

NAPT

(SV8100 version 6.0 or higher)

NAPT, or **Network Address Port Translation**, is a method by which a private address or addresses and their TCP/UDP ports are translated into a single public address and its TCP/UDP ports. In the case of IP phones with the SV8100 it allows their connection to a public (internet) IP address which is then converted back to the private (non-internet) IP address on the customers network. The translation is available at the SV8100 end as well as at the remote IP Phone end of the connection if required. The feature is **NOT** available for IP-CCIS and Netlink connections.

Note 1: The NAPT (Network Address Port Translation) requires a license pre-loaded to the CP00. [License code 0031](#) must have a quantity of 1 and can be confirmed with CM 10-50-01 or via PCPro or WebPro.

Note 2: The new NAPT feature is only available when using an IPLB card. If an IPLA card is inserted the old NAPT method must be used.

CPU Setup

10-46: DT700 Server Information Setup

14 - NAT Mode



Step 1:

Enable command 10-46-14

Step 2:

Command **10-12-07** assign the routers WAN IP (Public) address the SV8100 resides behind.

Note: CM **10-12-06** is not required for NAPT to IP stations. This should only be selected when utilizing NAPT for SIP trunks to a provider. This public IP address provided by the ISP **MUST** be static and should not change.

10-12: CD-CP00 Network Setup

01 - IP Address	<input type="text" value="0.0.0.0"/>
03 - Default Gateway	<input type="text" value="192.168.1.1"/>
06 - NAPT Router	<input type="checkbox"/>
07 - NAPT Router IP Address	<input type="text" value="15.0.0.6"/>
09 - IPLA IP Address	<input type="text" value="192.168.1.10"/>
10 - IPLA Subnet Mask	<input type="text" value="255.255.0.0"/>

10-58: DT700 Intranet Local Network Area Setup

Area Table	IP Address	Subnet Mask
1	<input type="text" value="10.0.7.0"/>	<input type="text" value="255.255.255.0"/>
2	<input type="text" value="0.0.0.0"/>	<input type="text" value="0.0.0.0"/>

Optional Step 2a:

If there are other networks connected to this system that are not to be routed through the NAT translations then these networks must be identified in command 10-58.

An **example** of this would be if you had Remote IP Phones setup in a distant network that connected to the MAIN site through VPN. In this scenario you do not want the traffic for the VPN to run through the NAT translations so the destination address would be assigned.

Step 3:

Command **15-05-45**, per IP phone using this feature, must be set to **ENABLE**.

If this program is set to **DISABLE** then port forwarding at the Remote location **will** be required.

If this program is set to **ENABLE** then port forwarding at the Remote location **IS NOT** required.

Note – Port forwarding at the MAIN site is still required in both modes.

System Data

15-05 : IP Phone Basic Setup

45 - NAT Plug and Play

Enable

Apply Refresh Home Copy Copy Group

Extension

Router Setup – SV8100 Site



Port Range Forwarding | Port Triggering | UPnP Forwarding | DMZ

	Port Range		TCP UDP		IP Address	Enabled
Application	Start	End	TCP	UDP		
signal	5080	5081	UDP		192.168.1.10	<input checked="" type="checkbox"/>
voice	10020	10083	UDP		192.168.1.11	<input checked="" type="checkbox"/>
	0	0	Both		192.168.1.0	<input type="checkbox"/>
	0	0	Both		192.168.1.0	<input type="checkbox"/>
	0	0	Both		192.168.1.0	<input type="checkbox"/>

Step 1:

Port Forwarding must be done in the router that the SV8100 resides behind. The above screen shot is an example of a typical GUI setup available with most routers that can perform the NAPT function.

Ports **5080 & 5081** must be forwarded to the IP address in command **10-12-09**.

Ports **10020 – 10051** must be forwarded to the first IP address in command **84-26**.

Ports **10052 – 10083** must *also* be assigned to the first IP address in command **84-26**.

The above example is for a 32IPLB. A 64IPLB or 128 IPLB would required the assignment of additional port numbers as defined in command 84-26.

IP Terminal Setup

Note: Terminals must be version 3.0.0.0 or higher to support the NAPT feature

The below settings are assigned via the configuration mode of the IP Terminal. They can also be set up via a GUI by browsing to the IP address of the terminal.

To enter this mode hold down the **MENU** key. The login is **ADMIN** and password **6633222**

Step 1:

(2) SIP Settings

(8) NAT Traversal

(1) NAT Traversal Mode

(1) **Disable:** *This disables the NAPT feature in the terminal*

(2) **Dynamic:**

This setting is used to automatically acquire the WAN IP address of the router that the IP terminal resides behind.

(3) **Static:**

This setting would be used when the IP terminal could not acquire the WAN IP address of the router that it resides behind. Some routers do not support Dynamic NAT and these routers would require you to statically assign the routers WAN IP Address here.

Step 1 continued:

It is recommended to use **Dynamic** NAT.



Note: *It is recommended to use Dynamic NAT and to leave this command unassigned. The reason for using Dynamic NAT is the local router may not have a static IP address assigned and periodically receives a different Public IP address. With Dynamic NAT set the phones will update the change in address when it happens. With static NAT selected any change in the Public IP address would require the user to update the phone each time a change is detected.*

Step 2:**(2) SIP Settings****(8) NAT Traversal****(3) WAN Settings****(1) WAN Mate IP Address:**

Assign the **WAN IP address** that is assigned in command **10-12-07**.

Note: This is the WAN Address of the router the SV8100 resides behind.

(2) WAN SIP Mate Port:

Change this to **5080**

Note: This is the port number assigned in command **10-46-06**

(3) WAN Self IP Address:

If the phone is set to **Static NAT**, then assign the **WAN IP Address** of the router that the IP Phone resides behind.

Note: If the phone is set to Dynamic NAT, leave this set to 0.0.0.0

**Step 3:**

Save all the settings and allow the phone to reset and test.

The IP terminal should then come online and have speech path in both directions on a call in progress.

Multiple IP Phones behind the same NAT

Step 1:

(1) Network Settings

(6) Advanced Settings

(5) Self Port Settings

(1) RTP Self Port:

At default this is assigned to port **3462**. The first IP phone on this local LAN can use this port. The second IP phone would need to be changed to port **3464**, the third IP phone would be changed to **3466**, the fourth IP phone would be changed to **3468**, etc, etc.

(2) SIP Self Port:

At default this is assigned to port **5060**. The first IP phone on this local LAN can use this port. The second IP phone would need to be changed to port **5062**, the third IP phone would be changed to **5064**, the fourth IP phone would be changed to **5066**, etc, etc.



Save these settings and reset the IP phone. If the first IP phone came online using Dynamic NAT then the other phones should follow also using Dynamic NAT.

Note – The above settings are only required when multiple NAPT phones are setup on the same Remote location. If there are NAPT phones at multiple remote locations, containing only 1 phone at each site, then the ports do not have to be re-assigned.