NEC

DSX

AccessLine SIP Trunk Setup

February 27, 2013

Issue 1.00

NEC Corporation of America
6535 N. State Highway 161
Irving, TX 75039-2402

Communications Technology Group

Revision History		
Issue	Date	Revisions
1.00	2/27/13	• Initial release.

Contents

Tables

1 Overview

The DSX is compatible with AccessLine SIP Trunking. This setup guide summarizes the account information you will receive from AccessLine and provides step-by-step instructions on how to program that information into the DSX.

You can set up SIP trunks as standard loop start lines or DID lines. All the feature available with other types of loop start and DID lines are also available with AccessLine SIP trunks. For details on the features available with loop start and DID lines, refer to the on-line DSX Software Manual at: http://www.necdsx.com/docs/dita/dsx_v3_complete/index.html

2 AccessLine Setup

To set up your SIP Trunking account, contact AccessLine at http://www.accessline.com. Once your account is set up they will provide you with the following service information:

Table 1: AccessLine Account Information

Option	Description
AccessLine Domain	The AccessLine domain is the FQDN to which the DSX SIP lines will connect. This is normally: *usbc.accessline.com*
SIP Port	This is the SIP port AccessLine will use to connect to the DSX. It is normally: *6060*
SIP Trunk ID	The SIP Trunk ID is the username for your AccessLine SIP account.
Password	This is the password for your AccessLine SIP account.
DID(s)	These are the telephone numbers that users will dial to reach you over your AccessLine SIP trunks.

3 System Router Setup

3.1 NAT and SIP

In the router to which the DSX is connected, enable NAT and disable all special SIP management features (such as SIP ALG).

3.2 Port Forwarding

Forward UDP ports 6060 and 1024 through 1215 to the DSX system's IP address, which is required for remote IP extensions. If you have no remote IP extensions, do not port forward.

DSX VoIP Resources

Each SIP line uses an IP resource (licensed VoIP port) in DSX. The maximum number of VoIP licenses is 8 in DSX-40 and 16 in DSX-80/160.

Example with DSX-40:

- The first SIP line in a DSX-40 without a COIU expansion card is line 5. Available SIP line numbers are 5-12.
- With the COIU expansion card installed, the first SIP line is line 9. Available SIP line numbers are 9-16.
- DSX-40 supports a maximum of 8 VoIP licenses. When the total number of licenses are in use, only Peer-to-Peer calls are available.

Example with DSX-80/160:

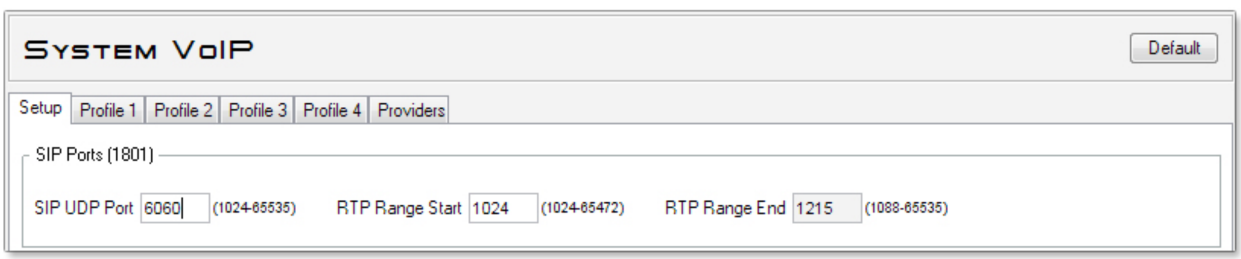
- The first SIP line in a DSX-80/160 with a single 8COIU card is line 9. Available SIP lines are 9-17.
- The last line number in DSX-80/160 is 64. In a system with an 8COIU and two T1/PRI cards, this will limit the available number of SIP lines.
- DSX-80/160 supports a maximum of 16 VoIP licenses. When the total number of licenses are in use, only Peer-to-Peer calls are available.

