Technical Bulletin

Program Code for feature **Continue After Hang-up**

BN : AXS-001- A **June 28, 1995**

Applications have come up that require the dialer to continue with the application program after the user (Drop Side) has hung up. This typically is required within a Callback Application.

To enable this feature to be added in the application program a new Code has been added to the dialer - **891 - Enable Continue After Hang Up**
Firmware Version xxx079 or later

Changes to the program, if this is required, would be as follows;

At the end of your Callback Program insert the instruction (891) before your last instruction (99) and add the remaining instructions after the (99) instruction.

A typical application for this is in a Callback Program where it is required that digits be dialed after the user (Drop) hangs up. The end of the program might look as follows:

891 -	Enable Continue After Hang Up
99 -	Wait for Hang Up
90 -	Go Off Hook
5910 -	Delay 1 Second
10xxyy -	Dial digits
5910 -	Delay 1 Second

There are two system parameters that must be set to short time durations to allow this to work.

Change System Parameters

On Hook Recognition -	05503
Release / Reseize Time -	03201

These are suggested values and may require some further adjustment in unusual installations.

Technical Bulletin

Program Notes on the **Search Tables**

BN : AXS-002 **June 28, 1995**

When a Search Table Command is inserted into a program string, such as 700, 701, 703 or 704, the dialer is expecting and requires a match to be found in the table(s) it is searching. As soon as it finds a match it launches the parallel program associated with the matched entry. If it can not find a match the program will not proceed any further, an interdigit timeout will occur and reorder tone will be given to the user (Drop). It is imperative that an entry of wildcards (?) is inserted in the search tables to handle any calls, such as local calls, that do not require any special instructions. It is also important to note that the dialer is performing its search as you are dialing and does not wait for dialing to be completed.

Each table arranges digits entered into it by digit length first and then all similar length entries are entered into the table in the order they are programmed. Therefore, to ensure that the wildcard entry does not interfere with other entries in the table it should always be the last entry into the table.

Example Application:

Drop Program 90 92 75 700 99

Primary Table - 011-15
- 1514 - 05
- 1503 - 08
- 1??? - 10
- ??????? - 01

Drop picks up the phone and dials 1-514-665-1234

Dialer looks up search table on the first digit 1 and finds three matches
1514 - 05, 1503 - 08, 1??? - 10

Dialer continues to search on second digit 5 and again finds three matches
1514 - 05, 1503 -08, 1??? - 10

Dialer continues to search after third digit 1 and finds only two matches remain
1514 - 05, 1??? - 10

Dialer continues to search after the fourth digit 4 and finds an exact match so it begins to execute the program 05 associated with this match. It would also match the entry 1??? - 10 but because we entered it after the 1514 entry its program is not launched.

Drop picks up phone and dials 335-5678

Dialer looks at the digits as they are being dialed and finds no corresponding entries in the table except for the ??????? - 01. This entry would be the default action to take when a 7 digit or local call was made.

If a change is required to an entry in the Search Tables you should use the Table Maintenance Codes of 1XXAA for the Primary Table, 2XXAA for the Secondary Table and 3XXAA for the Incoming Table. Using these entry Codes will allow you to change the Action Code of Table Entries without rearranging the order of the entries. Each time a new entry is made to a table, the entire table is searched to ensure the number does not already exist. If it exists, it is replaced with the new entry. However, if you delete an entry first with an action code of ‘00’, then add it back in , the entries below the one you deleted will move up the table and when you add it to the table it will go to the end of the matching digit length entries.

Technical Bulletin

Program Notes for **Centrex** (Replaces BN : AXS-003 dated June 29/95)

BN : AXS-003 - revision 2 **July 19, 1995**

To use the AXS in conjunction with either Centrex or on the telephone set side of a PBX you must instruct it that it is working into the system (CODE 0650X) and what the C.O. access codes are (CODE 065XYY).

1. Centrex / PBX Compatibility **CODE 0650X** **X = Extension Number Length**

This program code instructs the AXS that it is working into CENTREX or PBX and the length of the extension numbers in the system.
Therefore, the proper programming for two (2) digit extension numbers would be 06502. An entry of 06500 disables the CENTREX / PBX Compatibility.

2.Centrex Access Code **CODE 065XYY** **X= Code Number (1-5)**
YY=Access Code (1 or 2 digits)

This program code allows you to program up to 5 different access codes into the AXS dialer. If you required 3 different access codes because of different line groups you are accessing you would require 3 entries at this code. For example, if you are required to dial ‘9’ for one C.O. group, ‘81’ for a second group and ‘85’ for a third group you would require the following program;

06519
065281
065385
0654
0655

It is imperative that unused code numbers are set to zero (0) length as above.

