

Network Configuration Information for Network Administrators

Introduction

This document explains how to enter IP (Internet Protocol) addresses in Novar's Logic One® Exec32 devices (Savvy®, Envoi®, Envoi/2, and Lingo®). It accommodates static IPs, BootP (automatic IP assignment), name services, and IP aliases.

The document is divided into the following sections:

- Configurations
- Address Entry Procedures
- Workstation Connection Hierarchy
- Definitions

Configurations

Procedures used to set up the addressing scheme(s) for Novar's executive modules (referred to as "units" in Novar's Engineering and Support System software [ESS32]) might vary slightly from one site to the next, depending on each site's networking needs (i.e., the need to apply static or automatic IP address assignments and use various connection techniques).

Both the unit and the workstation that will be connected to it must be set up properly. The following table indicates the procedures to be used.

Table 1. Unit and Workstation Configurations				
UNIT REQUIRES	WORKSTATION REQUIRES	OR WORKSTATION REQUIRES	USE PROCEDURES ^B	
			UNIT	WKSTN.
Static IP	Matching static IP	Nothing additional	A	C
Static IP	Host name	Nothing additional	A	E
Static IP/DNS ^A	Host name	Nothing additional	A,F	E
Static IP	IP alias	Nothing additional	A	D
Static IP/DNS ^A	IP alias	Host name	A, F	D
BootP	Host name	Nothing additional	B	E
BootP/DNS ^A	Host name	Nothing additional	B, F	E
BootP IP	IP alias or matching BootP	Nothing additional	B	D
BootP/DNS ^A	IP alias or matching BootP	Host name	B, F	D

^A DNS configuration is required at the unit only if alarm reporting and/or unit-to-unit access requires Names Services. (Most sites do not require these features.)

^B The procedures listed in this table are provided in "Address Entry Procedures" below.

The following address entry procedures are cited in Table 1:

- Procedure A: Setting a Static IP Address at the Unit
- Procedure B: Setting a BootP IP (Automatic Assignment) Address at the Unit
- Procedure C: Setting a Static Unit IP Address at the Workstation
- Procedure D: Setting a BootP IP or IP Alias Address at the Workstation
- Procedure E: Setting a Host Name at the Workstation
- Procedure F: Setting a DNS Server Address at the Unit

These procedures are outlined in detail later in this document.

Address Entry Procedures

During commissioning of a Logic One site, the unit must be configured. Starting with ESS32 Version 4.41.0, various unit settings (IP settings, Web Server setting, DNS settings, etc.) are applied through the Unit EEPROM Configuration screen to ensure that the addresses are properly applied to both the unit and the remote system files.

The following procedure can be used to access the EEPROM Configuration Display, connect to the unit, and display its current settings.

Connecting to the Unit through Unit EEPROM Configuration

Step	Procedure
1	Access the ESS32 Main Menu—Modes of Operation screen.
2	Select 4 (Utilities) and press enter .
3	Select 4 (System Diagnostics) and press enter .
4	Select 17 (Unit EEPROM Configuration) and press enter .
5	Select Y (Yes) at the “Connect in Configuration Mode” prompt.
6	<p>Enter the appropriate access number in the NAME/NUMBER field and press enter.</p> <ul style="list-style-type: none">■ If connecting with a modem, enter the phone number.■ If connecting with RS-232 direct connect, enter any number (e.g., 111).■ If connecting by Ethernet[®], enter the unit’s IP number. <hr/> <p>NOTE! The default IP number is 10.15.60.75. The current IP settings can be viewed from the unit touchscreen by pressing the Logic One logo when the unit is powered up and entering 1234 as the access code for the boot menu.</p> <hr/>

continued

Step	Procedure
7	Use the keyboard arrow keys to move the cursor to and highlight the appropriate connection method and press enter .
8	Press enter to call the system. <ul style="list-style-type: none"> ■ The program will connect to the unit and prompt the operator to enter the number of the unit whose settings should be displayed.
9	Enter the number assigned to the unit whose settings are to be displayed (e.g., “1” for unit 1, “2” for unit 2, etc.) and press enter .

The program will display a screen that can be used to configure the various settings.

Procedure A

Setting a Static IP Address at the Unit

When automatic address assignment (BootP or DHCP) is not used, the following procedure can be used to apply a static IP address at the unit. Any workstation that connects to the unit might still use static or non-static methods (Name Services or IP alias) to connect to the unit. These methods are explained later in this document.

This procedure assumes:

- The unit is plugged into its base and powered up.
- For Ethernet configurations, a valid and operational Ethernet cable is plugged into the unit.
- The operator has accessed ESS32, navigated to the Unit EEPROM Configuration screen, and connected to the unit (refer to the “Connecting to the Unit through Unit EEPROM Configuration” procedure above).

