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February 15, 2016

Beth Salak, Director  
Division of Regulatory Analysis  
Florida Public Service Commission  
Attn: Tariff Section  
2540 Shumard Oak Boulevard  
Tallahassee, Florida 32399-0850

Dear Mrs. Salak:

Attached for filing, please find the following revised pages for the AT&T Florida Access Service Tariff.

Access Services Tariff

Section E7.2 -       Second Revised Page 10  
                          Second Revised Page 11  
                          Second Revised Page 12  
                          Second Revised Page 13  
                          Second Revised Page 14  
                          Second Revised Page 15  
                          Second Revised Page 16  
                          Second Revised Page 17

This filing grandfathers some service in the trial wire center.

Acknowledgment, date of receipt and authority number of this filing are requested.

Your consideration and approval will be appreciated.

Yours very truly,

Stan Greer

Area Manager

Attachments

## E7. DEDICATED ACCESS SERVICES

### E7.2 Service Description (Cont'd)

#### E7.2.1 Reserved for Future Use

#### E7.2.2 Telegraph Grade (a.k.a. BellSouth SPA Telegraph) Service

##### A. Basic Channel Description

A Telegraph Grade (a.k.a. *BellSouth SPA Telegraph*) channel is an unconditioned channel capable of transmitting binary signals at rates of 0-75 baud or 0-150 baud. This channel is furnished for half-duplex or duplex operation. Telegraph Grade (a.k.a. *BellSouth SPA Telegraph*) channels are provided between customer designated premises or between a customer designated premises and a Company Hub. Telegraph Grade service is not available for additions, new installations or moves of service.

##### B. Technical Specifications Packages

Parameter	TG Matrix	
	1	2
Telegraph Distortion	X	X

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

##### C. Channel Interfaces

Compatible channel interfaces are set forth in Technical Reference TR-NPL-000336.

##### D. Optional Features and Functions

###### 1. Telegraph Bridging (two-wire and four-wire)

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

	Available with Technical Specifications Package TG-	
	1	2
Telegraph Bridging	X	X

#### E7.2.3 Voice Grade (a.k.a. BellSouth SPA DS0 VG) Service<sup>1</sup>

##### A. Basic Channel Description

A Voice Grade (a.k.a. *BellSouth SPA DS0 VG*) channel is a channel which provides voice frequency transmission capability in the normal frequency range of 300 to 3000 Hz and may be terminated two-wire or four-wire. Voice Grade (a.k.a. *BellSouth SPA DS0 VG*) channels are provided between customer designated premises or between a customer designated premises and a Company Hub.

Voice Grade (a.k.a. *BellSouth SPA DS0 VG*) channels are classified as Voice Grade/Voice or Voice Grade/Data depending on the suitability of the technical specification package requested by the customer. Voice Grade (a.k.a. *BellSouth SPA DS0 VG*) technical specification packages 1, 2, 3, 4, 5, 7, 8, 9, 11 and 12 are suitable for Voice Grade/Voice. Technical specification packages 6 and 10 are suitable for Voice Grade/Data service.

Note 1: Effective February 16, 2016, Voice Grade (a.k.a. BellSouth SPA DS0 VG) service in the Kings Point, Florida Telephone Company wire center is no longer available for new circuits at new locations. New circuits may be added at Customer locations with existing Voice Grade (a.k.a. BellSouth SPA DS0 VG) circuits as of February 16, 2016. There are no changes for existing circuits except that circuit moves to different buildings are no longer permitted.

**E7. DEDICATED ACCESS SERVICES** (N)

**E7.2 Service Description (Cont'd)**

**E7.2.3 Voice Grade (a.k.a. BellSouth SPA DS0 VG) Service<sup>2</sup> (Cont'd)** (N)

B. Technical Specifications Packages (N)

Parameter	VG Matrix											
	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
C-Message Noise	X	X	X	X	X	X	X	X	X	X	X	X
Echo Control	X	X	X		X		X	X			X	X
Envelope Delay												
Distortion						X	X	X	X	X	X	X
Frequency Shift						X	X	X	X	X	X	X
Impulse Noise					X	X	X	X	X	X	X	X
Intermodulation												
Distortion						X	X	X	X	X	X	
Loss Deviation	X	X	X	X	X	X	X	X	X	X	X	X
Phase Jitter						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

The technical specifications for these parameters are delineated in Technical Reference TR-NPL-000335 and associated Addendum.

