code	Option	Definition
AB		accepts 20 Hz ringing signalat customer's point of termination
AC		accepts 20 Hz ringing signal at customer's end user's point of termination
AH		analog high capacity interface
	B	60kHz to 108kHz (12 channels}
	C	312 kHz to 552kHz (60 channels)
	D	564 kHz to 3084 kHz (600 channels)
CT		Centrex Tie Trunk Termination
DA		data stream in VF frequency band at customer's end user's point of termination
DB		data stream in VF frequency band at customer's point of termination

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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:'

2	Number of physical wires at customer premises
DC	Facility interface for direct current or voltage
8	Variable imepedence level

7.3.1 Glossary of Channel Interface Codes and 0Etions

Code	0Etion	Definition
AB		accepts 20 Hz ringing signal at customer's point of termination
AC		accepts 20 Hz ringing signal at customer's end user's point of termination
AH		analog high capacity interface
	8	60 kHz to 108 kHz (12 channels)
	C	312 kHz to 552 kHz (60 channels)
	D	564 kHz to 3084 kHz (600 channels)
CT		Centrex Tie Trunk Termination
DA		data stream in VF frequency band at customer's end user's point of termination
DB		data stream in VF frequency band at customer's point of termination

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(D)

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: ·

(D)
(D)

2	Number of physical wires at customer premises
DC	Facility interface for direct current or voltage
8	Variable imepedence level

(D)
(D)

7.3.1 Glossary of Channel Interface Codes and Options

Code	Option	Definition
AB		accepts 20 Hz ringing signal at customer's point of termination
AC		accepts 20 Hz ringing signal at customer's end L:J.ser's point of termination
AH		analog high capacity interface
	B	60 kHz to 108 kHz (12 channels)
	C	312 kHz to 552 kHz (60 channels}
	D	564 kHz to 3084 kHz (600 channels)
CT		Centrex Tie Trunk'.Termination
DA		data stream in VF f.z:equency 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.

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:

MT - Metallic Channel with a Predefined Technical Specification Package(l)
2 – Number of physical wires at customer premises
DC - Facility interface for direct current or voltage
8 - Variable imepedence level
3 D Metallic facilities (DC continuity for direct current/low frequency control signals or slow data (30 baud)

7.3.1 Glossary of Channel Interface Codes and Options

Code	Option	Definition
AB		accepts 20Hz ringing signal at customer's point of termination
AC		accepts 20 Hz ringing signal at customer's end user's point of termination
AH		analog high capacity interface
	- B	60 kHz to 108 kHz (12 channels)
	- C	312 kHz to 552 kHz (60 channels)
	D	564 kHz to 3084 kHz (600 channels)
CT		Centrex Tie Trunk Termination
DA		data stream in VF frequency band at customer's end user's point of termination
DB		data stream in VF frequency band at customer's point of termination
	10	VF for TGl and TG2
	43	VF for 43 Telegraph Carrier type sig L. and TG2.

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BY: John L. Roe
Viœ President - Administration

5454 West llOth

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Overland Park, Kansas 66211

7. Special Access Service (Cont'd)

7.3 Channel Interface and Network Channel Codes (Cont'd)

7.3.1 Glossary of Channel Interface Codes and Options (Cont'd)

Code		Option	Definition
DC	-		direct current or voltage
	-	1	monitoring interface with series RC combination (McCulloh format)
	-	2	Telephone Company energized alarm channel
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
DS	-		digital hierarchy interface
	-	15	1.544 Mbps (DS1) format plus D4
	-	15B	1.544 Mbps (DS1) format plus D4 with B8ZS clear channel capability
	-	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
	-	15K	1.544 Mbps format plus extended framing format
	-	15L	1.544 Mbps (DS1) with SF signaling
	-	15S	1.544 Mbps using B8ZS line code and extended framing format
	-	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

