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1A ESS ™ Bulk Calling Line Identification (BCLID) Interface Specification

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1.   INTRODUCTION

1.1.   General

This document describes the technical interface specification for the 1A ESS^{TM} (1A ESS is a Trademark of AT&T Network Systems, Inc.) Bulk Calling Line Identification Interface, hereafter called 1A ESS^{TM} BCLID Interface, in selected Ameritech Operating Companies (AOC's) using selected 1A ESS^{TM} Switches.

2.   1A ESS^{TM} BULK CALLING LINE IDENTIFICATION (BCLID) INTERFACE - DESCRIP-TION

2.1.   Purpose

The 1A ESS^{TM} Bulk Calling Line Identification (BCLID) Interface is one of the AOC's planned offerings of calling telephone number service. 1A ESS^{TM} BCLID Interface differs from the other offerings in that it provides incoming telephone call (calling telephone number) information over a separate dedicated facility to a customer's premise equipment.

2.2.   Capabilities

The 1A ESS^{TM} Bulk Calling Line Identification (BCLID) Interface allows delivery of calling and called telephone number information over a Dedicated Network Access Line (DNAL) separate from the terminating voice paths. This could be used, as an example, in conjunction with Direct Inward Dialing (DID) service to a Private Branch Exchange (PBX). The feature is described as "bulk" in that the dedicated data link delivers the calling and called telephone number information for all incoming calls terminating to a particular customer.

During (within 0.5 seconds) the ringing phase, the output message containing BCLID data is sent over a customer dedicated 1A ESS^{TM} output channel over the dedicated facility for the customer. The customer's equipment receives the following incoming telephone call information over the DNAL:

- BCLID Identifier (To identify the particular BCLID customer)

- Time of the Incoming Call

- 7 Digit Called Telephone Number

- 10 Digit Calling Telephone Number, or Out of Area Indicator, or Private indicator when appropriate

- Incoming Telephone Number Uniqueness Indicator (Indicates if the calling tele-
  phone number is part of a larger group of lines or numbers, such as a Multi Line
  Hunting Group)

2.3. Limitations

The 1A ESS™ BCLID Interface will only be available in selected locations in AOC territory. The
AOC availability will be based upon the technical availability of the 1A ESS™ BCLID Interface,
and the market needs of Ameritech's customers.

The 1A ESS™ BCLID Interface requires that Customer Premises Equipment (CPE) conform to
specific electrical and protocol specifications covered in this document. In addition, Ameritech
may make changes in its facilities, equipment, operations or procedures. Should this occur, this
technical reference will be reissued, or another reference will be issued in advance to allow
manufacturers to accommodate the changes in their design.

## 3. 1A ESS™ BCLID INTERFACE

3.1. Physical Interface

The Physical Network Interface (NI) is the point of connection between the facilities of the AOC
central office based equipment and the equipment provided by the customer. 1A ESS™ BCLID
Interface makes use of a Dedicated Network Access Line (DNAL) connected to a customer
supplies asynchronous 1200 baud modem. This DNAL consists of a 4-wire 3002 data channel.

An asynchronous serial data transmission protocol is used on the DNAL. Each word of the
message consists of a start bit (space), a 7-bit standard ASCII character, an even parity bit,
and a stop bit (mark). Start and stop bits have the same duration as data bits. Within each
word, the bits are sent in order of increasing significance, where bit 0 is the least significant.

Interconnection to the CPE is via standard outside plant cable, tip and ring connections. Refer
to PUB41212[1] or PUB41214[2] for details on this type of connection.

Figure 1 shows typical interconnections needed to implement the 1A ESS™ BCLID Interface.