C. Channel Interfaces<sup>1</sup> (N)

The following channel interfaces for Voice Grade (a.k.a. BellSouth SPA DS0 VG) service do not require signaling capability: DA, DB, DD, DE, DS, NO, PR and TF.

Note 1: Channel Interface Codes are found in E7.3.1 following.

Note 2: Effective February 16, 2016, Voice Grade (a.k.a. BellSouth SPA DSO VG) service in the Kings Point, Florida Telephone Company wire center is no longer available for new circuits at new locations. New circuits may be added at Customer locations with existing Voice Grade (a.k.a., BellSouth SPA DSO VG) circuits as of February 16, 2016. There are no changes for existing circuits except that circuit moves to different buildings are no longer permitted. (N)

## E7. DEDICATED ACCESS SERVICES

### E7.2 Service Description (Cont'd)

#### E7.2.3 Voice Grade (a.k.a. BellSouth SPA DSO VG) Service<sup>5</sup> (Cont'd)

C. Channel Interfaces<sup>1</sup>(Cont'd)

The following channel interfaces for Voice Grade (a.k.a. BellSouth SPA DSO VG) service require signaling capability: AB, AC, CT, DX, EA, EB, EC, EX, GO, GS, LA, LB, LC, LO, LR, LS, RV and SF.

Compatible channel interfaces are set forth in Technical Reference TR-NPL-000054 and Associated Addendum.

D. Optional Features and Functions

1. Central Office Bridging Capability

- a. Voice Bridging<sup>2</sup> (two-wire and four-wire)
- b. Data Bridging<sup>3</sup> (two-wire and four-wire)
- c. Telephoto Bridging<sup>4</sup> (two-wire and four-wire)
- d. Dataphone<sup>®</sup> Select-A-Station Bridging with sequential arrangement ports or addressable arrangement ports
- e. Telemetry and Alarm Bridging  
- Split Band, Active Bridging

2. Conditioning

Conditioning provides more specific transmission characteristics for Voice Grade (a.k.a. BellSouth SPA DSO VG) services. C-Type conditioning controls attenuation distortion and envelope delay distortion. Sealing Current helps maintain continuity on dry metallic loops.

In addition, a customer may desire that either the attenuation distortion or the envelope delay distortion, or both, be improved to more stringent specifications than those provided for C-Type conditioning. In such cases the customer has the option of ordering Improved Attenuation Distortion and/or Improved Envelope Delay Distortion.

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 D-Conditioning may be combined on the same service.

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:

Note 1: Channel Interface Codes are found in E7.3.1 following.

Note 2: Voice Bridging is intended for use with VG2, 5, and 12, however, it may be used on VG6 and VG10 at a customer's request.

Note 3: Data Bridging is intended for use with VG6 and VG10, however, it may be used on VG2, 5, and 12 at a customer's request.

Note 4: Telephoto Bridging is intended for use on VG-11.

Note 5: Effective February 16, 2016, Voice Grade (a.k.a. BellSouth SPA DSO VG) service in the Kings Point, Florida Telephone Company wire center is no longer available for new circuits at new locations. New circuits may be added at Customer locations with existing Voice Grade (a.k.a., BellSouth SPA DSO VG) circuits as of February 16, 2016. There are no changes for existing circuits except that circuit moves to different buildings are no longer permitted.

## E7. DEDICATED ACCESS SERVICES

### E7.2 Service Description (Cont'd)

#### E7.2.3 Voice Grade (a.k.a. BellSouth SPA DSO VG) Service<sup>1</sup> (Cont'd)

D. Optional Features and Functions (Cont'd)

2. Conditioning (Cont'd)

a. C-Type Conditioning (Cont'd)

Attenuation Distortion (Frequency Response) Relative to 1004 Hz

Frequency Range (Hz)	Variation (dB)
504 - 2804	-1.0 to + 3.0
304 - 3004	- 2.0 to + 6.0

Envelope Delay Distortion

Frequency Range (Hz)	Variation (micro-seconds)
1004 - 2604	Less Than 501
604 - 2604	Less Than 1501
504 - 2804	Less Than 3001

b. Improved Attenuation Distortion

Improved attenuation distortion is provided for additional control of attenuation distortion. The improved attenuation distortion specifications are:

