

July 2014

VoIP Digit Map

The Digit Map (also called the Dial Plan) defines a collection of digit pattern templates that are used to match valid dial strings, for example 7-digit or 10-digit dialing, as the user enters digits.

Once a pattern has been matched, the call is placed using the digits that have been entered. These patterns are used to make it easy for an end-user to dial the requisite digits including internal extensions, emergency numbers and external numbers and have the system dial automatically once the proper number and type of digits have been entered.

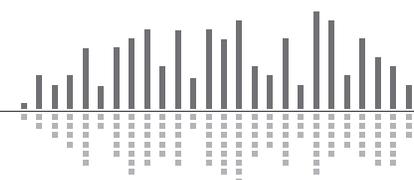
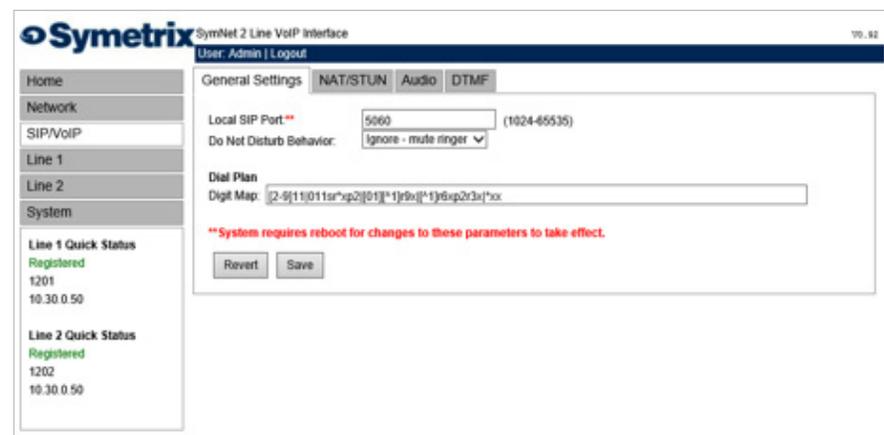
If a user inputs a string of digits that does not match any of the patterns in the dial string the input will be halted and the user will receive an “Input Error” accompanied by the “Busy” LED blinking.

If the dial string input by the user matches a pattern but does not complete it and the system has not received input before the timeout has been reached, the default action will be to dial the partial match. This behavior can be changed by adding an “f” to the beginning of the entire pattern template, which causes it to fail on timeout instead of dial. The digit map has no effect when digits are dialed while the phone is on-hook and then taken off-hook because taking the phone off-hook tells the system to dial the digits that have been entered.

The Digit Map is configured using the VoIP Web Admin tool. This tool is accessed either by clicking either one of the “Launch Web Admin” buttons from the Configuration Settings window accessible from the VoIP GUI, or by browsing to the address <IP address of SymNet 2 Line VoIP card>:<port number>, for example 192.168.0.100:60004.

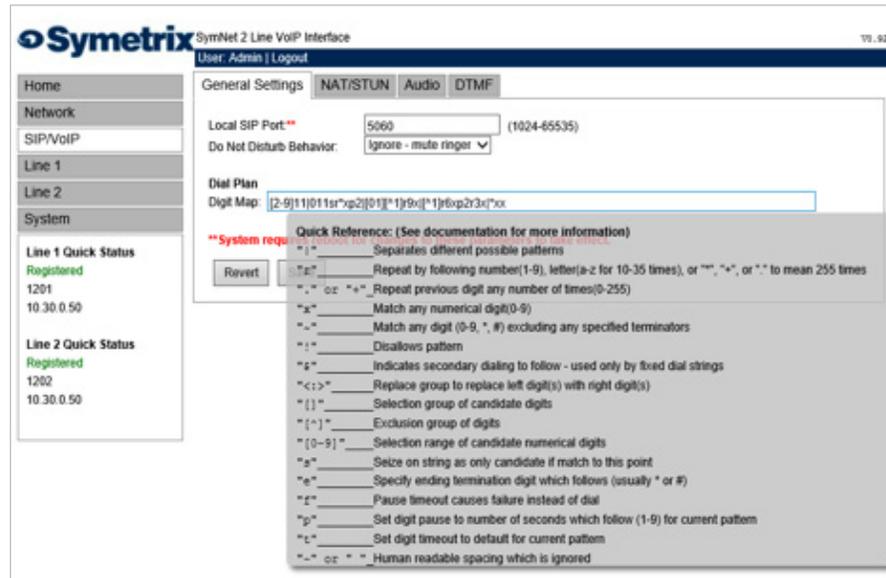
Note that the port number depends on the slot occupied by the VoIP card. Slots A, B, C and D use ports 60001, 60002, 60003 and 60004 respectively. The Radius AEC uses port 60004, because its only expansion slot is “D”.

The digit map is defined once per system and affects both registrations.



July 2014

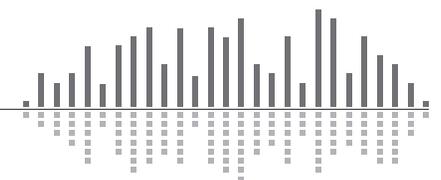
A quick reference can be accessed by placing the pointer of the mouse over the Digit Map field.