7. Special Access Service (Cont'd)

7.3 Channel Interface and Network Channel Codes {Cont'd)

7.3.1 Glossary of Channel Interface Codes and Options (Cont'd)

Code	Option	Definition	
DC		direct current or voltage monitoring interface with series RC combination (McCulloh format)	
	2	Telephone Company energized alarm channel	
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	
DS		digital hierarchy interface	
	15	1.544 Mbps (DS1) *format plus* 04	(C)
	158	*1.544 Mbps (051) format plus 04 with BBZ5 clear channel capability*	(N) (N}
	15E	8-bit PCM encoded in one 64 kbps of the DS1 signal	
	15F	8-bit PCM encoded in two 64 kbps of the OS1 signal	
	15G	a-bit PCM encoded in three 64 kbps of the OS1 signal	
	15H	14/11-bit PCM encoded in six 64 kbps of the DS1 signal	
	15J	1.544 Mbps *format*	(C}
	15K	1.544 Mbps *format plus* extended framing format	(C)
	15L	1.544 Mbps (DS1) with SF signaling	
	155	*1.544 Mbps using 88Z5 line code and extended framing format*	(N)
	27	274.176 Mbps (DS4)	(N)
	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	

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7. Special Access Service {Cont'd)

7.3 Channel Interface and Network Channel Codes

7.3.1 Glossary of Channel Interface Codes and Options tCont'd)

Code	Option	Definition
DC		direct current or voltage
	1	monitoring interface with series RC combination (McCulloh format)
	2	Telephone Company energized alarm channel
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
DS		digital hierarchy interface
	15	1.544 Mbps (DSl) format per PUB 41451 plus D4
	15E	8-bit PCM encoded in one 64 kbps of the DSl signal
	15F	8-bit PCM encoded in two 64 kbps of the DS1 signal
	15G	8-bit PCM encoded in three 64 kbps of the DS1 signal
	15H	14/11-bit PCM encoded in six 64 kbps of the DS1 signal
	15J	1.544 Mbps format per PUB 41451
	15K	1.544 Mbps format per PUB 41451 plus extended framing format
	151	1.544 Mbps (OSl) with SF signaling
	27	274.176 Mbps (DS4)
	271	274.176 Mbps (DS4) with SF signaling
	31	3.152 Mbps (DS1C)
	311	3.152 Mbps (DS1C) with SF signaling
	44	44.736 Mbps (DS3)
	441	44.736 Mbps (DS3) with SF signaling

(D)

(D)

7. Special Access Service (Cont'd)

7.3 Channel Interface and Network Channel Codes (Cont'd)

7.3.1 Glossary of Channel Interface Codes and Options (Cont'd)

Code	Option	Definition
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 date (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
DS		digital hierarchy interface
	15	1.544 Mbps (DSl) format per PUB 41451 plus D4
	15E	8-bit PCM encoded in one 64 kbps of the DSl signal
	15F	8-bit PCM encoded in two 64 kbps of the DSl signal
	15G	8-bit PCM encoded in three 64 kbps of the DSl signal
	15H	14/11-bit PCM encoded in six 64 kbps of the DSl signal
	15J	1.544 Mbps format per PUB 41451
	15K	1.544 Mbps format per PUB 41451 plus extended framing format
	15L	1.544 Mbps (DSl) with SF signaling
	27	274.176 Mbps (DS4)
	27L	274.176 Mbps (DS4) with SF signaling
	31	3.152 Mbps (DS1C)
	31L	3.152 Mbps (DS1C) with SF signaling
	44	44.736 Mbps (DS3)
	44L	44.736 Mbps (DS3) with SF signaling

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BY: John L. Roe
Vice President - Administration
5454 West 110th Street
Overland Park, Kansas 66211

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7. Special Access Service (Cont'd)

