SIP Trunking using the Optimum Business Sip Trunk Adaptor and the ESI-100 IP-PBX

Table of Contents

1 Overview

The purpose of this configuration guide is to describe the steps needed to configure the ESI-100 PBX for proper operation with Optimum Business Sip Trunking. The steps below describe the basic configuration required to enable the PBX to use Optimum Business SIP Trunking for inbound and outbound calling. Please refer to the ESI-100 PBX documentation to configure advanced PBX features.

2 Prerequisites

Please follow the instructions in the Optimum Business SIP Trunk Set-up Guide. The set-up guide was left by the Optimum Business technician at installation. If you do not have the set-up guide, go to optimumbusiness.com/sip to download a copy. The set-up guide describes the steps needed to configure the LAN side of the Optimum Business SIP Trunk Adaptor (Edgewater 4552).

This configuration guide provides the configuration steps for both PBX registration and Static IP or non-registration modes of PBX operation.

The PBX used in the lab comprises of the following:

Table 1 – PBX Information

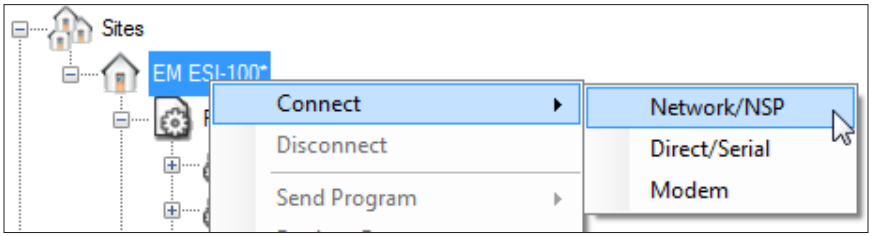
Manufacturer:	ESI
Model:	ESI-100
Software Version:	12.5.25.0
Does the PBX send SIP Registration messages (Yes/No)?	Yes
Vendor Contact:	www.esi.com

3 ESI-100 Configuration

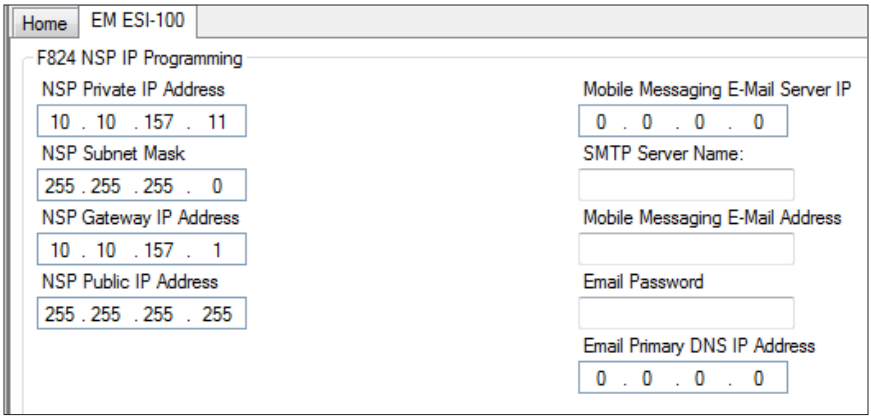
The configuration described here assumes that the PBX is already configured and operational with station side phones using assigned extensions or DIDs. This configuration is based on ESI-100 version 12.5.25.0.

3.1 Network Settings

The ESI-100 system includes a management, SIP, and RTP port. They are 10.10.157.11, 10.10.157.12, & 10.10.157.13 respectively and all utilized the /24 netmask. To modify network settings first right click the site name and connect to **Network/NSP**.



Navigate to **Program→F8 IP Programming→F82 Local Programming→F824 NSP IP Programming** and enter the address of the management port under **NSP Private IP Address** and the address of the Optimum Business Sip Trunk Adaptor under **NSP Gateway IP Address**.



