

October 2013

Dialing the SymNet Analog Telephone Interface with a 3rd Party Control System

The SymNet 2 Channel Analog Telephone Interface card (ATI card) provides a simple and intuitive solution for audio conferencing applications. Acting as a built-in telephone hybrid, the ATI card provides the means for a SymNet Edge or Radius AEC to interface directly with an analog telephone line from the local telephone company or an analog port from a digital PBX. The graphic user interface for the ATI card within SymNet Composer hosts all user controls for dialing a phone number, speed dialing a number, as well as picking up or disconnecting a phone call. The telephony controls are usually accessed by the end user via a SymVue control system or a 3rd party control system.

Crestron and AMX dialer modules have been created and can be downloaded from the Symetrix website. The downloadable folder for each includes the 3rd party dialer module as well as an example SymNet Site File:

<http://www.symetrix.co/products/audio-io-and-control-expansion/#2-line-analog-telephone-interface-card>

There are two different methods in which a phone number can be dialed using the SymNet 2 Channel ATI card.

Dialing a Phone Number One Digit at a Time:

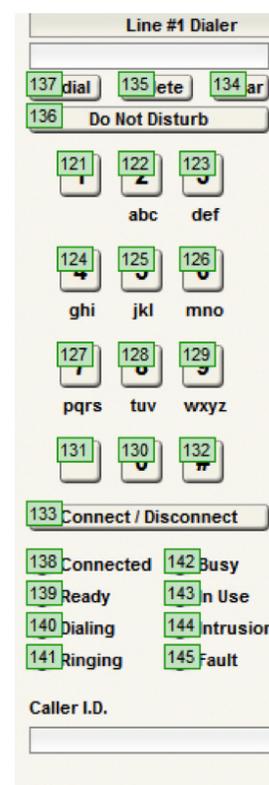
When programming a 3rd party control system to dial the SymNet ATI card, each digit of the telephone number can be triggered one digit at a time by assigning a controller number to each of the ATI dialer buttons and then triggering them using the CS command outlined in the SymNet 3rd party protocol available here: <http://www.symetrix.co/?wpdmdl=8>

Controller Set Command = CS <Controller Number> <Controller Position> <CR>

The advantage to this method is that no special module need be created to dial the phone number. Instead, each digit on the dialer is treated the same as controlling any button or Boolean control in SymNet with a 3rd party control system.

This means the same control code that turns on or off a mute button can also be used to dial a number button on the ATI card dialer GUI.

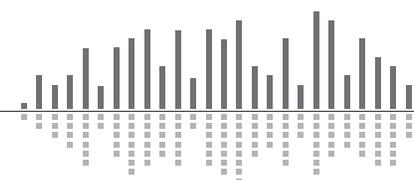
Below is a picture of the ATI card GUI, in SymNet Composer, showing the telephone dialer. This picture was taken from the example SymNet Site file included with the Crestron and AMX ATI dialer modules. Controller #121 through #133 has been assigned to 1-9,0, *, #, and the connect/disconnect button, respectively.



Best Practice: In SymNet Composer, number the controller numbers on the dialpad sequentially to make it easier to control and debug the control strings. Controller numbers can be added by right clicking on the control in SymNet Composer and selecting **Edit Remote Control Assignment**.

As an example, in order to dial the Symetrix phone number, 1-425-778-7728, the third party control system would send the following commands:

```
CS 121 65535r
CS 124 65535r
CS 122 65535r
CS 125 65535r
CS 127 65535r
CS 127 65535r
CS 128 65535r
CS 127 65535r
CS 127 65535r
CS 122 65535r
CS 128 65535r
```



October 2013

After each digit is entered, the Symetrix device will respond with an “ACK” if the command was interpreted correctly or a “NAK” if the controller number does not exist.

After the phone number digits have been entered, the call can be triggered to dial by sending the connect/disconnect button the following command:

CS 133 65535\r

The phone call may be hung up (placed on-hook) by sending the same command again:

CS 133 65535\r

Note: the function of the connect/disconnect button changes depending on if you are connected or not. Always send 65535 for this value and it will toggle the connect states.

Dial a Phone Number Using a Speed Dial:

Some 3rd party programmers may prefer to create a custom dialing module that sends the entire phone number to the ATI card using a single command string, at which point the phone number can be dialed using a second command that dials the speed dial. The basis of using this two command method is that an ATI card speed dial slot is used as a phone number loading dock, and once the phone number has been loaded into the speed dial location, it can be dialed with a single command.

The SymNet ATI card has 20 speed dial locations, so if this method is used one speed dial location must be dedicated to the control system and the end user will 19 remaining speed dial entries.

The command to load the telephone number is the (SSYSS) Set System String command. It is important to note that this command assigns a system string, such as a name or phone number, to one of the speed dial locations and when applicable executing this command will over-write any previous data in the specified speed dial location.