Step	Procedure
1	Contact the network administrator to obtain the proper IP address information.
2	Make sure the system is connected to the appropriate unit (see assumptions above).
3	Select 2 (Unit IP address) and enter the desired static IP address.
4	Select 3 (Unit subnet mask) and enter the desired subnet mask.
5	Select 4 (Default gateway IP address) and enter the desired gateway address.

continued

Step	Procedure
6	<p>Press enter to exit the display.</p> <ul style="list-style-type: none"> ■ Before the program exits the display, a popup screen will offer options for saving the settings to both the remote unit and the desired remote system files.
7	<p>Use the keyboard arrow keys to move the cursor to and highlight the appropriate option for saving the settings and press enter.</p> <hr/> <p>NOTE! This step must be completed to record the IP information properly in the remote system files. If the remote system has not yet been created, the operator will have to return to this display and repeat this step after it is created.</p> <hr/>

The program will return to the Unit EEPROM Configuration display.

Procedure B

Setting a BootP IP (Automatic Assignment) Address at the Unit

This procedure enables the unit to obtain IP address information automatically from a BootP server. BootP IP address assignment is used at the unit when static address assignment is not used. Workstations that connect to the unit might use the same BootP Server–assigned address to connect to the unit but are not required to do so. Workstations might also be configured to use domain names or IP aliases, as explained later in the document.

This procedure assumes:

- The unit is plugged into its base and powered up.
- For Ethernet configurations, a valid and operational Ethernet cable is plugged into the unit.
- The operator has accessed ESS32, navigated to the Unit EEPROM Configuration screen, and connected to the unit (refer to the “Connecting to the Unit through Unit EEPROM Configuration” procedure above).

Step	Procedure
1	Contact the network administrator to obtain the proper IP address information.
2	<p>Make sure the system is connected to the Unit (see assumptions above).</p> <p style="text-align: right;"><i>continued</i></p>

Step	Procedure
3	<p>Select 1 (IP address setup via BootP server) and select “Yes.”</p> <ul style="list-style-type: none"> ■ The numbers displayed under “User Defined” are replaced with dashes, and the dashes displayed under the BootP section are replaced with the current numbers. This is for display purposes only—the BootP request from the unit has not yet been performed. (If the request were made at this point and the IP differed from the BootP–assigned number, the connection to the unit would be severed.)
4	<p>Press enter to exit the display.</p> <ul style="list-style-type: none"> ■ Before the program exits the display, a popup screen will offer options for saving the settings to both the remote unit and the desired remote system files.
5	<p>Use the keyboard arrow keys to move the cursor to and highlight the appropriate option for saving the settings and press enter.</p> <p style="text-align: center;">NOTE! This step must be completed to record the IP information properly in the remote system files. If the remote system has not yet been created, the operator will have to return to this display and repeat this step after it is created.</p>
6	<p>Wait approximately 1 minute for the BootP request and response to be executed.</p>
7	<p>Repeat Steps 2–5 to get the new numbers recorded in the remote system files.</p> <p style="text-align: center;">NOTE! The new numbers must also be entered during Procedure D: Setting a BootP IP or IP Alias Address at the Workstation.</p>

When the operator exits the program, it returns to the Unit EEPROM Configuration display.

Procedure C

Setting a Static Unit IP (User-Defined) Address at the Workstation

For a workstation to connect to the unit, a matching IP address must be configured in the site’s remote system files. This step is automatically performed while configuring the static IP at the unit (during Procedure A: Setting a Static IP Address at the Unit). The following procedure can be used to confirm that the proper IP address is recorded in the remote system files.

Step	Procedure
1	Access ESS32.
2	Select 2 (System Format) and press enter .
3	Select the appropriate remote system and press enter .
4	Select 5 (Network Parameters) and press enter . ■ The static IP will be displayed under “Ethernet-User Def IP.”

Procedure D

Setting a BootP IP or IP Alias Address at the Workstation

For the workstation to connect to the unit, a matching static IP address, BootP IP address, host name, or IP alias address must be configured in the site’s remote system files. The static IP number is recorded automatically in the remote system files during other configuration steps, but the host name, BootP IP, and IP alias are not. The operator must enter the BootP IP or IP alias numbers manually. The following procedure can be used to enter them.

Step	Procedure
1	Access ESS32.
2	Select 2 (System Format) and press enter .
3	Select the appropriate remote system and press enter .
4	Select 5 (Network Parameters) and press enter . NOTE! Any previously recorded static IP address (typically, the factory default of 10.15.60.75 for new installations) will be displayed under Ethernet User-Defined IP. If set for BootP, the unit will use the BootP assigned number, not the manually entered (static IP) number. NOTE! Setting BootP to “Yes” from the ESS32 Configuration display does not change the User-Defined IP field.
5	Enter the BootP IP or IP alias address in the IP Alias field and press enter . ■ This field accommodates either BootP IP or IP alias addresses.

Procedure E

Setting a Host Name at the Workstation

For a workstation to connect to the unit, a matching static IP address, BootP IP address, host name, or IP alias address must be configured in the site's remote system files. The static IP number is recorded automatically in the remote system files during other configuration steps, but the host name, BootP IP, and IP alias are not. The following procedure can be used to enter the host name in the site's remote system files.