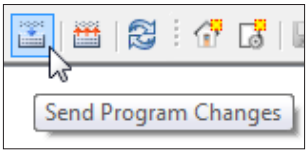
Next navigate to **Program→F8 IP Programming→F84 SIP Card Configuration Programming**. Under **Card Type** what should be selected is **SIGNALING**. The **Primary Processor IP** field is essentially the SIP port which will be used for signaling. The IP address of the Optimum Business Sip Trunk Adaptor should be entered under **Gateway IP**. The **Primary Processor** (SIP IP) address can be entered in the **Public IP field**. The **Secondary Processor IP** field will contain the IP address of the RTP port.

Note: The Card number should correlate to the slot being used. In this case it was slot 2.

F84 SIP Card Configuration Programming

Card	Support Password	Card Type	Primary Processor IP	Subnet Mask	Gateway IP	NAT Traversal	Public IP	Secondary Processor IP	Primary DNS IP	Secondary DNS IP
2	73829164	SIGNALING	10.10.157.12	255.255.255.0	10.10.157.1	☐	10.10.157.12	10.10.157.13	4.2.2.2	8.8.8.8

When done click Save followed by the **Send Program Changes** button above.



3.2 SIP Programming

To program SIP the SIP port must initially be given an IP address. Navigate to **Program→F8 IP Programming→F84 SIP Card Configuration Programming** and assign an IP address to the SIP port under **Primary Processor IP** which in this case is 10.10.157.12 /24.

Card Type	Primary Processor IP	Subnet Mask
SIGNALING	10.10.157.12	255.255.255.0

Next navigate to **Program→F2 CO Lines→F21 CO Lines→F214 SIP Line Programming→F2142 SIP Account Programming**. The **Prov. Num**. field should be 1. The **ITSP Name** here was "ESI". The selected vendor was **COX CABLE –BD** and the **Signaling Card** was **2**. **Note**: Due to the limited number of options under Vendor to select, the COX CABLE –BD option was the one selected for registration mode. VOXITAS –FS in turn was selected for Static Mode.

The Pilot DID, credentials, and SIP information should be entered in the fields that follow. The address of the Optimum Business Sip Trunk Adaptor should be entered under **ITSP URI** and **Outbound Proxy**. The RTP port range was "10000-11000" and the codec **711**.

F2142 SIP Account Programming

Prov. Num.	ITSP Name	Vendor	Signaling Card	Primary Number	Acct. Name	Acct. Password	Local SIP Port	Registration Expiration	ITSP URI	Outbound Proxy	Min. Rtp. Port	Max. Rtp. Port	Codec	AssertIdHeader
1	ESI	COX CABLE -BD	2	4085555555	4085555555		5060	3600	10.10.157.1	10.10.157.1	10000	11000	711	

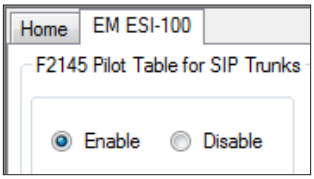
Now navigate to **Program→F2 CO Lines→F21 CO Lines→F214 SIP Line Programming→F2141 SIP Trunk Programming**. The ITSP Name which in this case was "ESI" should be included for SIP Trunks 24-31 as shown. **ID 1** under **Ring 1 (Day)** represents the Auto Attendant.

F2141 SIP Trunk Programming

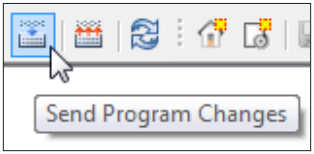
Day Night

	Number	Name	Outbound Group	Ring Tone	ITSP Name	Ring 1 (Day)
▶	24		9	0	ESI	ID 1
	25		9	0	ESI	ID 1
	26		9	0	ESI	ID 1
	27		9	0	ESI	ID 1
	28		9	0	ESI	ID 1
	29		9	0	ESI	ID 1
	30		9	0	ESI	ID 1
	31		9	0	ESI	ID 1

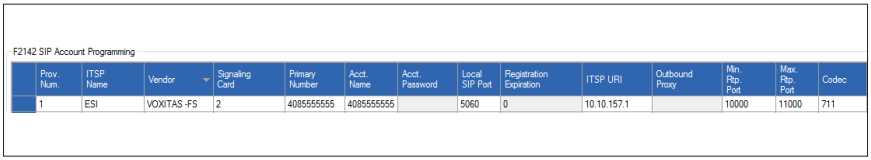
Finally select **Enable** under **F2145 Pilot Table for SIP Trunks** as displayed below.



