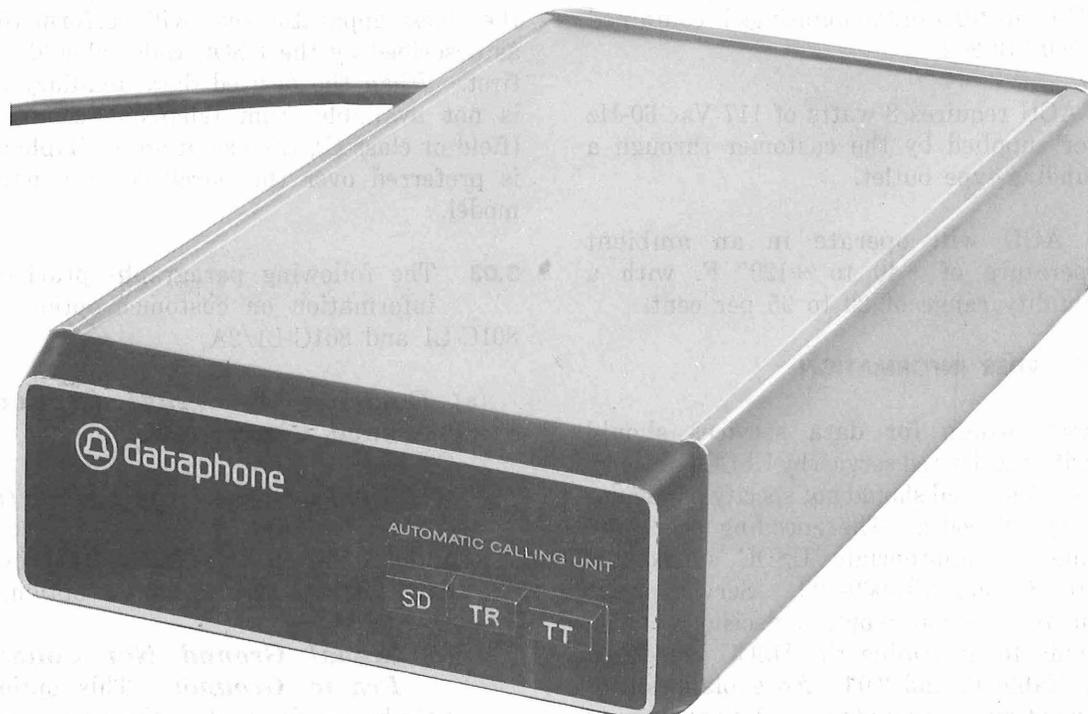


## DATA AUXILIARY SET 801C LIST-TYPE REFERENCE GUIDE



DAS 801C-L1/2A

### 1. GENERAL

**1.01** Data auxiliary set (DAS) 801C-L1/2A is an automatic calling unit (ACU) which can be used on telephone lines arranged for TOUCH-TONE® signaling.

**1.02** Whenever this section is reissued, the reason for reissue will be contained in this paragraph.

**1.03** The current standard models are DAS 801C-L1 (ACU without housing) and 801C-L1/2A (ACU with housing and plug-in power transformer). For purposes of this reference guide, both models will be referred to as DAS 801C-L1/2A or as an ACU.

**1.04** An ACU cannot be used to dial calls that require operator assistance.

### 2. PHYSICAL AND ELECTRICAL CHARACTERISTICS

**2.01** DAS 801C-L1 consists of two printed circuit boards interconnected by flexible cables. The overall dimensions of the circuit board assembly are 5.55 inches wide, 10.4 inches long, and 1.5 inches high. DAS 801C-L1/2A consists of DAS 801C-L1 mounted in a brushed aluminum housing with front and rear black plastic covers. The housing with ACU circuit board assembly installed measures 5.8 inches wide, 10.9 inches long and 2.2 inches high. The weight of DAS 801C-L1 is about

#### NOTICE

Not for use or disclosure outside the  
Bell System except under written agreement

**SECTION 590-008-103**

1.6 pounds; the weight of DAS 801C-L1/2A is about 5.5 pounds.

**2.02** DAS 801C-L1 can be installed singly in a 52A2 data mounting, or in multiple arrangements in a 40A2 data mounting. Information pertaining to DAS 801C-L1 in 40A2 data mountings is contained in Section 590-010-202.

**2.03** The ACU requires 8 watts of 117 Vac 60-Hz power supplied by the customer through a 3-wire grounding-type outlet.