7.3 Channel Interface and Network Channel Codes (Cont'd)

7.3.1 Glossary of Channel Interface Codes and Options (Cont'd)

Code		Option	Definition
DU	-		digital access interface
	-	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
	-	B	1.544 Mbps format plus D4
	-	C	1.544 Mbps format plus extended framing format
	-	D	1.544 Mbps format plus D4 with B8ZS clear channel capability
	-	S	1.544 Mbps using B8ZS line code and extended framing format
DX	-		duplex signaling interface at customer's point of termination
DY	-		duplex signaling interface at customer's end user's point of termination
EA	-	E	Type I E&M Lead Signaling. Customer at POT or customer's end user at POT originates on E Lead.
EA	-	M	Type I E&M Lead Signaling. Customer at POT or customer's end user at POT originates on M Lead.
EB	-	E	Type II E&M Lead Signaling. Customer at POT or customer's end user at POT originates on E Lead.
EB	-	M	Type II E&M Lead Signaling. Customer at POT or customer's end user at POT originates on M Lead.
EC	-		Type III E&M signaling at customer POT
EX	-	A	tandem channel unit signaling for loop start or ground start and customer supplies open end (dial tone, etc.) functions
EX	-	B	tandem channel unit signaling for loop start or ground start and customer supplies closed end (dial pulsing, etc.) functions

ACCESS SERVICE

7. Special Access Service (Cont'd)

7.3 Channel Interface and Network Channel Codes (Cont'd)

7.3.1 Glossary of Channel Interface Codes and Options (Cont'd)

Code	Option	Definition
DU		digital access interface (D)
	24	2.4 kbps (D)
	48	4.8 kbps
	56	56.0 kbps
	64	64.0 kbps
	96	9.6 kbps
	A	1.544 Mbps format
	B	1.544 Mbps format plus 04
	C	1.544 Mbps format plus extended framing format
	D	1.544 Mbps format plus D4 with BSZS clear channel capability
	S	1.544 Mbps using B8ZS line code and extended framing format
DX		duplex signaling interface at customer's point of termination
DY		duplex signaling interface at customer's end user's point of termination
EA	E	Type I E&M Lead Signaling. Customer at POT or customer's end user at POT originates on E Lead.
EA	M	Type I E&M Lead Signaling. Customer at POT or customer's end user at POT originates on M Lead.
EB	E	Type II E&M Lead Signaling. Customer at POT or customer's end user at POT originates on E Lead.
EB	M	Type II E&M Lead Signaling. Customer at POT or customer's end user at POT originates on M Lead.
EC		Type III E&M signaling at customer POT
EX	A	tandem channel unit signaling for loop start or ground start and customer supplies open end (dial tone, etc.) functions
EX	B	tandem channel unit signaling for loop start or ground start and customer supplies closed end (dial pulsing, etc.) functions

ACCESS SERVICE

7. Special Access Service (Cont'd)

7.3 Channel Interface and Network Channel Codes (Cont'd)

7.3.1 Glossary of Channel Interface Codes and Options (Cont'd)

Code	Option	Definition	
DS	63	6.312 Mbps (DS2)	
	63L	6.312 Mbps (DS2) with SF signaling	
DU		digital access interface	
	24	2.4 kbps	
	48	4.8 kbps	
	56	56.0 kbps	
	64	64.0 kbps	
	96	9.6 kbps	
	A	1.544 Mbps *format*	(C)
	B	1.544 Mbps *format plus* 04	I
	C	1.544 Mbps *format plus* extended framing format	(C)
	D	*1.544 Mbps format plus 04 with BBZS clear channel capability*	(N)
	S	*1.544 Mbps using BBZS line code and extended framing format*	
DX		duplex signaling interface at customer's point of termination	(N)
DY		duplex signaling interface at customer's end user's point of termination	
EA	E	Type I E&M Lead Signaling. Customer at POT or customer's end user at POT originates on E Lead.	
EA	M	Type I E&M Lead Signaling. Customer at POT or customer's end user at POT originates on M Lead.	
EB	E	Type II E&M Lead Signaling. Customer at POT or customer's end user at POT originates on E Lead.	
EB	M	Type II E&M Lead Signaling. Customer at POT or customer's end user at POT originates on M Lead.	
EC		Type Ill 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	