When done click **Save** followed by the **Send Program Changes** button above.



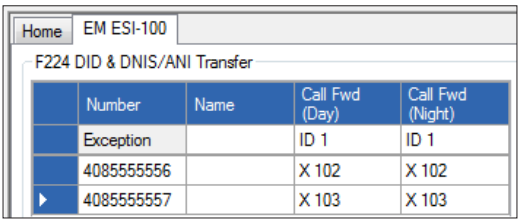
For Static mode exclude the credential section under **F2142 SIP Account Programming** and confirm the device's SIP port address remains specified under **F84 SIP Card Configuration Programming**. The vendor option can be one that excludes the registration fields. VOXITAS -FS in this example was chosen.


F2142 SIP Account Programming

Prov. Num.	ITSP Name	Vendor	Signaling Card	Primary Number	Acct. Name	Acct. Password	Local SIP Port	Registration Expiration	ITSP URI	Outbound Proxy	Min. Rtp. Port	Max. Rtp. Port	Codec
1	ESI	VOXITAS -FS	2	4085555555	4085555555		5060	0	10.10.157.1		10000	11000	711

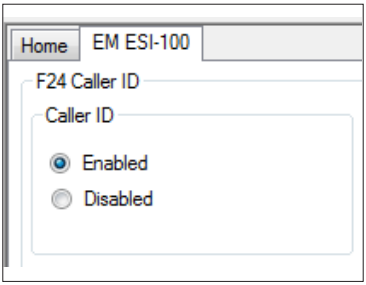
3.3 Extensions/DID

To configure extensions and DIDs navigate to **Program→F2 CO Lines→F22 CO Access Deny Tables→F224 DID & DNIS/ANI Transfer**. Click **Add** from below then click the empty field under **Number**. Here is where the DID will be entered. Under **Call Fwd (Day)** and **Call Fwd (Night)** simply right click and select an available extension and this will be mapped to the entered DID.

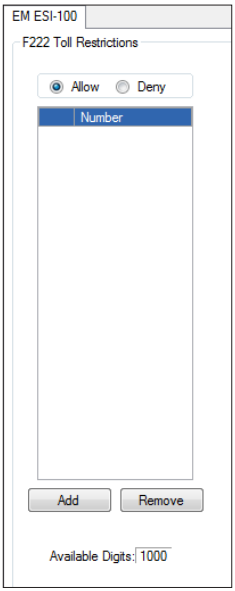


The **Exception** field defines the default route, in this case it is the Auto Attendant depicted as **ID 1**.

Navigate to **Program→F2 CO Lines→F24 Caller ID** and select **Enabled** under **Caller ID**.



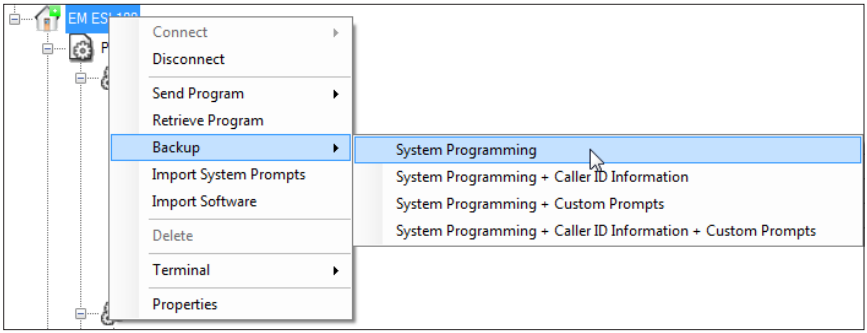
To control the behavior of particular outbound numbers navigate to **Program→F2 CO Lines→F22 CO Access Deny Tables→F222 Toll Restrictions** and here numbers can be allowed or denied.



Note: The Cablevision network supports Inband DTMF only. ESI uses Inband DTMFby default and this is not an configurable option.

3.4 Backup/Restore

To backup the device file simply right click the site and navigate to **Backup** followed by **System Programming**.



Once a backup has been performed, a backup folder will appear under **Program**. Right click this folder to restore.