The following table provides a quick summary for all possible Digit Map parameter values.

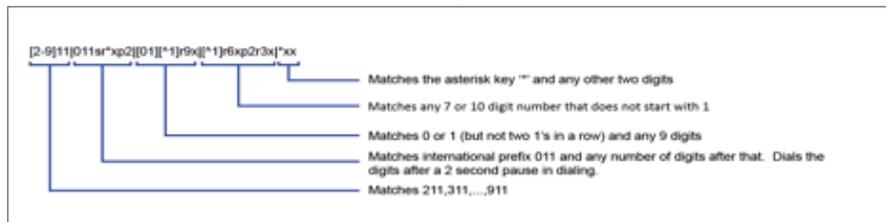
Parameter	Description
" "	Separates different possible patterns
"r"	Repeat by following number (1-9), letter (a-z for 10 to 35 times) or "*", "+", or "." to mean 255 times
".", " or "+"	Repeat previous digit any number of times (0 to 255)
"x"	Match any numerical digit (0-9)
"q"	Discount pattern as possible match if more digits are input (suffix), (if an additional digit is pressed outside of the scope of the preceding pattern, disqualify that string as a possible match and look for another match elsewhere)
"~"	Match any digit (0-9, A-D, *, #) excluding any specified terminators
"!"	Disallows pattern (suffix)
"\$"	Indicates secondary dialing to follow - used only by fixed dial strings
"<>"	Replace group, replace left digit(s) with right digit(s)
"[]"	Selection group of candidate digits
"[^]"	Exclusion group of digits
"[0-9]"	Selection range of candidate numerical digits
"[a-d]"	Selection range of candidate letter digits
"s"	Seize on string as only candidate if match to this point
"e"	Specify ending termination digit which follows (usually * or #)
"f"	Pause timeout causes failure instead of dial (prefix)
"p"	Set digit pause to number of seconds which follow (1-9) for current pattern
"t"	Set digit timeout to default for current pattern
"_" or " "	Human readable spacing which is ignored

Each of the above parameters, when not used as an informational character, will represent a single digit. This includes if the parameter uses multiple characters for informational reasons.



July 2014

Below is a detailed view of the default Digit Map:



The following examples show how individual patterns are matched:

[3469]11

Allow 311, 411, 611 and 911

Each of the items represented in the [] are seen as a single digit. This means “3 or 4 or 6 or 9” plus “11”

1900r7x!

Disallow a 1-900-XXX-XXXX number.

This will tell the system to look at the first four (4) digits of the entered number, and if they match “1900” drop to a failed tone.

976r4!

Disallow a 976-XXXX number from being dialed

This will tell the system to look at the first three digits of the entered number, and if they match “976” drop to a failed tone.

1800r7x

Allow a 1-800-XXX-XXXX number

This will tell the system to look at the first four digits of the entered number, and if they match “1800” dial using 1800 plus the remaining seven digits.

[^1]r6x

Allow a seven digit number not starting with 1, (2XX-XXXX – 9XX-XXXX)

This will tell the system to look at the first digit, if it is a “1” discount the input as a possible match. However if the string starts with any number between “2-9”, then dial using that digit plus the remaining 6 digits.

11[02]Allow 110 and 112

This tells the system to match the digits “11” and either “0” or “2”. For German emergency services, 110 is the Police and 112 is the Fire Brigade.

Some examples for various extensions:

“4xxq” – Matches 3 digit extension beginning with “4”

“4xxxq” – Matches 4 digit extension beginning with “4”

“4r4xq” – Matches 5 digit extension beginning with “4”

“4xxp1xq” – Matches 3 and 4 digit extension beginning with “4”

“4xxp1xp1xq” – Matches 3, 4, and 5 digit extension beginning with “4”

The final “q” in the above strings tells the system that if an additional digit is pressed outside of the scope of the preceding pattern, disqualify that string as a possible match and look for another match elsewhere.

1010Se#e*p2r*x

This pattern tells the system to match a “0”, then after pushing a “*” or “#”, allow the user to enter in as many digits as the system can handle, then dial the entire string.

To set up a dial pattern that would allow the user to easily dial between two services, use the <:> symbol. By putting <[89]:> as part of the dial pattern, the system will replace an “8” or “9” with a null value, and continue pattern matching as necessary. For example: “<[89]:>r7x”, as long as the first digit is an “8” or nine “9”, this pattern will take the set of numbers, remove the first number, and dial out using the remaining seven digits. The user can then put an “8” as part of the pattern recognition string for one provider, and “9” as part of the pattern recognition for another provider. This will allow users to easily dial between providers with similar numbers.

If one enters two different patterns which could be easily confused, the system will choose the first pattern that is matched. For example, if two patterns, one for eleven digits followed by one for twelve digits, the system will not wait for the twelfth digit, as it will match to the eleven digit pattern first.

