VOICEBAND FACILITIES (REGION 14)

A. AVAILABILITY OF SERVICE

This Product Guide contains terms and conditions, rates and charges for Special Access Lines other than Non-Competitive End User Special Access Lines, Special Transport and certain Supplemental Features ordered for such Special Access Lines, including Multiplexing. Other Special Access Services need to complete a circuit are available under Company FCC Tariffs as described in Part O, Section 1. Effective February 13, 2026, this service is no longer available to new customers. Moves, changes, or modifications to this service will no longer be supported. Service modifications for customers with existing contracts are subject to the terms of their contracts. (N) | | (N)

Voiceband Facilities are available in Region 14.

B. DESCRIPTION

1. Balance

All signals for transmission over the facilities provided under this Section shall be delivered by the Customer balanced to ground except for ground start and duplex (DX) and McCulloh-loop (alarm system) type signaling.

2. Two-Wire Voice Grade, Non-Data, Without Signaling

This option provides a two-wire interface to a Customer and terminates an effective two-wire facility furnished for voice transmission only. Customer provided signaling must be limited to tones in the voice band. Customer provided voiceband signaling equipment must limit transmission power to 0.0 dBm peak and -13 dBm average power over a three-second period.

3. Four-Wire Voice Grade, Non-Data, Without Signaling

This option provides a four-wire interface to the Customer terminal equipment and terminates an effective four-wire facility furnished for voice transmission only. Customer provided signaling must be limited to tones in the voiceband. Customer provided voice band signaling equipment must limit transmission power to 0.0 dBm peak and -13 dBm average power over a three-second period.

4. Voice Grade Data Termination

This option provides a two-wire or four-wire transmission interface to a Customer's private line data modem and terminates an effective four-wire facility furnished for voiceband data transmission.

5. Two-Wire Voice Grade Station Connecting Facility Termination

This option provides a means to terminate an effective two-wire facility or an effective four-wire facility with a two-wire Customer interface on a telephone, key system, PBX, ACD, or similar equipment. This option is normally used to terminate facilities that furnish foreign central office service, the station end of PBX off premises service, or private switched service network access lines. The option provides both the transmission and loop signaling functions normally associated with these services. The option is also used to terminate facilities arranged with automatic ringdown signaling. This option provides the loop and ringdown signaling with the facility.

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B. DESCRIPTION (Cont'd)

6. Four-Wire Voice Grade Station Connecting Facility Termination

A terminating option similar to Section B4 preceding used to terminate effective four-wire foreign central office service. The option provides a four-wire transmission interface to the Customer terminal equipment and the loop signaling function normally associated with these services. This option provides the loop and ringdown signaling with the facility.

7. Two-Wire Station Connecting Facility Termination for the Open End of an Off Premises PBX Extension

Terminating options are available depending on the signaling range of the PBX (or similar system).

8. Dial Repeating Tie Trunk Termination

Two network terminating options are provided for terminating effective four-wire transmission facilities used to furnish dial repeating tie trunk services. These options are described in terms of the interface they provide to a PBX (or similar system).

a. A Type I tie line termination provides the Customer with a two-wire transmission interface and includes either two-wire or four-wire E&M type signaling. This option provides the E&M type signaling with the facility.

b. A Type III tie line termination provides the Customer with a four-wire transmission interface and includes either two-wire or four-wire E&M type signaling. This option provides the E&M signaling with the facility.

C. BRIDGING

Bridging is the function of connecting three or more CDLs in a multipoint arrangement.

1. Multipoint Data Bridging (USOC - B5NDJ)

This feature provides the capability to derive a multipoint data circuit from a single facility and is normally provided on Voiceband facilities provided for transmission of data signals. This function is provided on a per port basis. Polled multipoint data circuits are a typical application of this feature.

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D. CONDITIONING ARRANGEMENTS - DATA

Data conditioning, when utilized in conjunction with effective four-wire Voiceband transmission facilities, improves the characteristics of these facilities. These improved characteristics are not represented to apply to the entire end to end facility of the Customer, but only to that portion of the facility provided by the Company.

There are three types of data conditioning: Type C, Type C-Improved and Type DA. Type C and Type C-Improved conditioning control attenuation distortion and envelope delay distortion. Envelope Delay Distortion denotes a measure of the linearity of the phase versus frequency of a channel. Type DA controls the signal to C-notched noise ratio and intermodulation distortion. Type C and Type DA conditioning may be combined on the same circuit. Type C-Improved and Type DA conditioning may be combined on the same circuit.

Data conditioning is charged for on a per Special Access line basis. The parameters listed for each type of data conditioning apply from two or more CDLs located within the Company serving area. Conditioning parameters apply to each end of a two-point circuit. For multipoint circuits, the conditioning parameters apply from any CDL to either the point of interface at another CDL or the first Company bridging point depending on the circuit configuration. These parameters are not applicable to High Capacity points of interface, because there is no voice frequency test access point. In these instances the data conditioning parameters apply to the last Company voice frequency test access point before the High Capacity point of interface.

