REPLACING PAGE ADDENDUM
Filing Instructions:
1. REMOVE FROM THE SECTION THE PAGES NUMBERED THE SAME AS THOSE ATTACHED TO THIS PINK SHEET.
2. INSERT THE ATTACHED PAGES INTO THE SECTION IN THEIR PLACE.
3. PLACE THIS PINK SHEET AHEAD OF PAGE 1 OF THE SECTION.

DATA SET 403D-TYPE

DESCRIPTION

1. GENERAL

1.001 This addendum supplements Issue 2 of Section 594-025-100. The attached pages must be inserted in the section in accordance with the filing instructions above.

1.002 The purpose of this addendum is to revise Table C to show level instead of attenuation for options S, T, and V; to add the levels for these options for data sets rated MD; and to add a footnote concerning external padding.

Attached:

Page 11 dated January 1974, reissued
Page 12 dated January 1974, revised
Page 13 dated January 1974, revised
Page 14 dated January 1974, reissued

3. FUNCTIONAL DESCRIPTION

3.001 The following change applies to Part 3 of the section:

(a) Table C—revised.

3.02 Data transmitted from a remote station is applied to the data line. It then passes through a control unit (either a Data Auxiliary Set 804G-type for single set installation or Data Auxiliary Set 804K-type for multiple set installations) and through the line control circuit. The line control circuit is the interface between the data line and the data receiver and answer-back channel portion of the data set and provides the following functions:

(a) Unattended call answering and disconnect for the data set

(b) Provision for normal voice telephone service with the associated data auxiliary set

- Customer interface controls
- Data-to-talk transfer
- Talk-to-data transfer

(c) Provides a 2025-Hz answer-tone signal as an indication to the calling party that the call has been answered

(d) Provides a 1.1-second delay following line seizure, which allows the off-hook signal to be transmitted from the called station to the originating central office

(e) Provides an impedance match for a 600- or 900-ohm line

(f) Provides lightning protection.

3.03 The signal is then applied to the option board, which conditions the data set to provide the service of the installed options. Table C describes the options for the data set. Most of these options are located on CP AR461 within the basic receiver; others are located on CP AR288 in the 15A3 Data Unit. Character options are provided on CP AR287 of the 15A3 Data Unit. These options determine the ASCII interface signal output for certain input characters (Table D). These characters are generally control characters, of which there are three classes, as follows:

(1) ***Communication Control (CC):*** A functional character intended to control or facilitate transmission of information over communication networks.

(2) ***Format Effector (FE):*** A functional character which controls the layout or positioning of information in printing or display devices.

(3) ***Information Separator (IS):*** A character which is used to separate and qualify information in a logical sense. There is a group of four such characters to be used in hierarchical order (starting at the top and descending to a lower form).

Note: The preceding definitions are taken from American National Standard Code for Information Interchange—ASCII-X3.4-1968.

3.04 The signal is applied to the AGC circuit, which has a fast attack and long release time. This long release time enables the receiver to ignore echo signals which could cause digit simulation.

Band Separation Filter

3.05 The output from the AGC is applied to the band separation filter circuitry where two filters separate the signals into a high group (1209 Hz to 1633 Hz) and a low group (697 Hz to 941 Hz).

Channel Threshold, Amplifier, and Limiter

3.06 Next, the signal is applied to the channel threshold, amplifier, and limiter circuits. All signals greater than a threshold presented by the limiter circuit produce a square-wave output of fixed amplitude and a frequency corresponding to that of the input signal. Signals below the threshold level are attenuated by the limiter circuit and are not applied to the detector input. This action selects signals of a proper level for reception.