Attenuation Distortion (Frequency Response) Relative to 1004 Hz

Frequency Range (Hz)	Variation (dB)
404-2804	-1.0 to +2.0
304-3004	-1.0 to +3.0
3004-3204	-2.0 to +6.0

c. Improved Envelope Delay Distortion

Improved envelope delay distortion is provided for additional control of envelope distortion. The improved envelope delay distortion specifications are:

Envelope Delay Distortion

Frequency Range (Hz)	Variation (micro-seconds)
1001-2604	Less Than 101
604-2604	Less Than 301
504-2804	Less Than 3001

Note 1: Effective February 16, 2016, Voice Grade (a.k.a. BellSouth SPA DSO VG) service in the Kings Point, Florida Telephone Company wire center is no longer available for new circuits at new locations. New circuits may be added at Customer locations with existing Voice Grade (a.k.a., BellSouth SPA DSO VG) circuits as of February 16, 2016. There are no changes for existing circuits except that circuit moves to different buildings are no longer permitted.

(T)

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## E7. DEDICATED ACCESS SERVICES

### E7.2 Service Description (Cont'd)

#### E7.2.3 Voice Grade (a.k.a. BellSouth SPA DSO VG) Service<sup>1</sup> (Cont'd)

D. Optional Features and Functions (Cont'd)

2. Conditioning (Cont'd)

d. Sealing Current Conditioning

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

3. Customer Specified Premises Receive Level

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

4. Echo Control

a. Improved Return Loss

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 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.

b. ELEPL 2 (Equal Level Echo Path Loss)

Specified at the Four-Wire Point of Termination and provides for more stringent Echo Control. In order for this option to be applicable, the interface must be two-wire at one Point of Termination (POT) and four-wire at the other POT. The ELEPL 2 parameters are delineated in Technical Reference TR-NPL-000335.

5. D-Conditioning

D-Conditioning provides transmission characteristics suitable for data communications. Specifically, D-Conditioning provides for the control of Signal to C-Notched Noise Ratio and intermodulation distortion. It is available for two-point services or multipoint services. This option is available for use with Technical Specification Packages VG6, VG7 and VG10 on Two-Point Multipoint Services. (However, it is not recommended for use with Multipoint.)

D-Conditioning transmission characteristics are described in Technical Reference TR-NPL-000335 under the name Data Capability.

The signal to C-Notched Noise Ratio and intermodulation distortion parameters for D-Conditioning 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

Note 1: Effective February 16, 2016, Voice Grade (a.k.a. BellSouth SPA DSO VG) service in the Kings Point, Florida Telephone Company wire center is no longer available for new circuits at new locations. New circuits may be added at Customer locations with existing Voice Grade (a.k.a., BellSouth SPA DSO VG) circuits as of February 16, 2016. There are no changes for existing circuits except that circuit moves to different buildings are no longer permitted.

## E7. DEDICATED ACCESS SERVICES

### E7.2 Service Description (Cont'd)

#### E7.2.3 Voice Grade (a.k.a. BellSouth SPA DS0 VG) Service<sup>1</sup> (Cont'd)

D. Optional Features and Functions (Cont'd)

5. D-Conditioning (Cont'd)

When a service equipped with D-Conditioning and is used for voice communications, the quality of the voice transmission may not be satisfactory.

6. Telephoto Conditioning

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

**Attenuation Distortion**

**(2204 Hz Reference)**

**Frequency Variation**

**Range (Hz) (dB)**

304 - 3204 - 1.0 to + 2.5

504 - 3004 - 0.5 to + 1.5

**Envelope Delay Distortion**

**Frequency Variation**

**Range (Hz) (mcs)**

1004 - 2604 Less Than 111

804 - 2804 Less Than 181

7. 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.

8. Improved Termination

The Improved Termination option provides a fixed 600 ohm impedance, a variable level range and simplex reversal, when applicable, at the point of termination. Company equipment is required at the customer's premises when this option is ordered. The Improved Termination parameters are delineated in Technical Reference TR-NPL-000335.

9. Simplex Reversal

The Simplex Reversal option physically turns over the simplex DC path presented at the four-wire point of termination when LO, LS, GO, GS, & DX signaling is provided at the point of termination.

10. FlexServ<sup>®</sup> Service (a.k.a. BellSouth SPA Customer Reconfiguration)

FlexServ<sup>®</sup> service (a.k.a. BellSouth SPA Customer Reconfiguration) provides the customer the ability to monitor and reconfigure Voice Grade (a.k.a. BellSouth SPA DS0 VG) service provided by the Company. FlexServ<sup>®</sup> service (a.k.a. BellSouth SPA Customer Reconfiguration) is described in E7.4.12 following. Charges for this feature are contained in E7.5.16. following.