When a user is dialing be sure that they are dialing a Centrex access code before the number they are calling. In the Parallel Porgram before the instruction to **Dial Drop Recorded Telephone Number to Trunk** (instruction 60XX) insert instruction 63 **Dial Drop Recorded Centrex Access Code** followed by a **Short Delay** (5905)

The AXS also comes preprogrammed with a parallel program (23) to handle all calls that are not Centrex or PBX outgoing calls. The default program is as follows;

90, 92, 6004, 93, 99

You must change the 6004 instruction to be 600x where x is the same extension number length as was programmed at CODE 0650x.

Technical Bulletin

Program Notes for the **Password**

BN : AXS-004 **July 6, 1995**

To prevent unauthorized access to Program Mode, the AXS Dialer can have a Password of 1-8 digits programmed into it that must be entered before any programming can be done.

If a Password has been entered into the dialer and the **DOWNLOAD** function is attempted, the dialer will return an error of **FUNCTION 80.** This error means that the dialer is looking for a Password to access programming that is not included in the Download sign on string. If you wish to Download to a dialer with a Password, you will have to go into Program Mode and delete the current Password by entering **009*#(Enter)**. However, you may re-install the Password as part of the information being Downloaded by entering it into the Password Box on the Parameters screen. You can also wait until you are sure that all programming is complete and manually re-enter the Password. (CODE 009xx)

If an attempt to look at a dialers parameters, using the **STATE, REPORT** portion of the AXS program is made and a Password is required, the dialer will return an **ACCESSING ERROR.** You must, as above, delete the Password before this can be used.

Technical Bulletin

AXS Data Port and Cable

BN : AXS-005 **July 10, 1995**

Due to changes required to meet SAFETY APPROVAL in various countries, the AXS Data Port has some minor changes.

A) The Default Baud Rate has been reduced from 9600, to 2400 BPS. This can, of course, be changed via programming, but baud rates above 2400 may not work reliably on ALL types of equipment.

If you utilize custom software, we suggest that you implement an Automatic Baud Rate Detection Scheme if you have not already done so. Auto Baud Detection is an integral part of our Windows based Management Software.

B) Although the main connections from RJ-45 Data Port have not changed, the cable required is different from what has been supplied in the past. A new cable is now available from Telcom Research (Part Number # AXS-OPTCBL) which works on both OLD and NEW versions of the AXS Dialer.

the following is the PIN-OUT information for this new cable.

AXS-RJ-45		**PC-DB25**	
Pin	**Description**	**Pin**	**Description**
1	**Transmit Data to PC**	**3**	**Receive Data from AXS**
2	**No Connection**		
3	**No Connection**		
4	**Receive Data from PC**	**2**	**Transmit Data to AXS**
5	**Data Terminal Ready from PC**	**20**	**Data Terminal Ready to AXS**
6	**Ground from PC**	**7**	**Ground to AXS**
7	**No Connection**		
8	**No Connection**		
		4	**RTS - Connect to Pin 5**
		5	**CTS - Connect to Pin 4**
		6	**DSR - Connect to Pin 20**
		8	**DCD - Connect to Pin 20**

NOTE: For the Data Port to work properly, the PC must provide a POSITIVE VOLTAGE on Data Terminal Ready (Pin 20). Make sure your Terminal Emulation program or Custom Software TURNS ON DTR!

Technical Bulletin

Centrex / PBX Default Program

BN : AXS-006 **July 28, 1995**

The AXS dialer comes programmed with a default program that enables internal calls, extension to extension, when Centrex / PBX compatability has been turned.

Program 23 in the dialer is the default program which is loaded when the dialer's initial power up reset is done. The default program is as follows;

90,92, 6004, 93,99

It is imperative that the 600X command in the dial string have the same number entered for the X value as the Centrex / PBX compatabilty code 0650X.