4 DSX Setup

4.1 Software Level

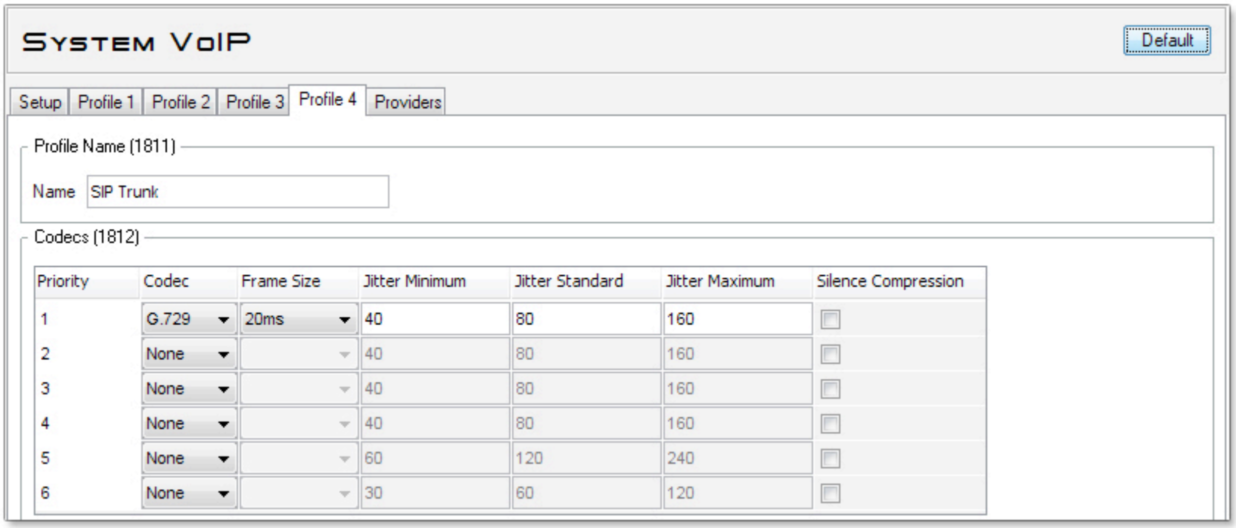
3.42.04 or higher.