Note 1: Effective February 16, 2016, Voice Grade (a.k.a. BellSouth SPA DSO VG) service in the Kings Point, Florida

Telephone Company wire center is no longer available for new circuits at new locations. New circuits may be added at Customer locations with existing Voice Grade (a.k.a., BellSouth SPA DSO VG) circuits as of February 16, 2016. There are no changes for existing circuits except that circuit moves to different buildings are no longer permitted.

**E7. DEDICATED ACCESS SERVICES**

**E7.2 Service Description (Cont'd)**

**E7.2.3 Voice Grade (a.k.a. BellSouth SPA DSO VG) Service<sup>1</sup> (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-											
	1	2	3	4	5	6	7	8	9	10	11	12
C-Type Conditioning					X	X	X	X	X	X		
Improved Attenuation Distortion					X	X	X	X	X	X		
Improved Envelope Delay Distortion					X	X	X	X	X	X		
Sealing Current Conditioning							X					
D-Conditioning						X	X			X		
Central Office Bridging		X			X	X				X	X	X
Customer Specified Premises Receive Level		X	X				X	X	X			
Echo Control Improved Return Loss			X	X			X					
ELEPL2	X	X	X		X		X					
FlexServ <sup>®</sup> Service (a.k.a. BellSouth SPA Customer Reconfiguration)	X	X	X	X	X	X	X	X	X	X	X	X
Improved Termination	X	X	X	X	X	X	X	X	X	X	X	X
Simplex Reversal	X	X	X				X	X	X			
Signaling Capability	X	X	X				X	X	X			
Telephoto Conditioning											X	

Note 1: Effective February 16, 2016, Voice Grade (a.k.a. BellSouth SPA DSO VG) service in the Kings Point, Florida Telephone Company wire center is no longer available for new circuits at new locations. New circuits may be added at Customer locations with existing Voice Grade (a.k.a., BellSouth SPA DSO VG) circuits as of February 16, 2016. There are no changes for existing circuits except that circuit moves to different buildings are no longer permitted.

## E7. DEDICATED ACCESS SERVICES

### E7.2 Service Description (Cont'd)

#### E7.2.3 Voice Grade (a.k.a. BellSouth SPA DSO VG) Service<sup>1</sup> (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 of the four-wire local channel is required. The rate for the conversion is included as part of the basic Local Channel rate.

#### E7.2.4 Reserved for Future Use

#### E7.2.5 Digital Data Access (a.k.a. BellSouth SPA DSO Digital Data) Service

##### A. Basic Channel Description

A Digital Data (a.k.a. BellSouth SPA DSO Digital Data) channel is a channel for 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 and channel selected by the customer. The channel provides a synchronous service with timing provided by the Company through the Company's facilities to the customer in the received bit stream. Digital Data (a.k.a. BellSouth SPA DSO Digital Data) channels are only available via Company designated Digital Data (a.k.a. BellSouth SPA DSO Digital Data) Hubs and are provided between customer designated premises or between a customer designated premises and a Company Digital Data (a.k.a. BellSouth SPA DSO Digital Data) Hub.

A Hub Termination Charge applies per Digital Data (a.k.a. BellSouth SPA DSO Digital Data) Local Channel. This rate element covers the Hub functions (e.g., Timing, Testing) for the service.

Secondary Channel Capability (SCC) is a derived companion digital transmission path that is independent of the primary data path and operates at a substantially lower bit rate. This derived channel allows the customer to perform network management functions during the normal operation of the network. This diagnostics channel utilizes a portion of a customer's previously unavailable data bit stream allowing for the ability to remotely control and test the network and peripheral devices without taking the network out of service. Special customer equipment is necessary to utilize the benefits of the Secondary Channel. Customers not wishing to utilize this capability will not be impacted. Due to transmission equipment restrictions, Secondary Channel cannot be provided on 56 Kbps circuits that require the installation of loop repeater equipment for provision of service. Secondary Channel Capability, also, cannot be provided on 64 Kbps circuits, since all of the available bit stream will be used by the customer.