ACCESS SERVICE

7. Special Access Service (Cont'd)

7.3 Channel Interface and Network Channel Codes (Cant'd)

7.3.1 Glossary of Channel Interface Codes and Options

Code	Option	Definition
DS	- 63	6.312 Mbps (DS2)
	- 63L	6.312 Mbps (DS2) with SF signaling
DU		digital access interface
	- 24	2.4 kbps
	- 48	4.8 kbps
	- 56	56.0 kbps
	- 64	64.0 kbps (Nf
	- 96	9.6 kbps
	A	1.544 Mbps format per PUB 41451
	B	1.544 Mbps format per PUB 41451 plus D4
	C	1.544 Mbps format per PUB 41451 plus extended framing format
DX		duplex signaling interface at customer's point of termination
DY		duplex signaling interface at customer's end user's point of termination
EA	E	Type ■ E&M Lead Signaling. customer at POT or customer's end user at POT originates on E Lead.
EA	M	Type ■ E&M Lead Signaling. Customer at POT or customer's end user at POT originates on M Lead.
EB	E	Type ❚❚ E&M Lead Signaling. Customer at POT or customer's end user at POT originates on E Lead.
EB	M	Type ❚❚ E&M Lead Signaling. Customer at POT or customer's end user at POT originates on M Lead.
EC		Type ❚❚❚ 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 suppl es closed end (dial pul ·) funct1.ons

ISSUED:
December 7, 1995

BY: John L. Roe
Vice President - Carrier and Regulatory Services
5454 West 110th Street
Overland Park, Kansas 66211

January 8, 1996

ACCESS SERVICE

7. Special Access Service (Cont'd)

7.3 Channel Interface and Network Channel Codes (Cont'd)

7.3.1 Glossary of Channel Interface Codes and Options (Cont'd)

Code	Option	Definition
DS	63	6.312 Mbps (DS2)
	63L	6.312 Mbps (DS2) with SF signaling
DU		digital access interface
	24	2.4 kbps
	48	4.8 kbps
	56	56.0 kbps
	96	9.6 kbps
	A	1.544 Mbps format per PUB 41451
	B	1.544 Mbps format per PUB 41451 plus D4
	C	1.544 Mbps format per PUB 41451 plus extended framing format
DX		duplex signaling interface at customer's point of termination
DY		duplex signaling interface at customer's end user's point of termination
EA	E	Type I E&M Lead Signaling. Customer at POT or customer's end user at POT originates on E Lead.
EA	M	Type I E&M Lead Signaling. Customer at POT or customer's end user at POT originates on M Lead.
EB	E	Type II E&M Lead Signaling. Customer at POT or customer's end user at POT originates on E Lead.
EB	M	Type II E&M Lead Signaling. Customer at POT or customer's end user at POT originates on M Lead.
EC		Type III E&M signaling at customer POT
EX	A	tandem channel unit signaling for loop start or ground start and customer supplies open end (dial tone, etc.) functions
EX	B	tandem channel unit signaling for loop start or ground start and customer supplies closed end (dial pulsing, etc.) functions

7. Special Access Service (Cont'd)

7.3 Channel Interface and Network Channel Codes (Cont'd)

7.3.1 Glossary of Channel Interface Codes and Options (Cont'd)

Code		Option	Definition
GO	-		ground start loop signaling - open end function by customer or customer's end user
GS	-		ground start loop signaling - closed end function by customer or customer's end user
IA	-		E.I.A. (25 pin RS-232)
LA	-		end user loop start loop signaling – Type A OPS registered port open end
LB	-		end user loop start loop signaling – Type B OPS registered port open end
LC	-		end user loop start loop signaling – Type C OPS registered port open end
LO	-		loop start loop signaling - open end function by customer or customer's end user
LR	-		20 Hz automatic ringdown interface at customer POT 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
PG	-		program transmission - no dc signaling
	-	1	nominal frequency from 50 to 15000 Hz
	-	3	nominal frequency from 200 to 3500 Hz
	-	5	nominal frequency from 100 to 5000 Hz
	-	8	nominal frequency from 50 to 8000 Hz
PR	-		protective relaying*
RV	-	0	reverse battery signaling, one way operation, originate by customer
	-	T	reverse battery signaling, one way operation, terminate function by customer or customer's end user
SF	-		single frequency signaling with VF band at either customer POT or customer's end user POT
TF	-		telephotograph interface
TT	-		teletypewriter interface at either customer POT or customer's end user POT