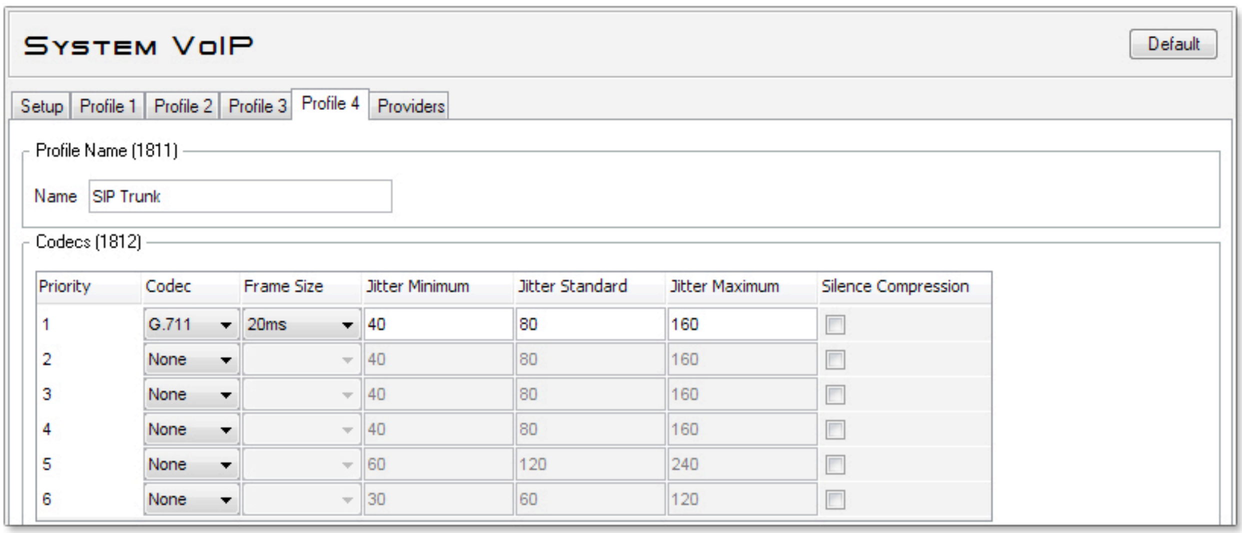
4.2 Basic SIP Setup



1801-01: SIP UDP Port [SYSTEM: VOIP: SETUP]
Assign the SIP UDP port to *6060*. (The default is *5060*.)

4.3 CODEC Setup

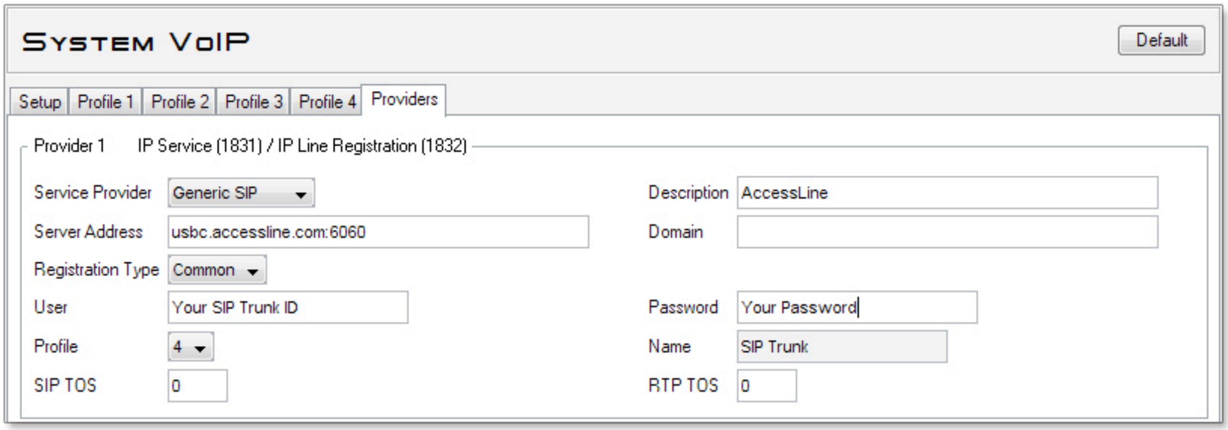




1811/1812 [SYSTEM: VOIP: PROFILE 4: CODECS]
Assign the Priority 1 CODEC in Profile 4 as either *G.729@20ms* or *G.711@20ms*. Priority settings 2-6 must be *None*. ***Use one or the other – never both***.

The G.711 CODEC provides better voice quality but uses more bandwidth. G.729 uses less bandwidth but sacrifices some voice quality. Choose the CODEC that works best in your area.

4.4 AccessLine Account Setup



1831/1832: Provider [SYSTEM: VOIP: PROVIDERS: PROVIDER 1)]
For *Service Provider*, select *Generic SIP* (*00* in telephone programming). DSX supports up to two providers simultaneously.

For *Description*, enter a descriptive 18-character name for your AccessLine account.

In *Server Address*, enter *usbc.accessline.com:6060*.