The customer may provide the Channel Service Unit-type equipment or other Network Channel Terminating Equipment associated with the Digital Data (a.k.a. BellSouth SPA DSO Digital Data) channel at the customer premises. The interim program for interconnection of such equipment is set forth in Technical Reference PUB AS No. 1.

Note 1: Effective February 16, 2016, Voice Grade (a.k.a. BellSouth SPA DSO VG) service in the Kings Point, Florida Telephone Company wire center is no longer available for new circuits at new locations. New circuits may be added at Customer locations with existing Voice Grade (a.k.a., BellSouth SPA DSO VG) circuits as of February 16, 2016. There are no changes for existing circuits except that circuit moves to different buildings are no longer permitted.

## E7. DEDICATED ACCESS SERVICES

### E7.2 Service Description (Cont'd)

#### E7.2.1 Reserved for Future Use

#### E7.2.2 Telegraph Grade (a.k.a. BellSouth SPA Telegraph) Service

##### A. Basic Channel Description

A Telegraph Grade (a.k.a. *BellSouth SPA Telegraph*) channel is an unconditioned channel capable of transmitting binary signals at rates of 0-75 baud or 0-150 baud. This channel is furnished for half-duplex or duplex operation. Telegraph Grade (a.k.a. *BellSouth SPA Telegraph*) channels are provided between customer designated premises or between a customer designated premises and a Company Hub. Telegraph Grade service is not available for additions, new installations or moves of service.

##### B. Technical Specifications Packages

Parameter	TG Matrix	
	1	2
Telegraph Distortion	X	X

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

##### C. Channel Interfaces

Compatible channel interfaces are set forth in Technical Reference TR-NPL-000336.

##### D. Optional Features and Functions

##### 1. Telegraph Bridging (two-wire and four-wire)

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

	Available with Technical Specifications Package TG-	
	1	2
Telegraph Bridging	X	X

#### E7.2.3 Voice Grade (a.k.a. BellSouth SPA DS0 VG) Service<sup>1</sup>

##### A. Basic Channel Description

A Voice Grade (a.k.a. *BellSouth SPA DS0 VG*) channel is a channel which provides voice frequency transmission capability in the normal frequency range of 300 to 3000 Hz and may be terminated two-wire or four-wire. Voice Grade (a.k.a. *BellSouth SPA DS0 VG*) channels are provided between customer designated premises or between a customer designated premises and a Company Hub.

Voice Grade (a.k.a. *BellSouth SPA DS0 VG*) channels are classified as Voice Grade/Voice or Voice Grade/Data depending on the suitability of the technical specification package requested by the customer. Voice Grade (a.k.a. *BellSouth SPA DS0 VG*) technical specification packages 1, 2, 3, 4, 5, 7, 8, 9, 11 and 12 are suitable for Voice Grade/Voice. Technical specification packages 6 and 10 are suitable for Voice Grade/Data service.

Note 1: Effective February 16, 2016, Voice Grade (a.k.a. BellSouth SPA DS0 VG) service in the Kings Point, Florida Telephone Company wire center is no longer available for new circuits at new locations. New circuits may be added at Customer locations with existing Voice Grade (a.k.a., BellSouth SPA DS0 VG) circuits as of February 16, 2016. There are no changes for existing circuits except that circuit moves to different buildings are no longer permitted.

**E7. DEDICATED ACCESS SERVICES**

**E7.2 Service Description (Cont'd)**

**E7.2.3 Voice Grade (a.k.a. BellSouth SPA DSO VG) Service<sup>2</sup> (Cont'd)**

B. Technical Specifications Packages

Parameter	VG Matrix											
	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
C-Message Noise	X	X	X	X	X	X	X	X	X	X	X	X
Echo Control	X	X	X		X		X	X			X	X
Envelope Delay												
Distortion						X	X	X	X	X	X	X
Frequency Shift						X	X	X	X	X	X	X
Impulse Noise					X	X	X	X	X	X	X	X
Intermodulation												
Distortion						X	X	X	X	X	X	
Loss Deviation	X	X	X	X	X	X	X	X	X	X	X	X
Phase Jitter						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

The technical specifications for these parameters are delineated in Technical Reference TR-NPL-000335 and associated Addendum.

C. Channel Interfaces<sup>1</sup>

The following channel interfaces for Voice Grade (a.k.a. BellSouth SPA DSO VG) service do not require signaling capability: DA, DB, DD, DE, DS, NO, PR and TF.