Example:

Centrex / PBX Compatability Code = 0650**3**
Program 23 = 90,92, **6003**,93,99

Technical Bulletin

Dialed Digits Command (6000)
Force Continue Digits (062X)

BN : AXS-007 **July 31, 1995**

It is recommended that when a **Dial Drop Recorded Digits** command is added into a dial string, that **6000** be used when the number of digits being dialed varies. Applications have arisen that have specified a number of digits to be dialed and the trunk and Drop joined, even if dialing was not completed, in an attempt to speed up the progress of the call. However, in some cases the line or system that the AXS is working in conjunction with interprets this join as a digit and as a result a wrong number is dialed. Therefore, the 60XX command where the XX does not equal 00 should only be used in dial strings where the number of digits dialed does not vary, such as local PTT calls.

The **Force Continue Digit** can be used to aid the AXS in processing calls as it is used to terminate digit collection before a timeout. Once the digit is dialed it is discarded. The parameter can be set by the code **062X** where X is the code that would be dialed by the Drop, after dialing the destination number, to indicate to the AXS that dialing is complete. The default value is #.

Technical Bulletin

International Prefix and **Second Dial Tone**

BN : AXS-008 **July 31, 1995**

There are several countries in which an International Prefix is dialed and before the call proceeds a second dial tone must be received. The AXS dialer can be programmed to satisfy this requirement by dialing the prefix and then returning dial tone to the system so that dialing can proceed. A match in the primary table of the International Prefix launchs a program to return dial tone and then a continual search of the secondary table produces a match that halts the program from the primary match and executes the program associated with the secondary match.

Example: France requires 19 for international calls and second dial tone
Program would look similar to the following;

Primary Table Entries	19 - 19
Secondary Table Entries	193 - 18, 194 - 18, 19? - 15
Program 19	100219,75,99
Program 18	810102, 6000, 93, 95, 99
Program 15	6401,571001,97,91, 5825,97,90,5008,97,810102,6000,93,99
Program 21	90,92,75,701,99
Bin 01	Should not contain code of 19 as it has already been dialed with with the launch of Program 19 from the Primary Table match

The above programs can be used as starting points for programs that require the return of second dial tone and modified to meet your specific requirements.

Countries that wait for second dial tone after the international prefix;

Algeria (00)	French Guiana (19)	Martinique (19)	Senegal (00)
Aruba (00)	French Polynesia (00)	Morrocco (00)	Surinam (001)
Benin (00)	Gabon (00)	Netherlands (09)	Spain (07)
Canary Islands (07)	Guadeloupe (19)	Poland (0 wait 0)	Turkey (9 wait 9)
Chile (00)	Hungary (00)	Reunion (19)	Yemen (00)
France (19)	Madagascar (16)	St. Pierre and Miquelon (19)	

The above countries have been listed using the data available to our office. Before installing dialers, always check the dialing procedure used by the country it is being installed in for the application you are intending to use it for.

Technical Bulletin

Program Notes for the **AXS Database**

BN : AXS-009 **August 8, 1995**

After the AXS dialer has been reset, and communications between the dialer and the PC has been established, you can modify the programs that are preprogrammed or create your own. Following is the steps that you would take to access the database portion of the AXS Windows program and create your own database.

1) Double click the AXS icon to access the program. The customer information screen will appear.
2) Click on '**SETUP**, **TABLES**, **EDIT**'. The 'PASSWORD' screen will appear.
3) The program comes defaulted with no password so click '**OK**'.
4) The screen now shows four fields;
   'ROUTING TABLE NAMES'- Search Tables
   'LOCAL TABLE NAMES' - General Purpose Bins
   'APPLICATION NAME', 'PROGRAM' - Drop, Ring, Parallel Programs
5) Click on the field above the box 'APPLICATION NAME'. The field will turn yellow.
6) Click on '**ADD**'. The field will clear.
7) Click on the field again so that the blinking cursor is at the start of the field. The box will turn yellow. Type in the new application name i.e. 'ABC Comp. Callback'. Click '**SAVE**'.
8) Click on the right or left arrow keys and search for your new APPLICATION NAME. When found click on the name twice and a new window appears.
9) Click on '**EXPORT TABLE TO FILE: Programs.txt**. Notepad screen appears. You can now enter your programs starting with the program number followed by the dial string. i.e. 2190927570099. Each program must be entered on a separate line. Once completed click '**FILE**', '**SAVE**', then '**FILE**', '**EXIT**'.
10) Click on the name twice and the export / import window reappears. Click on '**IMPORT FILE: Programs.txt to base**'. Window appears asking if you are sure you want to send this file to the database, click '**YES**'. The dial strings you have entered in the notepad are in the database and are ready to be downloaded.
11) Click on the field above the box 'ROUTING TABLE NAME'. The field will turn yellow.
12) Click on '**ADD**'. The field will clear.
13) Click on the field again so that the blinking cursor is at the start of the field. The box will turn yellow. Type in the new routing table name i.e.. 'ABC Comp. Callback'. Click '**SAVE**'.
14) Click on the right or left arrow keys and search for your new ROUTING TABLE NAME. When found click on the name twice and a new window appears.
15) Click on '**PRIMARY TABLE**'.
16) Click on '**EXPORT TABLE TO FILE: Primary.txt**. Notepad screen appears. You can now enter the numbers to match along with the program to be launched. i.e. 00117 Each entry must be entered on a separate line. Once completed click '**FILE**', '**SAVE**', then '**FILE**', '**EXIT**'.
17) Click on the name twice and the export / import window reappears. Click on '**IMPORT FILE: Primary.txt to base**'. Window appears asking if you are sure you want to send this file to the database, click '**YES**'. The match numbers you have entered in the notepad are in the database and are ready to be downloaded.