→ TABLE C ←

DESCRIPTION OF FEATURES AND OPTIONS OF DATA SET 403D-TYPE

FEATURE	OPTION	DESIGNATION		DESCRIPTION	WHERE USED
Answering	Z	Attended		Call answered manually. Manual transfer to data mode if business machine ready.	All 403D-type
	Y	Unattended		Call automatically answered in data mode if business machine ready.	
Termination	X	600Ω		Match 600Ω line impedance — principally private line service.	All 403D-type
	W	900Ω		Match 900Ω line impedance — principally switched network service.	
Answer-Back Level		STD SETS	MD SETS[1]	Option chosen at time of installation to make received level of answer-back signal no greater than —12 dBm at serving office. Nominally, data set answer-back signal output with no attenuation is —3 dBm.	All 403D-type
	V	—3 dBm	—3 dBm		
	T	—7 dBm	—6 dBm		
	S	—12 dBm	—9 dBm		
6-dB Input Pad	R	In		Normal sensitivity — principally used for TOUCH-TONE or mixed TOUCH-TONE/401-type transmitting stations.	All 403D-type
	Q	Out		Increased sensitivity — principally used for 401-type transmitting stations.	
2025-Hz Answer-Tone Duration	N	0.57 Sec		Normal answer-tone timing.	All 403D-type
	M	1.25 Sec		Answer-tone timing for use with ACU at transmitting station.	
Answer-Back	A	Internal		Answer-back circuit in data set used.	All 403D-type
	F[2]	External		Customer-provided answer-back generator used.	
Line Intercept	E	Attendant Control		Attendant may access data line at any time.	403D3,5,7 (MD) 403D9,11,13
	B[3]	Business Machine Control		Attendant may access data line only when requested by business machine.	403D3,5 (MD) 403D9,11
Out-of-Service (Make-Busy)	K	Control Circuit OFF	Third Wire Control	Provides means for making data line appear busy by placing ground on third wire (sleeve). Line is made busy either by turning control circuit ON or OFF, depending on customer equipment.	403D3,5,7 (MD) 403D9,10,11,12,13,14
	J	Control Circuit ON			403D4,5, (MD) 403D9,10,11,12
	H	Control Circuit OFF	Tip to Ring Shorted	This feature should be used as outlined in AT&TCo. PEM 9197, dated April 19, 1965.	All 403D-type
	G	Control Circuit ON			403D3,4,5,6 (MD) 403D9,10,11,12
	ZC	Disabled			All 403D-type

→ TABLE C (Cont) ←

FEATURE	OPTION	DESIGNATION	DESCRIPTION	WHERE USED
Private Line Service Without Ringing	ZA	Dry Line (without talk battery)	Allows incoming data calls to be received when ringing signal is not provided. Data set is controlled by DTR interface circuit. Alternate voice service available only with wet line.	All 403D-type
	ZB	Wet Line (with talk battery)		
Initial## Character Insertion	XA	Enabled	Provides automatic initial ASCII character for separation of messages.	403D7,8 (MD) 403D13,14
	XB	Disabled		
Interdigit Timeout	XC	45 Sec	Permits data set to terminate call after specified period of inactivity.	403D7,8 (MD) 403D13,14
	XD	15 Sec		
	XE	Disabled		
* Answer-Back	XF	Enabled	Provides answer-back tone (2025 Hz) when TOUCH-TONE star (*) is received.	403D7,8 (MD) 403D13,14
	XG	Disabled		
= Answer-Back	XH	Enabled	Provides answer-back tone (2025 Hz) when TOUCH-TONE number sign (=) is received.	403D7,8 (MD) 403D13,14
	XJ	Disabled		
== Answer-Back	XK	Enabled	Provides answer-back tone (2025 Hz) when second consecutive TOUCH-TONE number sign (==) is received.	403D7,8 (MD) 403D13,14
	XL	Disabled		

Note 1: External padding may be required to meet the requirement of −12 dBm at the central office.

Note 2: Not recommended for use on DS 403D7, 8, 13, and 14 because there is no interface control.

Note 3: Not recommended for use on DS 403D7 and 13 because there is no interface control.

TABLE D

IDENTIFICATION OF ASCII CHARACTERS AVAILABLE AS CHARACTER OPTIONS FOR DATA SETS 403D13 AND 403D14

OPTION	DESIGNATION	DESCRIPTION
NUL	NULL	The "all zeros" character which may serve to accomplish time and media fill.
SOH	START OF HEADING	A communication control character used at the beginning of a sequence of characters which constitute a machine-sensitive address or routing information. Such a sequence is referred to as the "heading".
STX	START OF TEXT	A communication control character which precedes a sequence of characters that is to be treated as an entity and entirely transmitted through to the ultimate destination. Such a sequence is referred to as "text". STX may be used to terminate a sequence of characters started by SOM.
ETX	END OF TEXT	A communication control character used to terminate a sequence of characters started with STX and transmitted as an entity.
EOT	END OF TRANSMISSION	A communication control character used to indicate the conclusion of a transmission, which may have contained one or more texts and any associated headings.
ENQ	ENQUIRY	A communication control character used in data communication systems as a request for a response from a remote station. It may be used as a "Who Are You" (WRU) to obtain identification, or may be used to obtain station status, or both.
ACK	ACKNOWLEDGE	A communication control character transmitted by a receiver as an affirmative response to a sender.
BEL	BELL	A character for use when there is a need to call for human attention. It may control alarm or attention devices.
BS	BACKSPACE	A format effector which controls the movement of the printing position one printing space backward on the same printing line. (Applicable also to display devices.)
HT	HORIZONTAL TABULATION	A format effector which controls the movement of the printing position to the next in a series of predetermined positions along the printing line. (Applicable also to display devices and the skip function on punched cards.)