Open System Gateway Owner's Manual

125-1926 **Rev. 3, 6/98**

Rev. 3, June 1998

NOTICE

The information contained within this document is subject to change without notice and should not be construed as a commitment by Landis & Staefa, Inc. Landis & Staefa, Inc. assumes no responsibility for any errors that may appear in this document.

All software described in this document is furnished under a license and may be used or copied only in accordance with the terms of such license.

WARNING

This equipment generates, uses, and can radiate radio frequency energy and if not installed and used in accordance with the instructions manual, may cause interference to radio communications. It has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15, Subpart J of the FCC rules. These limits are designed to provide reasonable protection against such interference when operated in a commercial environment. Operation of this equipment in a residential area is likely to cause interference in which case users at their own expense will be required to take whatever measures may be required to correct the interference.

SERVICE STATEMENT

Control devices are combined to make a system. Each control device is mechanical in nature and all mechanical components must be regularly serviced to optimize their operation. All Landis & Staefa, Inc. branch offices and authorized distributors offer Technical Support Programs that will ensure your continuous, trouble-free system performance.

For Further Information Contact Your Nearest Landis & Staefa, Inc. Representative.

TO THE READER:

A Reader Comment form is located at the end of this manual. Please use this form for reporting errors or discrepancies.

Printed in U.S.A.

Open System Gateway Owner's Manual

Contents

Introduction

The *Open System Gateway Owner's Manual* is designed to help you become more familiar with the functions and procedures of the Open System Gateway. For information on the Third Party System, refer to the manuals with the system or contact the vendor for the Third Party System. For more information about Landis & Gyr Field Panels, refer to the *Landis & Gyr Powers Field Panel User's Manual* (P/N 125-1895).

This manual is organized to provide maximum usability: sections are arranged according to the order of the gateway software menu screens.

The Open System Gateway (OSG) resides on the same network as the field panels and allows the Third Party System access to the network. The OSG is viewed the same as any other network node and during start-up will need to be added to the system as such. This allows the Third Party System operator workstation to communicate with the System 600 field panels.

Prerequisites

In order for you to effectively use this manual, the following must have been completed:

- Gateway software loaded, and user logged on
- Gateway added as a node on the Protocol 2 (P2) network
- Gateway and Third Party System successfully communicating
- System 600 commissioned
- Gateway commissioned
- Third Party System network commissioned.

Gateway Point Types

The gateway supports 11 of the 12 standard System 600 point types; the LCTLR point type is not supported. Subpoints are not supported and must be unbundled if the gateway is to share them with the Third Party System.

Supported Point Types

The following describes the 11 point types supported by the gateway point. For each point type, the letters that are placed in the parentheses identify the proper designation for that point type.

Logical Analog Input (LAI) - Monitors the value of analog input point (used for temperature, flow, pressure, etc.).

Logical Analog Output (LAO) - Provides one commandable analog output point (used to position valves and dampers).

Logical Digital Input (LDI) - Monitors the state of a digital input point (used on 2-position devices such as fans, etc.).

Logical Digital Output (LDO) - Provides one commandable digital output point (used for 2-position devices such as fans, etc.).

Logical FAST/SLOW/STOP Latched (LFSSL) - Provides two commandable latched digital outputs (FAST/SLOW/STOP) and one optional digital input used as a proof.

Logical FAST/SLOW/STOP Pulsed (LFSSP) - Provides three commandable pulsed digital outputs (FAST/SLOW/STOP) and one optional digital input used as a proof.

Logical ON/OFF/AUTO Latched (LOOAL) - Provides two commandable latched digital outputs and one digital input that can be used as a proof point.

Logical ON/OFF/AUTO Pulsed (LOOAP) - Provides two commandable pulsed digital outputs (ON/OFF) and one commandable latched output (AUTO). You can use the digital input as an optional proof point.

Logical Pulsed Accumulator (LPACI) - Counts pulses of one digital input point.