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

ACCESS SERVICE

7. Special Access Service (Cont'd)

7.3 Channel Interface and Network Channel Codes (Cont'd)

7.3.1 Glossary of Channel Interface Codes and Options (Cont'd)

	oetion	Definition
GO		ground start loop signaling - open end function by customer or customer's end user
GS		ground start loop signaling - closed end function by customer or customer's end user
IA		E. I.A. (25 pin RS-232)
LA		end user loop start loop signaling - Type A OPS registered port open end
LB		end user loop start loop signaling - Type B OPS registered port open end
LC		end user loop start loop signaling - Type C OPS registered port open end
LO		loop start loop signaling - open end function by customer or customer's end user
LR		20 Hz automatic ringdown interface at customer POT with Telephone Company provided PLAR
LS		loop start loop signalinQ - closed end function by customer or customer's end user
NO		no signaling interface, transmission only
l?G		program transmission - no de signaling
	1	nominal frequency from 50 to 15000 Hz
	3	nominal frequency from 200 to 3500 Hz
	5	nominal frequency from 100 to 5000 Hz
	8	nominal fequency from 50 to 8000 Hz
PR		protective relaying*
RV	0	reverse battery signaling, one way operation, originate by customer
	T	reverse battery signaling, one way operation, terminate function by customer or customer's end user
Sf		single frequency signaling with Vf band at either customer POT or customer's end user POT
TE'		telephotograph interface
TT		teletypewriter interface at either customer POT or customer's end user POT (C)

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

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7. Special Access Service (Cont'd)

7.3 Channel Interface and Network Channel Codes (Cont'd)

7.3.1 Glossary of Channel Interface Codes and Options (Cont'd)

Code	Option	Definition
GO		ground start loop signaling - open end function by customer or customer's end user
GS		ground start loop signaling - closed end function by customer or customer's end user
IA		E.I.A. (25 pin RS-232)
LA		end user loop start loop signaling - Type A OPS registered port open end
LB		end user loop start loop signaling - Type B OPS registered port open end
LC		end user loop start loop signaling - Type C OPS registered port open end
LO		loop start loop signaling - open end function by customer or customer's end user
LR		20 Hz automatic ringdown interface at customer POT 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
PG		program transmission - no de signaling
	1	nominal frequency from 50 to 15000 Hz
	3	nominal frequency from 200 to 3500 Hz
	5	nominal frequency from 100 to 5000 Hz
	8	nominal frequency from 50 to 8000 Hz
PR		protective relaying*
RV	0	reverse battery signaling, one way operation, originate by customer
	T	reverse battery signaling, one way operation, terminate function by customer or customer's end user
SF		single frequency signaling with VF band at either customer POT or customer's end user POT
TF		telephotograph interface
TT		telegraph/teletypewriter interface at either customer POT or customer's end user POT

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

7. Special Access Service (Cont'd)

7.3 Channel Interface and Network Channel Codes (Cont'd)

7.3.1 Glossary of Channel Interface Codes and Options (Cont'd)

Code		Option	Definition
TT	-	2	20.0 milliamperes
	-	3	3.0 milliamperes
	-	6	62.5 milliamperes

ACCESS SERVICE

7. Special Access Service (Conl'd)

7.3 Channel Interface and Network Channel Codes {Cont'd)

7.3.1 Glossary of Channel Interface Codes and Options (Cont'd)

Code	Option	Definition
TT	2	20.0 milliamperes
	3	3.0 milliamperes
	6	62.5 milliamperes