Note 1: Channel Interface Codes are found in E7.3.1 following.

Note 2: Effective February 16, 2016, Voice Grade (a.k.a. BellSouth SPA DSO VG) service in the Kings Point, Florida Telephone Company wire center is no longer available for new circuits at new locations. New circuits may be added at Customer locations with existing Voice Grade (a.k.a., BellSouth SPA DSO VG) circuits as of February 16, 2016. There are no changes for existing circuits except that circuit moves to different buildings are no longer permitted.

(N)  
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 (N)

## E7. DEDICATED ACCESS SERVICES

### E7.2 Service Description (Cont'd)

#### E7.2.3 Voice Grade (*a.k.a. BellSouth SPA DSO VG*) Service<sup>5</sup> (Cont'd)

C. Channel Interfaces<sup>1</sup>(Cont'd)

The following channel interfaces for Voice Grade (*a.k.a. BellSouth SPA DSO VG*) service require signaling capability: AB, AC, CT, DX, EA, EB, EC, EX, GO, GS, LA, LB, LC, LO, LR, LS, RV and SF.

Compatible channel interfaces are set forth in Technical Reference TR-NPL-000054 and Associated Addendum.

D. Optional Features and Functions

1. Central Office Bridging Capability

- a. Voice Bridging<sup>2</sup> (two-wire and four-wire)
- b. Data Bridging<sup>3</sup> (two-wire and four-wire)
- c. Telephoto Bridging<sup>4</sup> (two-wire and four-wire)
- d. Dataphone<sup>®</sup> Select-A-Station Bridging with sequential arrangement ports or addressable arrangement ports
- e. Telemetry and Alarm Bridging  
- Split Band, Active Bridging

2. Conditioning

Conditioning provides more specific transmission characteristics for Voice Grade (*a.k.a. BellSouth SPA DSO VG*) services. C-Type conditioning controls attenuation distortion and envelope delay distortion. Sealing Current helps maintain continuity on dry metallic loops.

In addition, a customer may desire that either the attenuation distortion or the envelope delay distortion, or both, be improved to more stringent specifications than those provided for C-Type conditioning. In such cases the customer has the option of ordering Improved Attenuation Distortion and/or Improved Envelope Delay Distortion.

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 D-Conditioning may be combined on the same service.

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:

Note 1: Channel Interface Codes are found in E7.3.1 following.

Note 2: Voice Bridging is intended for use with VG2, 5, and 12, however, it may be used on VG6 and VG10 at a customer's request.

Note 3: Data Bridging is intended for use with VG6 and VG10, however, it may be used on VG2, 5, and 12 at a customer's request.

Note 4: Telephoto Bridging is intended for use on VG-11.

Note 5: Effective February 16, 2016, Voice Grade (a.k.a. BellSouth SPA DSO VG) service in the Kings Point, Florida Telephone Company wire center is no longer available for new circuits at new locations. New circuits may be added at Customer locations with existing Voice Grade (a.k.a., BellSouth SPA DSO VG) circuits as of February 16, 2016. There are no changes for existing circuits except that circuit moves to different buildings are no longer permitted.

(N)  
|  
(N)

## E7. DEDICATED ACCESS SERVICES

### E7.2 Service Description (Cont'd)

#### E7.2.3 Voice Grade (a.k.a. BellSouth SPA DSO VG) Service<sup>1</sup> (Cont'd)

D. Optional Features and Functions (Cont'd)

2. Conditioning (Cont'd)

a. C-Type Conditioning (Cont'd)

Attenuation Distortion (Frequency Response) Relative to 1004 Hz

Frequency Range (Hz)	Variation (dB)
504 - 2804	-1.0 to + 3.0
304 - 3004	- 2.0 to + 6.0

Envelope Delay Distortion

Frequency Range (Hz)	Variation (micro-seconds)
1004 - 2604	Less Than 501
604 - 2604	Less Than 1501
504 - 2804	Less Than 3001

b. Improved Attenuation Distortion

Improved attenuation distortion is provided for additional control of attenuation distortion. The improved attenuation distortion specifications are:

Attenuation Distortion (Frequency Response) Relative to 1004 Hz

Frequency Range (Hz)	Variation (dB)
404-2804	-1.0 to +2.0
304-3004	-1.0 to +3.0
3004-3204	-2.0 to +6.0

c. Improved Envelope Delay Distortion

Improved envelope delay distortion is provided for additional control of envelope distortion. The improved envelope delay distortion specifications are:

Envelope Delay Distortion

Frequency Range (Hz)	Variation (micro-seconds)
1001-2604	Less Than 101
604-2604	Less Than 301
504-2804	Less Than 3001

Note 1: Effective February 16, 2016, Voice Grade (a.k.a. BellSouth SPA DSO VG) service in the Kings Point, Florida Telephone Company wire center is no longer available for new circuits at new locations. New circuits may be added at Customer locations with existing Voice Grade (a.k.a., BellSouth SPA DSO VG) circuits as of February 16, 2016. There are no changes for existing circuits except that circuit moves to different buildings are no longer permitted.

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## E7. DEDICATED ACCESS SERVICES

### E7.2 Service Description (Cont'd)

#### E7.2.3 Voice Grade (a.k.a. BellSouth SPA DSO VG) Service<sup>1</sup> (Cont'd)

D. Optional Features and Functions (Cont'd)

2. Conditioning (Cont'd)

d. Sealing Current Conditioning

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

3. Customer Specified Premises Receive Level

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

4. Echo Control

a. Improved Return Loss

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 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.

b. ELEPL 2 (Equal Level Echo Path Loss)

Specified at the Four-Wire Point of Termination and provides for more stringent Echo Control. In order for this option to be applicable, the interface must be two-wire at one Point of Termination (POT) and four-wire at the other POT. The ELEPL 2 parameters are delineated in Technical Reference TR-NPL-000335.

5. D-Conditioning

D-Conditioning provides transmission characteristics suitable for data communications. Specifically, D-Conditioning provides for the control of Signal to C-Notched Noise Ratio and intermodulation distortion. It is available for two-point services or multipoint services. This option is available for use with Technical Specification Packages VG6, VG7 and VG10 on Two-Point Multipoint Services. (However, it is not recommended for use with Multipoint.)

D-Conditioning transmission characteristics are described in Technical Reference TR-NPL-000335 under the name Data Capability.

The signal to C-Notched Noise Ratio and intermodulation distortion parameters for D-Conditioning 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

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## E7. DEDICATED ACCESS SERVICES

### E7.2 Service Description (Cont'd)

#### E7.2.3 Voice Grade (a.k.a. BellSouth SPA DSO VG) Service<sup>1</sup> (Cont'd)

D. Optional Features and Functions (Cont'd)

5. D-Conditioning (Cont'd)

When a service equipped with D-Conditioning and is used for voice communications, the quality of the voice transmission may not be satisfactory.

6. Telephoto Conditioning

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

**Attenuation Distortion**

**(2204 Hz Reference)**

**Frequency Variation**

**Range (Hz) (dB)**

304 - 3204 - 1.0 to + 2.5

504 - 3004 - 0.5 to + 1.5

**Envelope Delay Distortion**

**Frequency Variation**

**Range (Hz) (mcs)**

1004 - 2604 Less Than 111

804 - 2804 Less Than 181

7. 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.

8. Improved Termination

The Improved Termination option provides a fixed 600 ohm impedance, a variable level range and simplex reversal, when applicable, at the point of termination. Company equipment is required at the customer's premises when this option is ordered. The Improved Termination parameters are delineated in Technical Reference TR-NPL-000335.

9. Simplex Reversal

The Simplex Reversal option physically turns over the simplex DC path presented at the four-wire point of termination when LO, LS, GO, GS, & DX signaling is provided at the point of termination.

10. FlexServ<sup>®</sup> Service (a.k.a. BellSouth SPA Customer Reconfiguration)

FlexServ<sup>®</sup> service (a.k.a. BellSouth SPA Customer Reconfiguration) provides the customer the ability to monitor and reconfigure Voice Grade (a.k.a. BellSouth SPA DSO VG) service provided by the Company. FlexServ<sup>®</sup> service (a.k.a. BellSouth SPA Customer Reconfiguration) is described in E7.4.12 following. Charges for this feature are contained in E7.5.16. following.

Note 1: Effective February 16, 2016, Voice Grade (a.k.a. BellSouth SPA DSO VG) service in the Kings Point, Florida

Telephone Company wire center is no longer available for new circuits at new locations. New circuits may be added at Customer locations with existing Voice Grade (a.k.a., BellSouth SPA DSO VG) circuits as of February 16, 2016. There are no changes for existing circuits except that circuit moves to different buildings are no longer permitted.