Logical Two State Latched (L2SL) - Provides one commandable latched digital output (ON/OFF) and monitors one digital input for proof.

Logical Two State Pulsed (L2SP) - Provides two commandable pulsed digital output (ON/OFF) and monitors one latched digital input as a proof point.

Unbundling Points

The gateway does not support bundled points. All points must be unbundled for use with the gateway.

Menu Procedures

To select an item from a menu, press the key corresponding to the capitalized letter in the desired item. For example, if you press [T] while in the Log On menu, the time and date of the gateway will be displayed.

Press [ESC] at any menu to return to the previous menu. Press [ESC] at the Log On menu to exit the gateway software. Once you've exited the software, you must reboot or power cycle the device to begin the application again.

When a field has been added or modified, [ENTER] must be pressed to confirm the entry. Using the up or down ([↑] [↓]) arrows to move out of a field will return the field to its previous value.

When you are finished entering information, press [F9] to confirm and save changes.

Software Features

A listing of the software's features is shown in Table 1.

Table 1. Gateway Software Functions.

If you want to ...	Under this Main menu submenu...	Use this menu item...
change the time or date	Log On	Time
log on	Log On	Hello
display the gateway's revision number	Log On	Version
add, edit, delete, find, copy points	Point	Edit
initialize the gateway's database	Point	Edit, Init_dbase
display all the gateway's points	Point	Summary
write a summary report to file	Point	Report
change the logon password	Setup	Password
configure ports, change baud rate on gateway	Setup	pOrts
configure ports, change baud rate on third party system	Setup	pOrts
enable Auto Connect on the gateway	Setup	pOrts

Table 1. Gateway Software Functions.

If you want to ...	Under this Main menu submenu...	Use this menu item...
enable Auto Connect on the third party system	Setup	pOrts
display a log of real-time traffic on the gateway (useful for troubleshooting)	Log	Start
stop/pause the log display	Log	sTop
erase the log display	Log	Clear
write a display to file	Log	File
display only certain entries in logs	Log	sEt_filter
connect the gateway to the System 600 and initialize the System 600 network driver	Network	System 600
disconnect the gateway from the System 600 network	Network	System 600
connect the gateway to the third party system	Network	Open System
disconnect the gateway from the third party system	Network	Open System
exit the gateway software	Bye	

Log On

Log On items include **T**ime, **H**ello, and **V**ersion.

System600: IDLE 000 - Open System Gateway - OpenSystem: IDLE 000

Main: **T**ime **H**ello **V**ersion **<ESC>**

Landis & Staefa, Inc. (C) 1992-1998 <ESC> To Exit.

Figure 1. The Log On Menu.

T*ime*

Press [T] to display the time and date. To change these settings:

1. Exit the gateway software.
2. Type **TIME**, press [ENTER].
3. When prompted, enter the correct time and date and press [ENTER].

NOTE: The date and time in the gateway are unaffected when date and/or time synchronization is done to nodes on the P2 network.

H*ello*

Press [H] and wait for the system to prompt you for a password. The default password is **WHART**, which may be entered in either upper or lower case. Through the Main menu, editing, diagnostic and configuration functions are available. The password may be changed in the Setup menu discussed later in this manual.

V*ersion*

Press [V] to display revision information for this gateway.

Main Menu

The Main menu is displayed after a valid password has been entered in the Log On menu.

```
System600: IDLE   000      - Open System Gateway -      OpenSystem: IDLE   000

Main:  Time  Point  Setup  Log  Network  Bye  <ESC>




Landis & Staefa, Inc. (C) 1992-1998                                <ESC> To Exit.
```

Figure 2. The Main Menu.

***T**ime*

Press [T] to display the time and date. To change these settings:

1. Exit the gateway software.
2. Type **TIME** [ENTER].
3. When prompted, enter the correct time and date and press [ENTER].
4. Reboot the gateway by pressing **<CTRL><ALT><DEL>** simultaneously or power cycle the the device.