1. Type C (USOC - X1CPT)

   Type C conditioning of Voiceband facilities provides a facility with the following transmission parameters enhanced to control attenuation and envelope delay distortion.

2. Type C-Improved

   Type C-Improved conditioning of Voiceband facilities provides a facility with the following transmission parameters enhanced to meet the values specified for Type C conditioning in Technical Reference TR-NWT-000335, Issue 3 in addition to the standard parameters for Voiceband circuits.

   a. Improved attenuation distortion with reference to 1004 Hz. (USOC - UHW)

   b. Improved envelope delay distortion. (USOC - UHY)

      The Customer may choose to order Improved Attenuation Distortion or Improved Envelope Delay Distortion or both (USOC - XCECM) configurations. The rates specified for Type C-Improved conditioning will apply regardless of the configuration specified.

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D. CONDITIONING ARRANGEMENTS – DATA (Cont'd)

2. Type C-Improved (Cont'd)

c. Type DA (USOC - XDCPT)

Type DA conditioning of Voiceband facilities provides a facility with the following transmission parameter enhanced to meet the values specified for Type DA conditioning in Technical Reference TR-NWT-000335, Issue 3 in addition to the standard parameters for voiceband circuits.

- Signal to C-notched noise ratio. C-Notched Noise denotes the C-message frequency weighted noise on a voice channel with a holding tone, which is removed at the measuring and through a notch (very narrow band) filter.
- Nonlinear signal to second order distortion.
- Nonlinear signal to third order distortion.

E. SIGNALING ARRANGEMENTS (USOC – OSB, XSSLR)

Signaling arrangements, when furnished with Voiceband transmission facilities, enable the facilities to accommodate standard telecommunications signaling protocols. Signaling arrangements provide for the conversion of one signaling method to another signaling method and/or extension of a signaling method at Customer and Company interfaces and enables the transmission facilities to accommodate signaling transmission. Signaling arrangements are available with Voiceband transmission facilities to enable transmission of requested signaling formats. The third and fourth protocol characters of the Network Channel Interface (NCI) and Secondary Network Channel Interface (SEC NCI) codes as indicated on the Customer's order, reflect signaling activity. NC and SEC NCI information for Voiceband may be found at the common language product of iconectiv.com.

The Customer identified NCI and SEC NCI codes will be considered the Customer's request for signaling. The Company will endeavor to provide the specific signaling protocols requested by the Customer. In those cases where facilities and equipment are not available to meet the Customer's specific requests, the Company will provide the Customer acceptable alternate protocols. Technical Reference TR-NWT-000335, Issue 3 provides detailed technical descriptions of the signaling protocols normally available with each service offering. To properly provision SF signaling, when associated signaling code, is DS (**PCM**), additional information of SF requirements (loop signaling type ringdown) must accompany the Customer's order.

Signaling arrangement charges apply whenever interfaces at the Customer premises or at the Customer's Company serving wire center require a signaling arrangement other than those provided with the Terminating Options in Section B preceding. Signaling Arrangements will be charged on a per SAL basis. Specifically, a signaling charge applies if the signaling protocol characters in the NCI and the SEC NCI fields are different.

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E. SIGNALING ARRANGEMENTS (USOC – OSB, XSSLR) (Cont'd)

For the above conditions, one additional signaling charge applies for each additional leg of multipoint circuit. When a Multiplexing Arrangement is ordered that converts a single higher capacity or bandwidth circuit into several lower Voiceband circuits, the Voiceband Signaling Arrangements are provided as part of the Multiplexing Arrangement, and no additional Signaling Arrangement charges will apply.

A signaling charge applies in addition to any other applicable signaling charge when loop range extension equipment is required. The Company will obtain Customer approval for signaling range extension equipment.

Listed below are the Signaling Arrangements offered under this Product Guide:

1. Conversion of Loop or E&M Signaling to SF - An arrangement to convert loop or E&M signaling to the single frequency signaling format. (USOC - OSB)

2. Automatic Ringdown Signaling (**ARD**) - A signaling arrangement on a two-point Special Access which converts loop seizure at one end of the facility into ringing signal at the opposite end. (USOC - XSSLR)

F. IMPROVED TERMINATION OPTION (USOC - X4T)

Improved Termination provides for a fixed 600 ohm impedance, an increased range of transmission levels, and simplex reversal (when applicable) on an effective four-wire channel. This optional feature is available with most Voiceband services with a four-wire point of termination. Company equipment is required at the Customer's premises where this option is ordered.

The Improved Termination option will be ordered and rates and charges, as set forth in Part A, Section 7, will apply on a per SAL basis. Technical parameters and the applicable Voiceband services are specified in Technical Reference TR-NWT-000335, Issue 3.

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G. APPLICATION OF RATES AND CHARGES

1. Voiceband Facilities are available on a month-to month basis.

2. The nonrecurring charge associated with the installation of voicegrade SALs is specified in Part A, Section 7.

3. Service Rearrangements

   Service Rearrangements are specified in Part 0, Section 7A2d.

   Changes to pending orders are in Part 0, Section 5.

   Changes in the type of service will be treated as a discontinuance of the service and an installation of a new service.