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**E7. DEDICATED ACCESS SERVICES**

**E7.2 Service Description (Cont'd)**

**E7.2.3 Voice Grade (a.k.a. BellSouth SPA DSO VG) Service<sup>1</sup> (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-											
	1	2	3	4	5	6	7	8	9	10	11	12
C-Type Conditioning					X	X	X	X	X	X		
Improved Attenuation Distortion					X	X	X	X	X	X		
Improved Envelope Delay Distortion					X	X	X	X	X	X		
Sealing Current Conditioning							X					
D-Conditioning						X	X			X		
Central Office Bridging		X			X	X				X	X	X
Customer Specified Premises Receive Level		X	X				X	X	X			
Echo Control Improved Return Loss			X	X			X					
ELEPL2	X	X	X		X		X					
FlexServ <sup>®</sup> Service (a.k.a. BellSouth SPA Customer Reconfiguration)	X	X	X	X	X	X	X	X	X	X	X	X
Improved Termination	X	X	X	X	X	X	X	X	X	X	X	X
Simplex Reversal	X	X	X				X	X	X			
Signaling Capability	X	X	X				X	X	X			
Telephoto Conditioning												X

Note 1: Effective February 16, 2016, Voice Grade (a.k.a. BellSouth SPA DSO VG) service in the Kings Point, Florida Telephone Company wire center is no longer available for new circuits at new locations. New circuits may be added at Customer locations with existing Voice Grade (a.k.a., BellSouth SPA DSO VG) circuits as of February 16, 2016. There are no changes for existing circuits except that circuit moves to different buildings are no longer permitted.

## E7. DEDICATED ACCESS SERVICES

### E7.2 Service Description (Cont'd)

#### E7.2.3 Voice Grade (*a.k.a. BellSouth SPA DSO VG*) Service<sup>1</sup> (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 of the four-wire local channel is required. The rate for the conversion is included as part of the basic Local Channel rate.

#### E7.2.4 Reserved for Future Use

#### E7.2.5 Digital Data Access (*a.k.a. BellSouth SPA DSO Digital Data*) Service

A. Basic Channel Description

A Digital Data (*a.k.a. BellSouth SPA DSO Digital Data*) channel is a channel for 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 and channel selected by the customer. The channel provides a synchronous service with timing provided by the Company through the Company's facilities to the customer in the received bit stream. Digital Data (*a.k.a. BellSouth SPA DSO Digital Data*) channels are only available via Company designated Digital Data (*a.k.a. BellSouth SPA DSO Digital Data*) Hubs and are provided between customer designated premises or between a customer designated premises and a Company Digital Data (*a.k.a. BellSouth SPA DSO Digital Data*) Hub.

A Hub Termination Charge applies per Digital Data (*a.k.a. BellSouth SPA DSO Digital Data*) Local Channel. This rate element covers the Hub functions (e.g., Timing, Testing) for the service.

Secondary Channel Capability (SCC) is a derived companion digital transmission path that is independent of the primary data path and operates at a substantially lower bit rate. This derived channel allows the customer to perform network management functions during the normal operation of the network. This diagnostics channel utilizes a portion of a customer's previously unavailable data bit stream allowing for the ability to remotely control and test the network and peripheral devices without taking the network out of service. Special customer equipment is necessary to utilize the benefits of the Secondary Channel. Customers not wishing to utilize this capability will not be impacted. Due to transmission equipment restrictions. Secondary Channel cannot be provided on 56 Kbps circuits that require the installation of loop repeater equipment for provision of service. Secondary Channel Capability, also, cannot be provided on 64 Kbps circuits, since all of the available bit stream will be used by the customer.

The customer may provide the Channel Service Unit-type equipment or other Network Channel Terminating Equipment associated with the Digital Data (*a.k.a. BellSouth SPA DSO Digital Data*) channel at the customer premises. The interim program for interconnection of such equipment is set forth in Technical Reference PUB AS No. 1.

Note 1: Effective February 16, 2016, Voice Grade (*a.k.a. BellSouth SPA DSO VG*) service in the Kings Point, Florida Telephone Company wire center is no longer available for new circuits at new locations. New circuits may be added at Customer locations with existing Voice Grade (*a.k.a., BellSouth SPA DSO VG*) circuits as of February 16, 2016. There are no changes for existing circuits except that circuit moves to different buildings are no longer permitted.