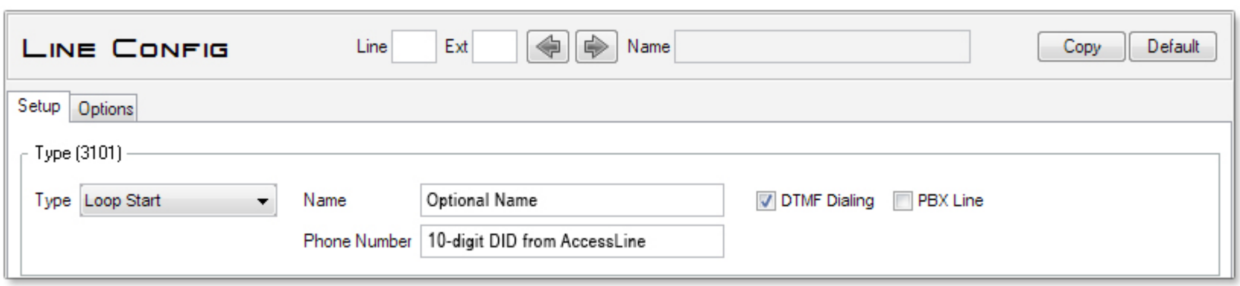
For *Registration Type*, select *Common* (*01* in telephone programming).

In *User*, enter the account *SIP Trunk ID* provided to you by AccessLine.

For *Password*, enter the account *Password* provided to you by AccessLine.

The remaining fields on this page should be left at their default settings.

4.5 Assign Line Type and DID Numbers



The first DSX SIP line is the first line beyond the last assigned line. In a base DSX-40, for example, your SIP lines would begin with line 5.

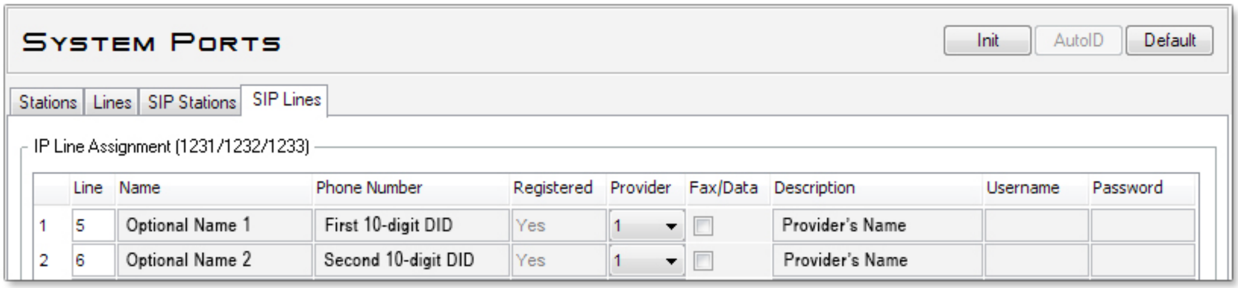
3101-07: Telephone Number [LINES: CONFIG: SETUP: TYPE: PHONE NUMBER]
For each of your SIP lines, enter one of the DID numbers provided by Access Line.

3101-01: Line Type [LINES: CONFIG: SETUP: TYPE: TYPE]
Your SIP lines can be either Loop Start or DID Immediate Start.

Loop Start
With Loop Start lines, the number entry in 3101-07 can either be unique for each line or the same. With unique entries, DSX operates as a “square key” where each line has its own line key. With identical entries, DSX provides a top down line rotary limited only by the number of concurrent circuits provided by your AccessLine account. With 6 lines set up this way, for example, line 6 rings first, followed by line 4, then line 4, etc.