18) If you required entries in the Secondary Table and/or Incoming Table you would repeat steps 15 - 17, clicking on the appropriate tables in 15.
19) Click on the field above the box 'LOCAL TABLE NAME'. The field will turn yellow.
20) Click on '**ADD**'. The field will clear.
21) Click on the field again so that the blinking cursor is at the start of the field. The box will turn yellow. Type in the new table name i.e.. 'ABC Comp. Callback'. Click '**SAVE**'.
22) Click on the right or left arrow keys and search for your new LOCAL TABLE NAME. When found click on the name twice and a new window appears.
23) Click on '**BIN TABLE**'
24) Click on '**EXPORT TABLE TO FILE: Bin.txt**. Notepad screen appears. You can now enter your bin numbers starting with the bin number followed by the digits to be dialed. i.e. 050014162345678. Each bin number must be entered on a separate line. Once completed click '**FILE**', '**SAVE**', then '**FILE**', '**EXIT**'.
25) Click on the name twice and the export / import window reappears. Click on '**IMPORT FILE: Bin.txt to base**'. Window appears asking if you are sure you want to send this file to the database, click '**YES**'. The bin numbers you have entered in the notepad are in the database and are ready to be downloaded.
26) If you require entries in the User Table and/or Client Table you would repeat steps 22 - 24, clicking on the appropriate tables in 22.

Once this information has been input into the database and you have checked it for accuracy it can now be downloaded into the **AXS.** Before you begin downloading you must return to the Main screen. Here you can create a new name in the **Customer List**.

27) Highlight a name on the Customer List. Click on '**DOUBLE**' in the bottom right hand corner where the customer name appears. A window appears that says "you are violating database rules...". Click '**OK**' and a new customer name '**A TEMPORARY**' is created.
28) Click on 'A TEMPORARY' in the Customer List. Click on the box in the bottom right hand corner that now also says 'A TEMPORARY', the box turns yellow. Highlight the name and enter in the customers name you have created the database for. i.e. 'ABC Comp. Callback'.
29) Click '**UPDATE**' and the new customer name appears in the Customer List.
30) Double click the newly created Customer name. This will take you to the system parameters screen where you can make any changes to the system parameters that may be required.You must ensure that the proper Application name, Tables name and Bin names appear. Click on **'Primary'** and a Drop - Down Menu box appears. Click the 'down arrow' and a list of entries will be presented. Click the name of the database you want, then click **'OK'**. The selected name will now appear beside 'Primary'. Repeat the preceding clicking on **'Applications'** and **'Bin Maintenance'.** You must also ensure that the proper check boxes have been ticked so that the programs you input will be included in the download.
31) Click '**DOWNLOAD**', '**NOW**' to complete the programming of the dialer.

Technical Bulletin

Download Errorlog.TXT / Call Progress Feature

BN : AXS-010 **August 23, 1995**

1) When doing a Download and an error occurs it is recorded in the Errorlog.TXT file. When this error occurs the Download is halted and the log is displayed on the terminal screen. The screen that appears is the following;

   Error at:User/Client Table ;Function:0023; Phone:336-2222; Date:8/24/95; Time:10:12:51 AM

   The table displays the Customer name and phone number which it gets from the Customer Information screen, the date and time of the Download and the spot where the error occurred, in the example above, Function:0023. To interpret the error look at the first three numbers of the error, this is the system parameter where the error occurred. In the example above it was at 002 which is Set SMDR Baud Rate. This is indicating that the baud rate was changed from the original value and you will not be able to enter program mode without adjusting your terminal baud rate.