***P**oint*

Press [P] to display the following Point options: Summary, Report, and Edit. A description of each follows:

Summary

Press [S] to display all of the points in the gateway's database. An example of the Summary fields is shown in the screen below. This is not a dynamic screen.

```
System600: IDLE   000      - Open System Gateway -      OpenSystem: IDLE   000

Point:  Summary  Report  Edit  <ESC>

Cab#   Name      Descriptor   Type      Present Value   Priority   Status

10     LAI101    LAI POINT    LAI       0.00            P:NONE     *A*
10     L2SL      L2SL                   -?-             P: -?-     -?-
20     LPACI     LPACI PNT    LPACI     -?-             P:-?-      -?-
10     LAO040    LAO POINT    LAO       2.00            P:NONE     *AC*
10     LDOM      HAND LDO     LDO       Inactive        P:NONE     -N-
20     LOOAL     LOOAL                  -?-             P:-?-      -?-
20     LFSSL     LFSSL PNT    LFSSL     -?-             P: -?-     -?-
02     LAI1      1            LAI       -?-             P: -?-     -?-

 Landis & Staefa, Inc. (C) 1992-1998                        <ESC> To Exit.
```

Figure 3. The Point Summary Menu.

Below is a list of the Summary fields and a description of each.

- *Cab#* – The cabinet number is the node number of the cabinet in which the point resides on the System 600 network.
- *Name* – The Name is the System 600 point name. It contains the unique System 600 logical point name.
- *Descriptor* – The Descriptor is the System 600 point descriptor. It contains the 12 character descriptor entered when the point was configured at the field panel.
- *Point Type* – The gateway supports the 11 of 12 point types supported by System 600 Field Panels. The gateway does not support bundled subpoints, those must be unbundled at the MBC/RBC.
- *Present Value* – The Present Value is the current state or value of the System 600 point. The Present Value for digital points is either active or inactive. For analog points, the Present Value is a real number or an integer value.
- *Priority* – The priority indicates the points current priority. It will be one of the 5 possible priorities: OPER, SMOKE, EMER, PDL, NONE.
- *Status* – The status indicates the current status of the point. (i.e. In Alarm, Failed, Disabled, etc.).

For Present Value, Priority, and Status a "?" indicates that the COV Link is not presently active for the point.

Report

Press [R] to write a report, in the same format as the report summary, to the POINT.LOG file on the root directory of the gateway MMI computer.

NOTE: Each time a report is written to the POINT.LOG file, the previous report is overwritten. To print out this report, exit the gateway software and copy the POINT.LOG file to a floppy diskette. This is a text file that can be printed, or displayed, using any ASCII text editor, such as the DOS editor EDIT.

Edit

Press [E] to get all of the choices for adding, modifying, or deleting points from the gateway database. Both networks must be idle before the Edit functions can be used. An error message will be displayed if the user tries to edit when either network is ONLINE.

```
System600: IDLE  000   - Open System Gateway -    OpenSystem: IDLE  000

 Point:  Edit:  Add  Find  Next  Previous  Modify  Copy  &  <ESC>






Landis & Staefa, Inc. (C) 1992-1998                            <ESC> To Exit.
```

Figure 4. The Edit Screen.

NOTE: The Point Edit menu has 8 functions available, however only the first 6 are displayed on the screen, refer to Figure 4. Press [&] to display the other 2 available commands, refer to Figure 5. Press [&] again and return to the first screen.

```
System600: IDLE  000   - Open System Gateway -    OpenSystem: IDLE  000

Point:  Edit:  Delete  Init_dbase  &  <ESC>






Landis & Staefa, Inc. (C) 1992-1998                            <ESC> To Exit.
```

Figure 5. The Second Edit Screen.

The Edit screens are specific to the type of point being added or modified. Fields which can be edited are highlighted. Fields which allow only certain specific entries are toggle fields. The value can only be selected by pressing the space bar until the desired selection is displayed. Press [ENTER] to save the current value and move the cursor to the next field.