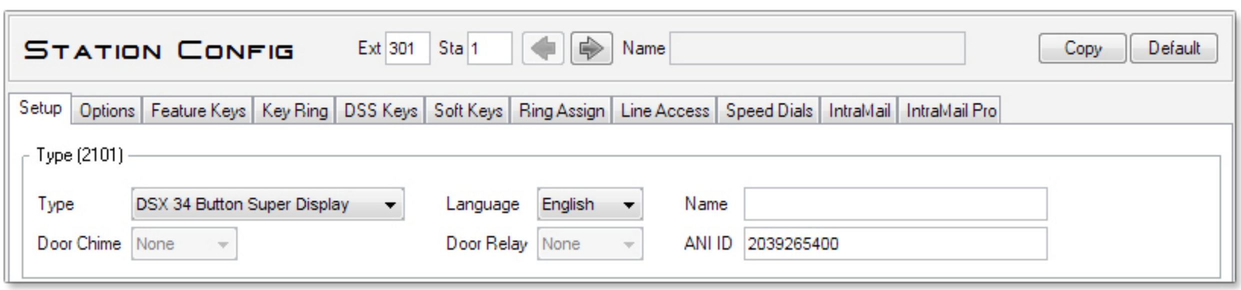
DID
When set for DID, calls route into the DID table (*3301/3302* [LINES: DID]) like any other DID line based on the number the caller dialed.

4.6 Assign SIP Lines



1231/1232/1233 [SYSTEM: PORTS: SIP LINES]
The first DSX SIP line is the first line beyond the last assigned line. The example above shows two SIP lines enabled in a base DSX-40. Under *Line*, enter *5* and *6*, select your provider from the *Provider* drop-down and the rest of the fields will fill in automatically. If the data you entered in the other programs is correct, after about 20 seconds *Registered* will show *Yes*. You can then start using your SIP lines to place and answer calls.

4.7 Extension Level Caller ID



2101-05: Outgoing ANI ID [STATIONS: CONFIG: SETUP: TYPE: ANI]
DSX and AccessLine SIP lines support Extension Level Caller ID. If Caller ID is enabled for the SIP line (*3121-01: Caller ID* [LINES: CONFIG: SETUP: CALLER ID SETUP]), DSX will deliver the DID number (*3101-07: Telephone Number* [LINES: CONFIG: SETUP: TYPE: PHONE NUMBER]) as the CID data. However, if an alternate number is entered in the extension's ANI option, that alternate number will be delivered instead.

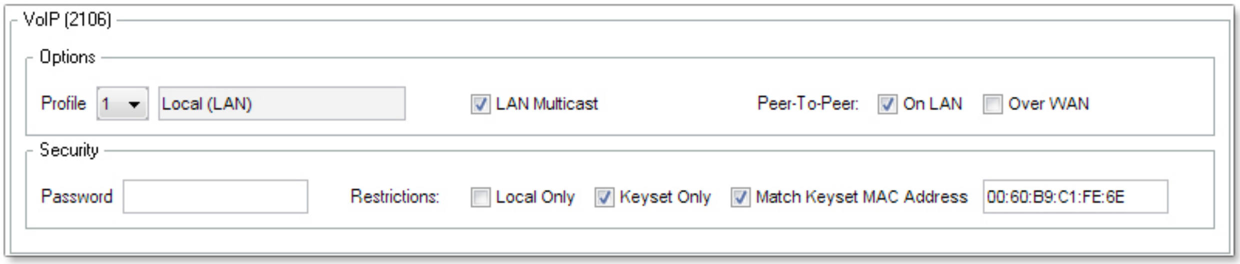
In the above example, when extension 301 places a call over the SIP line, the system will deliver 2039265400 as the CID data, not the line's DID number.

4.8 Fax Setup

Fax services with AccessLine require a SIP line using CODEC type G.711 with inband DTMF. If you have AccessLine SIP lines using G.729, you must request a separate account from AccessLine that you can set up with G.711. The option *1232-04: Fax/Data Line* [SYSTEM: PORTS: IP LINES: IP LINE ASSIGNMENT: FAX] cannot work with AccessLine since a G.729 account will not switch to G.711.

Note that T.38 fax is not supported.

4.9 Remote IP Extensions and Security



2106 [STATIONS: CONFIG: SETUP: VOIP]

To help ensure the integrity of their SIP services and minimize the likelihood of toll fraud, AccessLine requests that remote SIP endpoints registered with the DSX be DSX IP Keysets with MAC address matching enabled. Remote endpoints that do not match these requirements will be unable to register with the DSX.