2) If you have installed a program into a dialer and it does not seem to be functioning properly you can activate a Call Progress feature that will allow you to see each instruction as it is executed. This will allow you to see at which instruction the program is failing. The display will show the instructions from both the Drop and Parallel programs simultaneously. A partial printout follows;

   90 92 75 70 70 70 70 70 70 70 70 70 70 70 70 70 70 70 70 70 70 70 70 70 70 70
   70 70 70 70 70 70 70 70 70 70 70 70 70 70 70 70 70 70 70 70 70 70 70 70 70 7
   0 70 70 70 70 70 70 70 70 70 70 70 70 70 70 70 64 **70** 64 **70** 64 **70** 64 **70** 64 **70** 64
   70 64 **70** 64 **70** 57 **70** 91 **70** 58 **70** 90 **95** 50 **99** 50 **99** 50 **99** 50 **99** 50 **99** 50 **99** 50 **99**
   50 **99** 50 **99** 50 **99** 50 **99** 50 **99** 50 **99** 50 **99** 50 **99** 50 **99** 50 **99** 50 **99** 50 **99** 50 **99** 6
   0 **99** 60 **99** 60 **99** 60 **99** 60...

   The Drop program used here is **90/92/75/700/95/99** which is bolded. The parallel program is 6401/57100197/91/583097/90/501097/6000/93/95/99.

   To activate Call Progress enter Program Mode from the Windows program and enter 8#*. To deactivate enter 8##

Technical Bulletin

Remote Programming via AXS Windows Program

BN : AXS-011 **October 27, 1995**

To enable you to program a remote dialer you require a dialer connected to an outside telephone line and your PC through the RJ45 cable. You also must be able to dial from a telephone connected to the dialer.

1) 'Double click' the AXS icon from program manager of Windows.
2) 'Click' "**SINGLE**", "**TERMINAL**" from the main menu bar.
3) Dial the telephone number of the dialer that you wish to program using the telephone connected to the dialer.
4) Wait for the call to be answered by someone on site or by the dialer automatically after the specified number of rings in the dialers ring program (22). If the call is answered by someone at the location you are calling inform them that you are going into programming.
5) Click the '**PROGRAMMER MODE**' button on the menu at the bottom of the terminal screen. This will enable all the program instructions to be sent to the remote locations dialer. On the screen will appear **Pmh1**
   PROGRAMMER MODE
   OK
6) This mode transform the dialer at the local end to an ASCII to DTMF converter. This means that it will take the information typed on the PC and change it to DTMF signals to be sent to the far end. When the remote dialer sends DTMF signals back they will be converted and displayed on the PC.
7) Click ' **PROGRAM MODE**' button on the menuu at the bottom of the terminal screen. On the screen will appear *****00*#D**
   The 'D' that appears after the Wake Up Code is the same as the 'OK' that appears if you are programming locally. If the 'D' does not appear click the program mode button again. If an 'A' follows the 'D' the dialer has been programmed with a Password and must be entered.
8) Program the dialer from the keyboard as you would if it was located at the local end. If 'BB' appears on the screen when you are programming the remote dialer it means an error has occurred.
9) To sign off the remote dialer press the 'Enter" key on your keyboard. The screen will display **LEAVING PROGRAM MODE**
   Click the '**HANG UP**' button on the menuu at the bottom of the terminal screen. The screen will display **LEAVING PROGRAMMER MODE**
10) Exit from the terminal screen or call the next dialer location to be programmed and repeat the above steps.

Technical Bulletin

Bin Only Programming and Programmable Password

BN : AXS-012 **November 24, 1995**

General Purpose Bin Only Programming is now available on the AXS with version 085 firmware. This will allow programming access only to the General Purpose Bins that are used to store the DID numbers, Local Node Numbers and / or Pin Numbers for Callback or Fax Store and Forward. The entire program can not be accessed through this code. The code is ****0*#.
A system parameter has been added in junction with the above that will allow you to program a Bin Only Programming Password. The Password is independant of any programming access code that you may have programmed into the system.

BIN ONLY PROGRAMMING PASSWORD

Code 010XX
Parameters XX = 1-8 digit password
Description Entering a Bin Only Password enables access to Bins Only Programming Mode which allows programmingof the General Purpose Bins without allowing access to the dialers entire program. This password will prevent unauthorized access to programming.
Default = None

To use Bin Only Programming;

1) Go Off-Hook on the telephone connected to the dialer.