All of the Edit menu selections, except **A**dd, can be used for the displayed point, referred to by the gateway as the Current Point. The **A**dd option creates a new point which then becomes the Current Point.

NOTE: An error message is displayed when no Current Point is selected during an operation which requires one.

Different screens are displayed for adding than for modifying points because certain fields are not applicable for a new point, and other fields cannot be modified once a point is created.

Edit submenus

Because there are too many Edit menu selections to fit onto one screen, the screen is divided into two submenus. You can toggle between the two Edit submenu screens using the ampersand key ([&]) described below.

Add

Press [A] to add a point entry to the database. A Current Point is not required since this function creates a new one. Select the point type desired by pressing the space bar; press [ENTER] to record your choice. Enter the System 600 cabinet number and press [ENTER]. Type in the System 600 point name and press [ENTER]. The new point becomes the Current Point when the creation has been confirmed with [F9]. The point is then added to the gateway's database.

```
System600: IDLE   000    - Open System Gateway -    OpenSystem: IDLE   000

Point:  Edit:  Add  Find  Next  Previous  Modify  Copy  &  <ESC>



              S600 Cabinet # ---->     10
              S600 Point Name --->     LAI101
              Point Descriptor -->
              S600 Point Type --->     LAI
              Present Value ----->     -?-
              Point Status ------>     ????
              Point Priority ---->     P: -?-



[ESC] = Return To Previous Menu                          [F9] = Process Entry
[↓], [↑] = Escape Field                            [RETURN] = Confirm Entry
Landis & Staefa, Inc. (C) 1992-1998                          <ESC> To Exit.
```

Figure 6. The Add Submenu.

Find

Press [F] to locate a point, display it, and make it the Current Point. The gateway's database is searched using the point's name.

Next

Press [N] to locate and display the next point in sequence and make it the Current Point. A message will be displayed in the prompt field if there are no more points in the sequence.

Previous

Press [P] to locate and display the previous point in sequence and make it the Current Point. A message is displayed in the prompt field if there are no more points in the sequence.

Modify

Press [M] to move the cursor into the Name field of the Current Point. A Current Point must be displayed before the point can be modified. An error message is displayed if there is no Current Point.

Copy

Press [C] to create a new point of the same type as the Current Point. Fields normally entered in the Create screen are copied from the Current Point. The name field is left blank and a unique name entered for the point.

&

Press [&] to toggle between the two Edit menu screens.

Delete

Press [D] and confirm the deletion to remove the Current Point from the gateway's database. The next point in the database becomes the Current Point and is displayed. If there are no more points in the sequence, no Current Point is displayed.

Init_dbase

Press [I] to clear and initialize the gateway's database. A warning prompt is displayed because this operation will delete all of the points in an existing database. The Init_dbase function may be performed at any time to clear the database and start over.

***S**etup*

The Setup menu modifies setup parameters used by the gateway and can be accessed by pressing [S] from the Main menu. These parameters include port configuration, baud rate, gateway name, and password.

Password

Press [P] to select a new gateway password. The default password (**WHART**) should be changed once a gateway is operational. Passwords can be up to 12 characters long. They may contain letters or numbers and are not case sensitive. Spaces, dollar signs and periods are allowed. Changes to the password are confirmed, encrypted, stored by the gateway, and are effective upon the next startup of the software.

p**O**rts

From the Setup menu, press [O] to display information used by the gateway to establish communications between the gateway and System 600 devices. The p**O**rts menu screen is shown in Figure 7.

```
System600: IDLE   000    - Open System Gateway -    OpenSystem: IDLE  000

Setup:  Password  pOrts  <ESC>


             Powers System 600
               Node Number ---------->     98
               Com Port ---------------->     Com 1
               Baud Rate -------------->     9600
               Auto Connect ----------->     N

             Open System Gateway
               Gateway Name -------->     POWERS
               Com Port --------------->     Com 2
               Baud Rate -------------->     9600
               Timeout (x500mSec)-->     5
               Auto Connect ----------->     N



[ESC] = Return To Previous Menu                          [F9] = Process Entry
[↓], [↑] = Escape Field                              [RETURN] = Confirm Entry
Landis & Staefa, Inc. (C) 1992-1998                         <ESC> To Exit.
```

Figure 7. **The pOrts Menu**.