Figure 1. Typical 1A ESS™ BCLID Arrangement
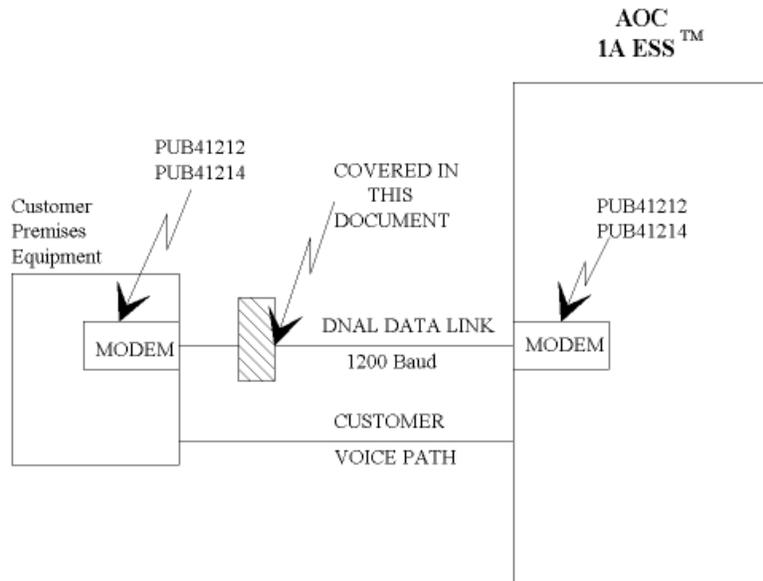
3.2.   Message Protocols

Messages are transmitted over the DNAL to provide the CPE with the following information:

- BCLID Identifier (To identify the particular BCLID customer)

- Time of the Incoming Call

- 7 Digit Called Telephone Number

- 10 Digit Calling Telephone Number, or Out of Area Indicator, or Private Indicator when appropriate.

- Incoming Telephone Number Uniqueness Indicator (Indicates if the calling tele-phone number is part of a larger group of lines

All messages to the CPE start with a carriage return and a line feed sequence. These are followed by the following character stream:

```
SOM[Control A]*
cr
LF
BC aabbcc ddddddd eeeeeeeeee f g
cr
LF[Control Y]**

or,

SOM[Control A]*
cr
LF
BC aabbcc ddddddd e f g
cr
LF[Control Y]**
*[Control A] or start of message (Octal 001).
**[Control Y] or end of medium (Octal 31) is sent by the 1A ESS™ to end the
message.  There may be extraneous characters, usually deletion characters, sent
between the final carriage return and line feed sequence and the [Control Y];
these should be ignored.

Where:

SOM = Start of Message (Octal 001)
BC = BCLID Identifier
aa = Hours
bb = Minutes
cc = Seconds
ddddddd = 7 Digit Called Telephone Number
eeeeeeeeee = 10 digit Calling Telephone Number

or,

e = O for Out of Area, or P for Private
f = Busy/Idle Status; I for Idleon DID facility; B for Busy on DID facility
g = Uniqueness Indicator; T = True DN, M = DN cannot be uniquely identified
LF = End of Medium (Octal 31)
```

A second transmission of carriage return and line feed characters signals the end of the data for that call. However, several extraneous characters, usually deletion characters, may be present between line feed and a Control "Y" character. These characters should be ignored by a DID facility.

3.3.   Other Considerations

The 1A ESS^{TM} switch does not expect an acknowledgment signal from the CPE. When the DNAL is idle, there may be extraneous characters present on the DNAL. These characters should be ignored. In addition, seemingly valid messages, not in the prescribed format, may be present on the DNAL. As with extraneous characters, these messages should be ignored. Only messages that adhere to the formats specified herein should be acted on.

4.   REFERENCES

1.   "Data Sets 202S and 202T Interface Specification", Telcordia (formerly Bell Communications Research, Inc.), PUB41212.

2.   "Data Set 212A Interface Specification", Telcordia (formerly Bell Communications Research, Inc.), PUB41214.

3.   "CLASS Feature: Bulk Calling Line Identification", Telcordia (formerly Bell Communications Research, Inc.),TR-TSY-000032, Issue 1, November 1986.

4.   "Bulk Calling Line Identification", AT&T Technologies, Inc., AT&T 231-390-243, Issue 1, July 1985 and Addendum, Issue 1, December 1987.

NOTE:

Any questions regarding this document, please contact the APEx Help Desk at 847-248-4328.