2) Enter the Bin Only Programming Code ****0*#

3) Dialer will return a ‘D’ tone as confirmation of entry into programming mode.

4) If required enter the Bin Only Programming Password.

5) Dialer will return a ‘D’ tone as confirmation of the entry of the correct password.

6) Enter the Bin Number and number you wish to program followed by *#.

7) Dialer will return a ‘D’ tone as confirmation of the entry.

8) Repeat step 5 to enter other Bin numbers or Hang up to exit Program Mode.

Technical Bulletin

Default Program Resets

BN : AXS-013 **November 24, 1995**

Version 085 firmware has had 3 default program resets programmed into them. When first programming a dialer you should normally do a 123 power up reset to clear any programming that may be there from testing. The dialers now have resets to program the dialer for Search Table entries and basic Callback programs for countries with International Calling Prefixes of 0, 00 and 001. You begin your power up reset as usual but instead of entering 123 you would enter 787 for 0, 788 for 001 and 789 for 00.As long as the callback programs work for your application the only item you must program is the DID number in the Bin. The Search Table Entries and programs are as follows;

Reset 787 -(0) - ## 07, 01 10, 0! 09, ?? 19
Reset 788 - (001) - ## 07, 0011 12, 001! 11, ???? 19
Reset 789 - (00) - ##07, 001 18, 00!17, ??? 19

01 - 6007939599

02 - 64042083501097640152159759071001**64021001**60111001#9399

03 - 90835910640520572001979158203690592060009395 99

05 - 60119399

06 - 60009399

07 - 9399

08 - 64045010978101016010 9399

09 - 8202030113510

10 - 640557200197915830979059258101016000939599

11 - 8204030113512

12 - 6405572001979158309790592581010360009395 99

17 - 8203030113518

18 - 640557200197915830979059258101026000939599

19 - 6000939599

21 - 90927570199

22 - 939410730299

23 - 909260049399

Technical Bulletin

Windows 95 Terminal Program

BN : AXS-014 Revision 2 **December 18, 1995**

To enable you to use the terminal program from the AXS software programming package you must install a copy of the the terminal.exe file from Windows 3.1 into the Windows 95 system directory.

To use the terminal program from Windows 95 you must access it in another way other than using SINGLE,TERMINAL from the AXS software program, if the terminal.exe file is not available. The following is a description of how to set up Hyperterminal for use with the AXS dialer. This program can be used for programming manually, either local or remote but can not be used for the Download feature of the software.

1) Go to Hyperterminal from the Accessories Menu
2) Double-click Hypertrm.EXE - The Hyperterminal screen comes up along with a Connection Description Box
3) Enter a name, for example AXS, and choose an Icon. Click OK. - The phone number screen appears.
4) Select the Com Port to use. Click OK. - The Port Settings screen appears.
5) Set the port to - 2400 Bits per Second, 8 Data bits, 1 Stop Bit, No Parity, No Flow Control. Click OK.
6) To adjust the terminal properties you click FILE, PROPERTIES, SETTINGS, ASCII SETUP.
7) You can then create a shortcut for the desktop if desired.

You then connect to the dialer you wish to program as normal using DTMF commands through the keyboard.

To put the local dialer into PROGRAMMER MODE if your are going to program a remote dialer you enter Pmh1 when you have connected to the other end and then ***00*# to enter the Remote End into PROGRAMMING MODE. To exit PROGRAMMER MODE you enter P0.

Technical Bulletin

RJ-11 and RJ-45 Pin Outs

BN : AXS-015 **January 22, 1996**

The pinouts for the RJ-11and RJ-45 jacks on the AXS dialer are as follows. Looking at the bottom of the dialer and counting from right to left.

Trunk Jack:

4 Pin jack
1 - No Connection
2 - Tip
3 - Ring
4 - No Connection

6 Pin Jack
1 - No Connection
2 - No Connection
3 - Tip
4 - Ring
5 - No Connection
6 - No Connection

Drop Jack:

4 Pin jack
1 - No Connection
2 - Tip
3 - Ring
4 - No Connection

Data Port Jack

8 Pin Jack
1 - Transmit data to PC (TX)
2 - No Connection
3 - No Connection
4 - Receive data from PC (RX)
5 - Data Terminal Ready (DTR)
6 - Ground from PC (GND)
7 - No Connection
8 - No Connection

Technical Bulletin

Pulse Dialing Speed Options

BN : AXS-016 **February 12, 1996**

The Pulse Dialing Speed option of 20pps 67/33 make break ratio has been added to the AXS with firmware version 086. The dial pulse dialing speed can be changed at parameter 023X. The parameter settings are as follows;

0231 = 10 pps 60 / 40 make break ratio
0232 = 20 pps 60 / 40 make break ratio
0233 = 10 pps 67 / 33 make break ratio
0234 = 20 pps 67 / 33 make break ratio

The default setting is still 10 pps 60 / 40 .