The "Timeout" of the Open System Gateway should be greater than any timeout set on the workstation.

"Autoconnect" will connect the gateway to the chosen network upon Open System Gateway startup.

***L**og*

Press [L] to display a log of real time traffic on the gateway. The format of this display is shown below.

NOTE: The log function greatly reduces the LAN's communication speed and should be used sparingly. Always use the s**T**op log command when not monitoring or diagnosing gateway communications or system functions.

```
System600: IDLE   000    - Open System Gateway -    OpenSystem: IDLE   000

Log:  Start  sTop  Clear  File  sEt_filter  <ESC>



Landis & Staefa, Inc. (C) 1992-1998                         <ESC> To Exit.
```

Figure 8. Log Screen.

The first field in the log display contains an internal code assigned by the gateway. The first letter of this code indicates which system the message originated from. "N" indicates the message was created by the System 600 network. "F" indicates the message was created by the non-System 600 workstation.

The second field in the log display contains the time an event occurred. The time is displayed in the following format, including one hundredths of a second: HH:MM:SS:HH.

The last field in the log display contains a message describing the specific event or error that occurred. Messages such as "COV Reporting Enabled" and "COV Received" are normal operation messages. Communication failures or operational inefficiencies are also reported on the Log screen. The following table is a list of potential error codes and their definitions.

Table 2. Error Codes.

Value	Meaning	Interpretation
0x01	Global Error	Connection to the System 600 network has not been established, connection to the workstation has been lost, or an OSG internal error has occurred. It is assumed that all data points connected to the OSG have invalid data.
0x02	Invalid Operation	The type of command or point value is inappropriate or not allowed.
0x03	Point Not Found	The requested point is either not defined on the System 600 network or is not defined in the OSG.
0x04	Priority Too Low	The priority of the request is lower than the priority of the point.
0x05	Status Unchanged	The status of the point has not been changed by the Write Point Status request.
0x06	No Response	The request is waiting to be sent over the System 600 network or the OSG is still waiting for a response from the network.
0x07	Point Failed	Indicates a hardware problem of the System 600 end device.
0x08	Point out of Service	The point has been disabled by the operator and cannot be altered until it has been re-enabled.
0x0B	Value Unchanged	The point is already at the value or state that was requested. No change was necessary.
0x0C	Value Out of Range	The requested value was outside the normal range of the point.
0x1B	Service Not Available	Either the OSG and/or the System 600 will not support the requested operation or the OSG's capacity has been exceeded.
0x39	Node Failed	The OSG could not communicate with the System 600 controller.
0xFF	Unspecified	Unspecified Error

Start

Press [S] to start logging or continue the log display if it has been paused.

Stop

Press [T] to stop or pause the log display.

Clear

Press [C] to clear the log display screen.

File

Press [F] to display the **F**ile command's submenus. The File command captures the log information and writes it to the GATEWAY.LOG file. The files are limited to five hundred lines, so if the log is left ON line 501 line will overwrite line one in the log, line 502 will overwrite line two and so on.

File submenus

```
System600: IDLE   000     - Open System Gateway -   OpenSystem: IDLE   000

Log:  File:  Begin  End  Clear  <ESC>





Landis & Staefa, Inc. (C) 1992-1998                          <ESC> To Exit.
```

Figure 9. File Submenus.

Submenus of the File menu include Begin, End and Clear.

Begin

Press [B] to begin logging to the GATEWAY.LOG file. This will overwrite any existing GATEWAY.LOG.

End

Press [E] to end writing to the GATEWAY.LOG file. Messages will continue to be displayed on the screen.