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ISSUED:
July 2, 2002

Richard D. lawson
State Executive, External Affairs
319 Madison
Jefferson City, MO 65101

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d/b/a SPRINT

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7. Special Access Service (Cont'd)

7.3 Channel Interface and Network Channel Codes (Cont'd)

7.3.1 Glossary of Channel Interface Codes and Options (Cont'd)

Code	Option	Definition	
n	2	20.0 milliamperes	
	3	3.0 milliamperes	
	6	62.5 milliamperes	
TV		television interface	
	1	combined (diplexed) video and one audio signal	
	2	combined (diplexed) video and two audio signals	
	5	video plus ***up to four*** audio 5 kHz signal(s) or one (or two) two wire	(C)
	15	video plus ***up to four*** audio 15kHz signal(s)	(C)

CANCELLED
AUG 1 2 2002
By 3rd RS 334
Public Service Commission
MISSOURI

ISSUED:
November 29, 2000

Richard D. Lawson
State Executive, External Affairs
319 Madison
Jefferson City, MO 65101

EFFECTIVE:
December 29, 2000

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FILED DEC 2 9 2000

ACCESS SERVICE

7. Special Access Service (Cont'd)

7.3 Channel Interface and Network Channel Codes (Cont'd)

7.3.1 Glossary of Channel Interface Codes and Options (Cont'd)

Code	o:etion	Definition
TT	2	20.0 milliamperes
	3	3.0 milliamperes
	6	62.5 milliamperes
TV		television interface
	l	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)

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7. Special Access Service (Cont'd)

7.3 Channel Interface and Network Channel Codes (Cont'd)

7.3.1 Glossary of Channel Interface Codes and Options (Cont'd)

Code	Option	Definition
TT		
	2	20.0 milliamperes
	3	3.0 milliamperes
	6	62.5 milliamperes
TV		television interface
	1	combined (diplexed) video and one audio signal
	2	combined (diplexed) video and two audio signals
	5	video plus one (or two) audio 5 kHz signal(s) or one (or two) two wire
	15	video plus one (or two) audio 15 kHz signal(s)
WA		wideband bandwidth interface at customer's end user POT
	1	limited bandwidth
	2	nominal passband from 29000 to 44000 Hz
		wideband data interface at customer POT
	185	18.75 kbps, synchronous
	19A	up to 19.2 kbps, asynchronous
	19S	19.2 kbps, synchronous
	23A	up to 230.4 kbps, asynchronous
	23S	230.4 kbps, synchronous
	40S	40.8 kbps, synchronous
	50A	up to 50.0 kbps, asynchronous
	50S	50.0 kbps, synchronous
We		wideband data interface at customer's end user POT
	18	18.75 kbps, synchronous
	19	for 12-wire interface: 19.2 kbps, synchronous for 10-wire interface: up to 19.2 kbps, asynchronous
	23	up to 230.4 kbps, asynchronous
	23S	230.4 kbps, synchronous

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By KLR

Public Service Commission

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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 channel will be terminated for the purpose of evaluating transmission performance:

Value (ohms)	Code(s)
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 F.C.C. Docket No. 20099 Settlement Agreement.

7. Special Access Service (Cont'd)

7.3 Channel Interface and Network Channel Codes (Cont'd)

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7.3.2 Impedance

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

Value (ohms)	Code(s)
110	0
150	1
600	2
900	3+
135	5
75	6
1211.	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 F.C.C. Docket No. 20099 Settlement Agreement.

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ISSUED:
September 10, 1999

Richard D. Lawson
State Executive, External Affairs

EFFECTIVE:
October 15, 1999

7. Special Access Service (Cont'd)

7.3 Channel Interface and Network Channel Codes (Cont'd)

7.3.1 Glossary of Channel Interface Codes and Options (Cont'd)

Code	Option	Definition
We	40	40.8 kbps, synchronous
	50	for 12-wire interface: 50.0 kbps, synchronous for 10-wire interface: up to 50.0 kbps, asynchronous
WD		wideband bandwidth interface at customer POT
	1	nominal passband from 300 to 18000 Hz
	Z	nominal passband from Z8000 to 44000 Hz
	3	nominal passband from 29000 to 44000 Hz

7.3.Z Impedance

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

Value (ohms)	Code(sl
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 F.C.C. Docket No. Z0099 Settlement Agreement.