Step	Procedure
1	Access ESS32.
2	Select 2 (System Format) and press enter .
3	Select the appropriate remote system and press enter .
4	Select 5 (Network Parameters) and press enter . NOTE! Any previously recorded static IP address will be displayed in the User-Defined IP field. If set for BootP, the BootP assigned number must be manually entered into the IP Alias field. This IP alias number takes priority over the host name and the user-defined IP address. The IP Alias field must be blank if the host name is to be used.
5	Select 1 (Unit) and press enter .
6	Press enter to pass through each selection to the Host Name or the FQDN (Fully Qualified Domain Name) field.
7	Enter the appropriate name and press enter .

Procedure F

Setting a DNS Server Address at the Unit

Logic One systems require a DNS (Domain Name Services) address at the unit if the unit will be reporting alarms to host name destinations or gaining unit-to-unit access via host names.

The following procedure assumes:

- The unit is plugged into its base and powered up.
- For Ethernet configurations, a valid and operational Ethernet cable is plugged into the unit.
- The operator has accessed ESS32, navigated to the Unit EEPROM Configuration screen, and connected to the unit (refer to the "Connecting to the Unit through Unit EEPROM Configuration" procedure above).

Step	Procedure
1	Contact the network administrator to obtain the proper IP address information.
2	Make sure the system is connected to the Unit (see assumptions above).
3	Select 5 (Nameserver IP Address), press enter , and enter the primary DNS server address.
4	(Optional) Enter a secondary DNS server address in the second set of fields and press enter to exit the display. <ul style="list-style-type: none">■ Before the program exits the display, a popup screen will offer options for saving the settings to both the appropriate remote unit and remote system files.
5	Use the keyboard arrow keys to move the cursor to and highlight the appropriate option and press enter to exit the display <p style="text-align: center;">NOTE! This step must be completed to record the IP information in the remote system files. If the remote system has not yet been created, the operator will have to return to this display and repeat this step after it has been created.</p>

When the operator exits the program, it will return to the Unit EEPROM Configuration display.

Workstation Connection Hierarchy

For a workstation to connect to the unit, a matching static IP address, BootP IP address, host name, or IP alias address must be configured in the site's remote system files. Some installations require the combination of BootP IP, host name, and/or IP alias.

Either of the following procedures can be used to determine which value should be used to make the workstation connection.

ESS32

Step	Procedure
1	Access ESS32, entering the appropriate access code.
2	Select 2 (System Format) and press enter .
3	Enter the appropriate system number and press enter .
4	Select 5 (Network Parameters) and press enter .

continued

Step	Procedure
5	<p>View the following fields to determine which value should be used:</p> <ul style="list-style-type: none"> ■ Does an entry exist in the IP Alias field? If yes, use this value. If not: ■ Does an entry exist in the Host Name field? If yes, use this value. If not: ■ Does an entry exist in the User-Defined IP field? If yes, use this value. If not, the unit is not properly configured; the connection cannot be made.

iScope[®]

Step	Procedure
1	Access the iScope program, entering the appropriate password.
2	Click Open System to display a list of remote systems on the workstation.
3	Double-click the appropriate remote system.
4	Double-click Communication Parameters in the Menu Tree.
5	Double-click System Parameters .
6	Double-click System Access Setup .
7	<p>View the following fields to determine which value should be used to make the connection:</p> <ul style="list-style-type: none"> ■ Does an entry exist in the IP Alias field? If yes, use this value. If not: ■ Does an entry exist in the Host Name field? If yes, use this value. If not: ■ Does an entry exist in the User-Defined IP field? If yes, use this value. If not, the unit is not properly configured. The connection cannot be made.

Definitions

This section provides explanations for the following terms, which are used in this document.

TERM	EXPLANATION
Static IP address	<p>An IP address is considered static when it is manually entered into the unit (effectively hard-coded) and is not assigned or reassigned by an external service (BootP or DHCP servers).</p> <p style="text-align: right;"><i>continued</i></p>

TERM	EXPLANATION
BootP	BootP is a method of automatically assigning an IP address to a host during power-up or reset. Logic One supports BootP IP assignment to several types of units (EP/2, Savvy, Lingo, Envoi, Envoi/2). During power-up, the unit broadcasts a BootP request that is responded to by a BootP server.
BootP server	A BootP server provides a network service that automatically provides IP address information to a host, upon request. The information typically includes Host IP address, Subnet Mask, Default Gateway, and DNS server addresses.
DHCP	Dynamic Host Configuration Protocol (DHCP) is a network service that automatically provides IP address information to a host upon request. This information typically includes Host IP, Subnet Mask, Default Gateway, and DNS Server addresses and various other items. A DHCP server typically might be used to provide the automatic IP address assignments required by a BootP host (i.e., a DHCP server usually provides BootP services).
Dynamic IP address	An address is considered dynamic when an external service such as a BootP or DHCP server automatically assigns it. These addresses are typically assigned during the power-up or booting process of a given unit (host).
Host	Each device on an Ethernet network that has Ethernet hardware is considered a host. The host name is part of the FQDN. <ul style="list-style-type: none">■ Host name example: building10■ FQDN example: building10.novar.com
FQDN	Fully Qualified Domain Name.

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