Clear

Press [C] to clear the GATEWAY.LOG file. New messages will continue to be logged to file.

File features

Use the following commands to display, print, rename, or copy the GATEWAY.LOG file.

To display the GATEWAY.LOG file follow these steps:

1. Exit the gateway software.
2. Enter the command **TYPE GATEWAY.LOG** and press [ENTER].

The gateway log is displayed.

To save a particular sequence, copy it to a floppy disk so that it will not be overwritten by the gateway the next time the gateway logs to a file.

To copy the GATEWAY.LOG file to a floppy disk follow these steps:

1. Exit the gateway software.
2. Place a formatted floppy disk in the drive.
3. Type **COPY GATEWAY.LOG A:** [ENTER].

The GATEWAY.LOG file is now copied to the root directory of the diskette in drive A:.

NOTE: This is a text file that can be printed, or displayed, using any ASCII text editor, such as the DOS editor EDIT.

Set_filter

Press [E] to set a filter which will restrict the log messages displayed on the screen and written to file (if file logging is enabled) according to the type and source of the message.

Setting the Message Level to Error, for example, and setting all of the Display Message From fields except System 600 Translator to **<N>**, eliminates all traffic except COVs received from the System 600.

NOTE: The settings on this screen are not saved by the gateway on exit and must be reentered each time this feature is used.

System600: IDLE 000 - Open System Gateway - OpenSystem: IDLE 000

Log: **S**tart s**T**op **C**lear **F**ile s**E**t_filter **<ESC> E**

Message Level ----------> Critical

Display Messages From:
Parameter Files ------> Y
Host ---------------------> Y
MMI ---------------------> Y
Database --------------> Y
Service -----------------> Y
Native Translator ----> Y
Foreign Translator --> Y

[ESC] = Return To Previous Menu [F9] = Process Entry
[↓],[↑] = Escape Field [RETURN] = Confirm Entry
Landis & Staefa, Inc. (C) 1992-1998 <ESC> To Exit.

Figure 10. Set_filter screen.

N*etwork*

The Network menu commands allow stopping and restarting of the System 600 and Third Party System networks which is necessary when adding or modifying the gateway's database.

CAUTION:

Before adding points to the gateway's database, the System 600 and the Open System networks must be taken offline. Editing points while the gateway or Third Party System devices are online may result in the loss of your entire database.

The Network menu commands may be useful during the setup and commissioning of a gateway, but should not be needed for normal operation because the networks are started automatically once the setup is complete. The first Network menu is displayed by pressing [N] from the Main menu.

```
System600: IDLE  008  - Open System Gateway -  OpenSystem: IDLE   006

Network:  System_600  Open_system  <ESC>



Landis & Staefa, Inc. (C) 1992-1998                    <ESC> To Exit.
```

Figure 11. Network Menu.

System_600

Press [S] to activate the connection selections for the System 600 network.

Stop

Press [T] to stop the System 600 driver immediately. This will disconnect the gateway from the System 600 network. The System 600 network can be rejoined by using the **S**tart command.

Start

Press [S] to initialize communication with the System 600 network and perform any startup sequences necessary to begin communication on the System 600 network.

Open_system

Press [O] to activate the connection selections for the Third Party System network.

Stop

Press [T] to stop the Third Party System driver immediately. This will disconnect the gateway from the Third Party System network. The Third Party System network can be rejoined by using the Start command.

Start

Press [S] to initialize communication with the Third Party System and perform any startup sequences necessary to begin communication on the Third Party System network.

***B**ye*

```
System600: IDLE   008   - Open System Gateway -   OpenSystem: IDLE   006

 Bye:  OK To Log You Off? (Y/N)?






Landis & Staefa, Inc. (C) 1992-1998                           <ESC> To Exit.
```

Figure 12. Bye Menu.

Press [B] at the Main menu to bring up the Log Off screen.

Press [Y] to return to the Main menu.