Technical Bulletin

Download Of Speed Dial Bins

BN : AXS-017 **March 11, 1996**

The following are the steps required to download a customer database of Speed Dial Bins to the AXS dialer.

1) Create a file in Windows Notepad with the Speed Dial Numbers you wish to download into the dialer. The numbers should be entered on separate lines in the same mannner as if you were entering the numbers directly into the dialer. The transfer function will automatically put an Enter and line feed after each line. For example

5019053362450

59918002687777

2) Go into terminal and enter into program mode on the dialer you wish to program.

3) From the terminal menu click **'Transfers'**

4) Click **'Send Text File'.** The box 'Strip LF' should be checked in this Window.

5) Select the text file that you created earlier.

6) Click **'OK'.** The file will be downloaded and all the numbers will appear on the screen and the same number of OKs will follow.

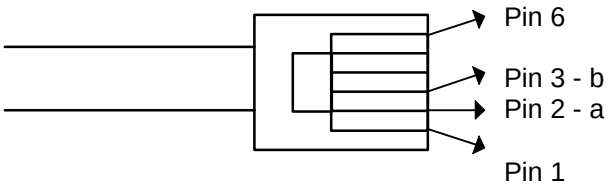
Technical Bulletin

Special Cable Assembly

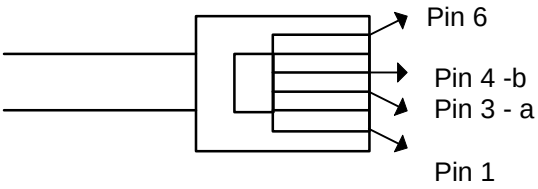
BN : AXS-018 **March 19, 1996**

The pin locations of the PTT dial tone of Swiss and German telephone line cords are different that what is required for the AXS dialer. The standard pin outs for both countries is 2 and 3 at the modular plug end. However, the AXS dialer requires dial tone to be input on pins 3 and 4 of the trunk jack. The output of the dial tone is on pins 3 and 4 of the Drop jack of the dialer . However, the telephones require the dial tone on pins 2 and 3.

Swiss and German Modular Plug



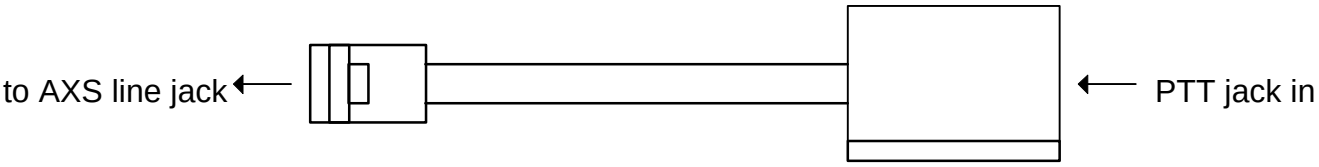
AXS Modular Plug (North American)



Note: ‘a’ and ‘b’ designations correspond to North American ‘Tip’ and ‘Ring’

We are having built 2 telephone adapter cords that will provide these conversions. One of the adapter cables will be a cable of approximately 6” that will have a modular plug, that will go into the dialer’s Line jack, and a receptacle on the other that the domestic line cord from the PTT jack plugs into. This cable will move the dial tone from pins 2 and 3 to 3 and 4 for input into the AXS. The second cable will be a standard 7’ cable with modular plugs on both ends. One end will be configured as a North American cable, dial tone output on pins 3 and 4, which will plug into the dialer’s Drop jack. The other end will be configured so that dial tone will be on pins 2 and 3, which is to be plugged into the telephone.

6” Adapter Cable



Technical Bulletin

System Parameter Data Confirmation Mode

BN : AXS-019 **June 15, 1996**

Data confirmation Mode has been added to the AXS firmware version 088. This mode will give a programmer the ability to retrieve the system parameter settings of a remote dialer. Each parameter must be retrieved individually. The procedure to use this feature is as follows;

1) Enter programming mode on a remote dialer as would normally be done.