Set System String Command = SSYSS <Unit>. <Resource>.
<Enum>.<Card>.<Channel>=<Value>

<Unit> =In the site view of the SymNet Composer site file, above each unit icon is a number after the dash, e.g. “Edge-1” means <unit> =1. (See picture to right)

<Resource> = 1000 for speed dial number, 1001 for speed dial name.

<Enum> = 0 based count of 0-19, where 0-19 equals speed dial slots 1-20.

<Card> = 0 based count of 0-3 for card slots A-D. (A-D in Edge frame, D only in Radius AEC).

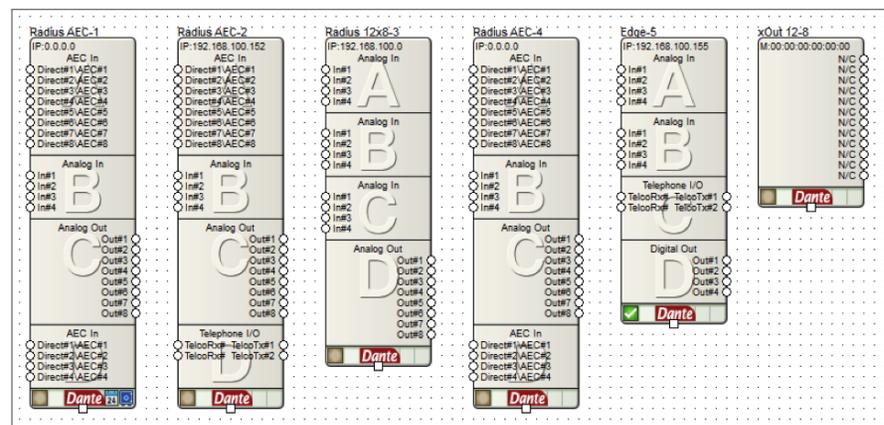
<Channel> =Not applicable for the SSSYSS command since both ATI ch 1 and 2 share all 20 speed dial locations. Use a zero for this portion of the command.

<Value> = the phone number that should be assigned to the speed dial slot defined by <Enum><Card>

Example of SSSYSS:

Notice the ATI card, “Telephone I/O”, in both the Radius AEC-2 and the Edge-5.

If the intention is to store the Symetrix phone number into speed dial slot 20 on the Edge-5 unit’s ATI card in card slot C, the command would be determined as follows:



<Unit> = 5

<Resource> = 1000

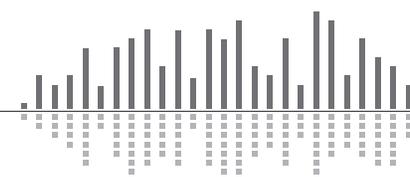
<Enum> = 19

<Card> = 2

<Channel> = 0

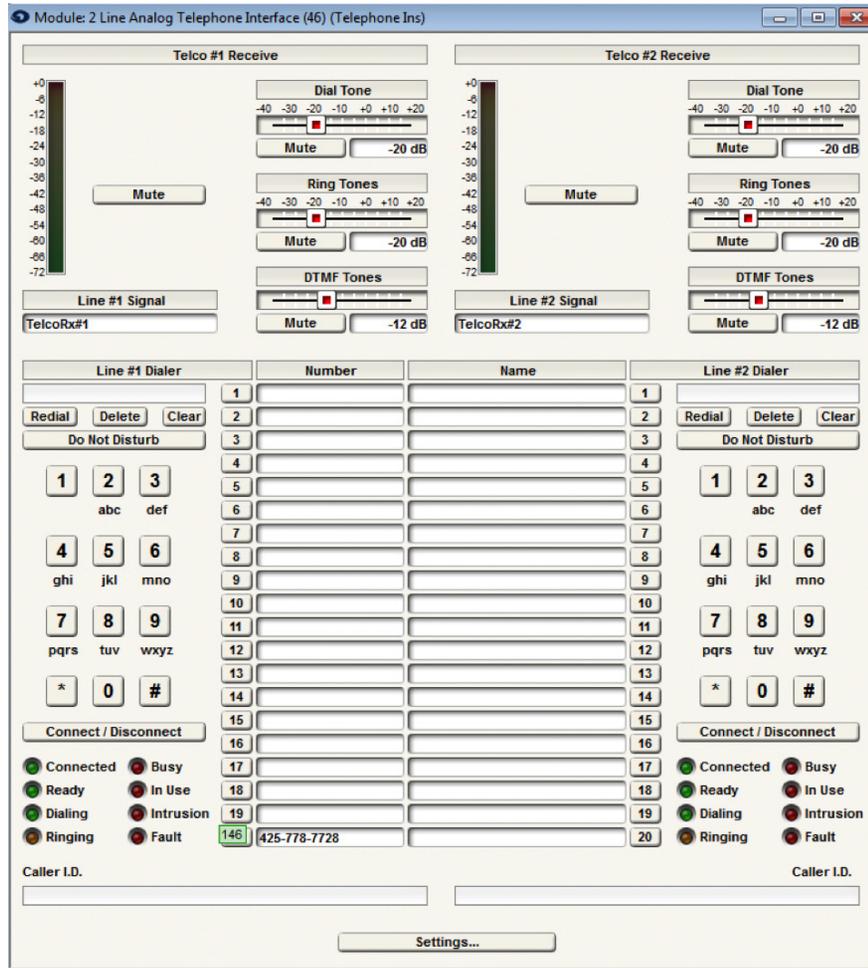
<Value> = 425-778-7728

SSYSS 5.1000.19.2.0=425-778-7728



October 2013

With SymNet Composer online with the hardware, the ATI card GUI would show 425-778-7728 in speed dial entry 20:



Then, once the phone number has been loaded into the speed dial entry, the ATI card can be triggered to dial the number by using the CS command to trigger the speed dial location. In the above example controller number 146 is assigned to speed dial #20 location. As such, CS 146 65535\r would dial speed entry 20

As another example, if the intention is to store the Symetrix phone number into speed dial entry 20 on the Radius AEC's ATI card in card slot D, the commands would be as follows::

- <Unit> = 2 (Device is Radius AEC-2)
- <Resource> = 1000 (This is for the speed dial entry)
- <Enum> = 19 (This is for speed dial 20)
- <Card> = 3 (This is for slot D)
- <Channel> = 0 (Channel is 0)
- <Value> = 425-778-7728

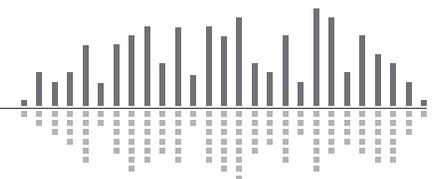
To set the speed dial:

SSYSS 2.1000.19.3.0=425-778-7728\r

To dial the call:

CS 146 65535\r

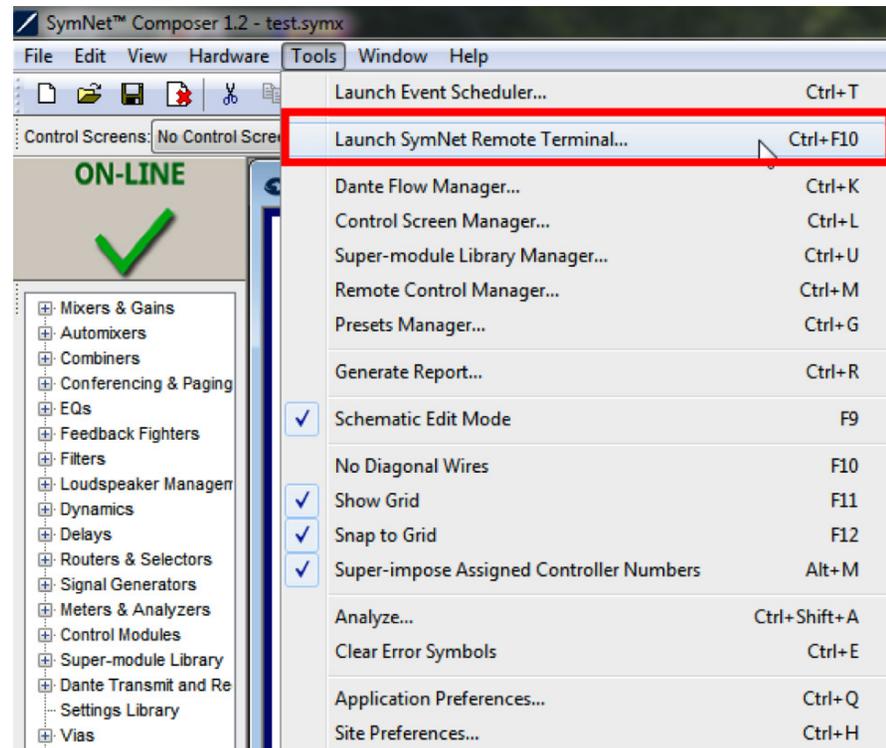
In review, this two command method can be used to load a phone number into an ATI card speed dial location using the SSSYSS command, and then the phone number can be dialed using a single CS command.



October 2013

Testing the API commands

To help understand the command API, it can be helpful to manually type in commands to control the system. The easiest way to do this is with the built-in Remote Terminal application.



To send a command, type it into the command window as shown in the following figure and press enter to send the string to the SymNet device. The command acknowledgments will appear in the window below.