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7. Special Access Service (Cont'd)

7.3 Channel Interface and Network Channel Codes (Cont'd)

7.3.3 Digital Hierarchy Channel Interface Codes (4DS)

Customers selecting the multiplexed four-wire DS1 or higher facility interface option 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, 4DSO or 4DS6, plus the speed option is indicated below:

Interface Code and Speed Option	Nominal Bit Rate (Mbps)	Digital Hierarchy Level
4DS9-15	1.544	DS1
4DS9-31	3.152	DS1C
4DS6-44	44.736	DS3

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, DA1, etc.) and the network channel codes that are used for various administrative purposes:

ACCESS SERVICE

7. Special Access Service (Cont'd}

7.3 Channel Interface and Network Channel Codes (Cont'd)

7.3.3 Digital Hierarchy Channel Interface Codes {4DS}

Customers selecting the multiplexed four-wire DS1 or higher facility interface option 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 option is indicated below:

Interface Code Digital and Speed Option	Nominal Bit Rate (Mbps)	Hierarchy Level
4DS9-15	1.544	DS1
4DS9-31	3.152	DS1C
4DS6-44	44.736	DS3

(D)

(D)

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, DA1, etc.) and the network channel codes that are used for various administrative purposes:

Madison

Jefferson City, MO 65101

EFFECTIVE: February 7, 2002

ACCESS SERVICE

7. Special Access Service (Cont'd)

7.3 Channel Interface and Network Channel Codes (Cont'd)

7.3.3 Digital Hierarchy Channel Interface Codes {4DS)

Customers selecting the multiplexed four-wire DSl *or* higher facility interface option 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, 4DSO or 4DS6, plus the speed option is indicated below:

Interface Code and Speed Option	Nominal Bit Rate {Mbps)	Digital Hierarchy Level
4DS9-15	1.544	DS1
4DS9-31	3.152	DS1C
4DS0-63	6.312	DS2
4DS6-44	44.736	DS3
4DS6-27	274.176	DS4

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, DAl, etc.) and the network channel codes that are used for various administrative purposes: (C)

ACCESS SERVICE

7. Special Access Service (Cont'd)

7.3 Channel Interface and Network Channel Codes (Cont'd)

7.3.3 Digital Hierarchy Channel Interface Codes C4DS)

Customers selecting the multiplexed four-wire DS1 or higher facility interface option 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, 4DSO or 4DS6, plus the speed option is indicated below:

Interface Code and Speed Option	Nominal Bit Rate CMbpsl	Digital Hierarchy Level
4DS9-15	1.544	DS1
4DS9-31	3.152	DS1C
4DS0-63	6.312	DS2
4DS6-44	44.736	DS3
4DS6-27	274.176	DS4

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, TGl, etc.) and the network channel codes that are used for various administrative purposes:

ISSUED:
September 17, 1992

BY: John L. Roe
Vice President - Administration
5454 West 110th Street
Overland Park, Kansas 66211

EFFECTIVE:
NOV 7 1992

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)

Service Designator Code	Network Channel Code
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	PQ
AP1	PE
AP2	PF
AP3	PJ
AP4	PK
TVC	TQ
TV1	TV
TV2	TW

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 (Cant'd)

Service Designator Code	Network Channel Code
VGC	LQ
VGl	LB
VG2	LC
VG3	LD
VG4	LE
VGS	LF
VG6	LG
VG7	LH
VGB	LJ
VG9	LK
VGlO	LN
VGll	LP
VG12	LR
APC	PQ
AP1	PE
AP2	PF
AP3	PJ
AP4	PK
TVC	TQ
TVl	TV
TV2	TW