2) Once in program mode of the remote dialer enter **0991** then press the Enter key. This will put the remote dialer into Data Confirmation Mode.

3) Now enter the System Parameter you wish to see. For example if you wish to see the DTMF On Timer you would enter 026 and the dialer would output the value that is set. Once you have entered the parameter that you want to check do not press the enter key. It would look like the following **026 06**

4) To return to normal Program Mode you would enter **0990** then press the Enter key.

If you do not take the dialer out of Data Confirmation mode and sign off the remote dialer, it will automatically be returned to normal mode.

Note: This feature is only available with firmware version 088 or later.

Technical Bulletin

Program 23 - Default Extension to Extension Calling

BN : AXS-020 **July 15, 1996**

The Default, program 23, for calling extension to extension when the PBX / Centrex Compatibility has been activated, has been modified in software version 088. Previous to this version, the 60XX instruction contained in program 23 required that the number of digits to be dialed by this instruction be the same as the digit used to turn on PBX Compatibility. For example, if the internal extension numbers of the PBX where the AXS is to be installed is 3 digits long, you would enter a 3 into the PBX Compatibility box of the system parameters screen (06503). Program 23 would look like the following 90 92 **6003** 93 99. This did not allow for PBX systems that had different digit lengths for their extensions, for example 3 and 4 digit numbers.
To accommodate the systems that have the varying digit length, Software 088 allows the 60XX instruction to be 6000. When this instruction is contained in the string, as with the other program strings, an interdigit timer must expire or the Force Continue Digit be dialed to indicate the end of dialing before the AXS will continue to the next instruction. If the system being used only has one digit length for their internal numbers, then, as before, you should enter the same value in the 60XX instruction of program 23 as the number entered in the PBX Compatibility Box. The valid entries for extension digit length are 1 to 6.
The default for program 23 is now changed to **6000 93 99.**

Examples:
Extension digit length of 3 and 4 digits
23 6000 93 99

Extension digit length of 6 digits only
23 6006 93 99

Note: This feature is only available with firmware version 088 or later.

Technical Bulletin

Version 089 Software Changes

BN : AXS-021 **September 6, 1996**

A new system parameter has been added to the software version 089. It is parameter 036X - Ring Detect Cadence. This parameter will allow a user to change the time the AXS will wait at the end of a ring signal for the beginning of the next ring signal, or the call to be answered, before the dialer decides that there is no longer a call coming into the dialer. The valid entries are from 1 to 9 with the default being 6. The default entry, (0366), allows 6 seconds in between rings and should only be changed if the ring cadence of the country where the dialer is being installed is greater than 6 seconds.

A modification has also been made to the program instruction 60XX. Before version 089, if the program string had an entry of 60XX, where XX is a value other than 00, the dialer would dial all the digits in the buffer and not just the XX number of digits if more than XX digits had been dialed by the Drop. An entry of 60XX in version 089 will dial only XX digits from the buffer. The following is an example of the use of this instruction

Drop dials 10 digits, which causes program 01to execute from the match in the Search Table. Program 01 is 6003 5910 810103 6000 93 95 99. Program 01 will dial the first 3 digits that were collected wait 1 second, delete the first 3 digits and dial the remaining digits.

Note: These features are only available with firmware version 089 or later.

Technical Bulletin

Automatic Bin Change in Program String

BN : AXS-022 **June 15, 1996**

A new program instruction has been added to the AXS with firmware 088. This instruction allows General Purpose Bins to be changed automatically within a program string. This will give service providers the ability to change bins that contain authorization numbers thus increasing the security of their service from fraudulent use. The instruction will change the number contained in the bin but will not provide any error checking to be sure that the received number is the one that the switch sent. However, the bin is changed as soon as the number has been sent so you can have the bin sent back to the switch for verification.

Technical Bulletin

Checksum Feature

BN : AXS-023 **January 20, 1997**

A checksum feature has been added to firmware version **090**. Parallel program instruction **30** is used to calculate the checksum value. All the digits dialed after the instruction 30 are used in the checksum calculation. It is calculated by summing the values of each character and taking the total modulo 100. The digits 0-9 have the value of 1-10, the * has the value 11 and the # has the value 12. The digit A has a value of 13, B has a value of 14, c has a value of 15 and D has a value of 0.

Parallel program instruction **31** dials the checksum value to the line.

Note: This feature is only available with firmware version 090 or later.