**2.04** The ACU will operate in an ambient temperature of +40 to +120° F. with a relative humidity range of 20 to 95 per cent.

**3. SERVICE ORDER INFORMATION**

**3.01** Service orders for data services should describe the desired service by USOC (Uniform Service Order Code) and should not specify particular data auxiliary set codes. The encoding procedure to determine the appropriate USOC suffixes is described in Section 590-000-100. Service order information and customer option decisions which must be made to determine the USOC are listed in Table A, Table B, and 3.03. An explanation of features and options common to most data equipment is given in Section 590-000-101. A rapid cross reference between USOC, data auxiliary sets, and reference guides is presented in Section 590-000-102. Intercity Services Manual (ISM) Section 87 gives customer billing nomenclature, shows tariff listings for data services, and provides general reference information.

**3.02** Service orders received by Plant or Engineering departments should identify data services by USOC designation rather than by specific data auxiliary set codes. USOC suffix decoding procedures

are described in Section 590-000-100. Engineering or Plant department personnel responsible for selecting data auxiliary sets are not compelled to use any particular data auxiliary set codes specified or suggested on the service order. To achieve maximum reuse of data auxiliary set apparatus, the oldest apparatus that will perform the service as described by the USOC codes should be utilized first. When the desired data auxiliary set model is not available from telephone company stocks (field or class C), the use of an available substitute is preferred over the purchase of a new current model.

**3.03** The following paragraphs provide detailed information on customer options for DAS 801C-L1 and 801C-L1/2A.

**(a) Decision A—Signal Ground/Frame Ground Connection**

**(1) Signal Ground Connected to Frame Ground:** This is the recommended option. When this option is provided, the data set must use a similar option.

**(2) Signal Ground Not Connected to Frame Ground:** This option should only be provided when the customer-provided equipment (CPE) cannot permit the connecting of signal ground to frame ground in the data equipment. This option is not compatible with ground-start option. When this option is provided, the data set must use a similar option.

**(b) Call Terminated Either Through ACU or Through Data Set**

**(3) Call Terminated Through ACU:** With this option, the CPE turns off the

**TABLE A**

**SERVICE OFFERINGS**

USOC	FEATURE	PROVIDED BY
DAZ++	Without Answer Tone Detection	DAS-801C-L1 DAS 801C-L1/2A
DLC++	With Answer Tone and Dial Tone Detection	DAS 801C-L1 DAS 801C-L1/2A

TABLE B  
CUSTOMER OPTION DECISIONS  
DAS 801C-L1

DECI- SION	OPTION	DESIG- NATION
A	1. Signal Ground Connected to Frame Ground	ZU Notes 1, 2
	2. Signal Ground Not Connected to Frame Ground	ZV
B	3. Call Terminated Through ACU	G
	4. Call Terminated Through Data Set After DSS <i>On</i>	Z
C	5. ACR Timer Stopped After DSS <i>On</i>	R
	6. ACR Timer Not Stopped After DSS <i>On</i>	H
D	7. Longest ACR Timing Interval	Note 3
	8. ACR Timing Interval Specified by Customer	

*Note 1:* If ground start operation is being used, option ZU must be selected.

*Note 2:* Grounding option of data set and ACU must be the same.

*Note 3:* The longest ACR time available is 40 seconds or greater. The customer-specified ACR nominal times are as follows:

- 7 seconds
- 15 seconds
- 27 seconds

Indicate the customer-selected ACR time as a remark on the service order.

CRQ (call request) interface lead to signal the ACU to terminate the call.

(4) ***Call Terminated Through Data Set:***

With this option, the CPE can terminate a call by turning off the CD (data terminal ready) interface lead to the data set.

(c) ***ACR Timer Stopped or Not Stopped After DSS ON***

(5) ***ACR Timer Stopped After DSS***

***ON:*** With this option, the ACR (abandon call and retry) timer is disabled after the ACU has completed its call origination functions (as indicated by the DSS circuits from the ACU being turned *on*). For the mode of operation in which the ACU is detecting answer

tone from the called station, completing the call origination functions includes an assurance that a valid connection has been made to the called station. However, for the mode of operation in which the data set is detecting answer tone, this includes only an assurance that the called number has been transmitted from the ACU to the serving central office.