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FILED MAR 1 0 2000

ISSUED: February 9, 2000

Richard D. Lawson
State Executive, External Affairs

EFt£.CTI1JE.: !<larch 10, 2000

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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)

Service Designator Code	Network Channel Code
MTC	MQ
MTl	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
VGll	LP
VG12	LR
APC	PQ
AP1	PE
AP2	PF
AP3	PJ
AP4	PK
TVC	TQ
TV1	TV
TV2	TW

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)

Service Designator Code	Network Channel Code
DA1	XA
DA2	XB
DA3	XG
DA4	XH
HCO	HS
HC1	HC
HC1C	HD
HC2	HE
HC3	HF
HC4	HG
WAL	SE

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)

Service Designator Code	Network Channel Code
DAl	XA
DA2	XB
DA3	XG
DA4	XH
HCO	BS
HCl	HC
HClC	HD
HC2	HE
HC3	HF
HC4	HG
WAL	SE

ISSUED:
September 17, 1992

BY: John L. Roe
Vice President - Administration
5454 West llOth Street
Overland Park, Kansas 66211

EFFECTIVE:
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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 channel interface codes (CIs) which are compatible:

(A) Reserved for Future Use

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7. Special Access Service (Cont'd)

7.3 Channel Intecface and Network Channel. Codes (Cont Eil.J

7.3.5 Compatible Channel Interfaces

The following tables show the channel interface codes {Cis) which are compatible:

(A) Reserved For Future Use (C) (D) (D)

ISSUC:D:
September 10, 1999

Richard D. Lawson
State Executive, External Affairs

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 channel interface codes (Cis) which are compatible:

CA) Metallic

Compatible Cis		Compatible Cis	
4AH5-B	2DC8 1	4AH6-D	2DC8-2
4AH5-B	2DC8-2	2DC8-l	2DC8-2
4AH6-C	2DC8-1	2DC8-3	2DC8-3
4AH6-C	2DC8-2	4DS9-*	2DC8-1
4AH6-D	2DC8-l	4DS9-*	2DCB-2

* See 7.3.3 preceding for explanation•

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)

(B) Reserved for Future Use

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)

(B) Reserved For Future Use (C)

(O}

(D)

ISSUED:
February 9, 2000

Richard D. Lawson
State Executive, External Affairs

EffECTIVE:
March 10, 2000

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)

(B) Telegraph Grade

Compatible Cis		Compatible Cis		Compatible Cis	
		4AH6-D	2TT2-2		
		4AH6-D	4TT2-2		
4AH5-B	lOLAS	4AH6-D	2TT2-6		
4AH5-B	2TT2-2	4AH6-D	4TT2-6		
4AH5-B	4TT2-2	2DB2-10	10LA8	4DS9-*	lOLAS
4AH5-B	2TT2-6	2DB2-10	2TT2-2	4DS9-*	2TT2-2
4AH5-B	4TT2-6	2DB2-10	4TT2-2	4DS9-*	4TT2-2
		2DB2-43+	10LA8	4DS9-*	2TT2-6
		2DB2-43+	2TT2-2	4DS9-*	4TT2-6
4AH6-C	lOIAS	2DB2-43+	2TT2-6	2TT2-2	2TT2-2
4AH6-C	2TT2-2	2DB2-43+	4TT2-2	2TT2-3	2TT2-2
4AH6-C	4TT2-2	4DB2-10	10IA8	2TT2-3	4TT2-2
4AH6-C	2TT2-6	4DB2-10	2TT2-2	2TT2-6	2TT2-6
4AH6-C	4TT2-6	4DB2-10	4TT2-2	2TT2-6	4TT2-2
		4DB2-43+	lOIAS	4TT2-2	4TT2-2
		4DB2-43+	2TT2-6	4TT2-6	2TT2-6
4AH6-D	lOIAB	4DB2-43+	4TT2-2		

* see 7.3.3 preceding for explanation.

+ Supplemental Channel Assignment information required.