(6) ***ACR Timer Not Stopped After DSS***

***ON:*** With this option, the ACR timer is not disabled after the ACU has completed its call origination functions. In this case, the ACR timer continues to run until its time-out interval expires or until the CRQ circuit from the CPE is turned *off*. The ACR timer times out on every call unless the

CRQ circuit from the CPE is turned *off* before time-out occurs.

(d) **ACR Timing Interval**

(7) **Longest ACR Timing Interval:** This timer provides the maximum timing interval. This interval, referred to as "40 seconds or greater," is actually 56 seconds (nominal) in DAS 801C list-type.

(8) **ACR Timing Interval Specified by Customer:** The customer-specified options are 7, 14, or 28 seconds.

**3.04 Telco Options:** Telephone company options are listed in Table C and are described in the following paragraphs.

(a) **Ground Start or Loop Start:** Loop start (option Y) is the preferred operating method, as it does not require any special circuits at the central office (CO). It is always recommended on lines which are used for

originating traffic only (or which receive few incoming calls). Loop start is required if the second dial tone detection feature is to be used. At locations with heavy incoming traffic, ground start (option V) may be of advantage. However, some central offices such as step-by-step common control or step-by-step arranged for Touch-Tone service may return the tip-ground indication prematurely during peak traffic loads, causing the ACU to dial before a register has been connected. This results in incomplete dialing, as one or more initial digits are lost.

(b) **Detect Beginning or End of Answer Tone:** Upon receipt of a valid answer tone, the ACU transfers the line to the data set and places the data set in the data mode. To allow for the characteristics of various data sets, the answer tone detector can be arranged to transfer the line to the data set at the beginning (option X) or at the end (option W) of answer tone. Option X is for use with data sets 103A, 103J, and 212A. Option W is for use with data sets 200-type (except 212A), 400-type, and 600-type.

TABLE C

TELEPHONE COMPANY OPTIONS

OPTION DESCRIPTION	DESIG-NATION
Detect End of Answer Tone	W
Detect Beginning of Answer Tone	X
Detect 2025-Hz Answer Tone	S
Detect 2225-Hz Answer Tone	T
Data Set Answer Detection Without EON	E
ACU Answer Detection or EON	B
Data Set to Data Mode by Contact to DT	Q
Data Set to Data Mode by Grounded Contact	ZG
Isolated TK Contact	ZA
Isolated CL Contact	ZP
Grounded TK and CL Contact	ZN
Loop Start (Note)	Y
Ground Start	V

*Note:* If second dial tone detection is required, loop start operation (option Y) must be used.

(c) **Detect 2025- or 2225-Hz Answer Tone:** Option S causes the answer tone detector to respond only to 2025-Hz answer tone. This option is to be used with data sets 200-type (except 212A), 400-type, and 600-type. Option T causes the answer tone detector to respond to 2225-Hz answer tone. This option is to be used with data sets 103A, 103J, 113C, and 212A.

(d) **Data Set or ACU Answer Detection:** Option E (data set answer detection without end of number) provides for certain data sets to perform answer detection without the necessity of the CPE presenting an end-of-number (EON) code. Option E is used for data sets 103A3, E, G, and H, unless second dial-tone detection is required. Option B (ACU answer detection or end of number) must be used for second dial-tone detection for the above sets and in all other cases.

(e) **Data Set to Data Mode by Contact to DT or by Grounded Contact:** Option Q connects one side of the AN (answer) relay contact to the DT (data tip lead). Option Q should be specified for data sets 103A2, 202C, 201A, 201B, 201 list-type, and 402C. Option ZG provides a grounded AN relay contact and should be specified for data sets 103A-type (except

103A2), 103J, 113C, 201C, 202S, 208B, 212A, and the 1001A data coupler.

(f) **Isolated TK Contact, Clear Signal to Data Set, or No Clear Signal to Data Set:** Option ZA (isolated TK contact) is required for data set 103A2. Option ZP (clear signal to data set) is required for data sets 103A3, 103E, 103G, 103H, 103J, 113C and 212A. Option ZN (no clear signal, no talk signal to data set) should be specified for all other data sets. On data sets 201-type, 202-type, 208B, and 402C, the CL and TK contacts are not used by the data set. Option ZN is selected to provide for uniformity of installation.

#### 4. REFERENCES

4.01 The following drawings, specifications, and Bell System Practices provide additional information on DAS 801C-L1 and L1/2A.

- (a) SD- and CD-1D259-01
- (b) EL 4132
- (c) EL 4799
- (d) BSPs 598-012-102, -202, and -502
- (e) BSP 590-010-202