

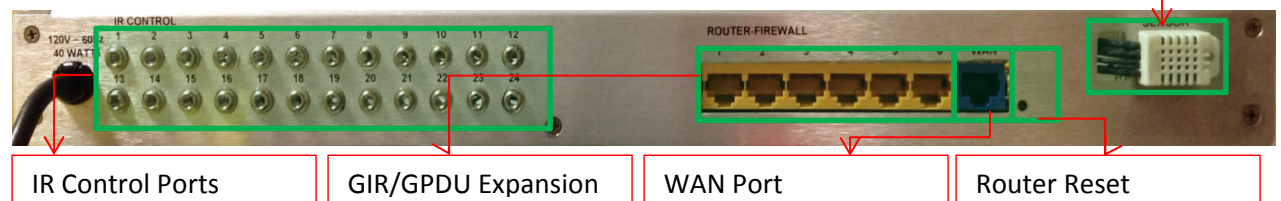
Introduction

Thank you for purchasing a TotalGUARDIAN™ system. Register your systems online and then read this manual completely and carefully before attempting to set up and operate your new system. The TotalGUARDIAN™ **Quick Start Guide** is also available for quickly setting up your system. This manual contains the most complete information, details, and troubleshooting assistance which is available for the TotalGUARDIAN™.

Front



Rear



Installation

Mounting and Power

Install in a standard 19" rack. Ensure that the rack room is environmentally controlled (provides air conditioning). Mount unit level and with a 1 RU space above and below for cooling. Ensure that the unit is powered using a surge suppression-protected power source. The unit is not warranted for damage caused by power surges or operating at temperatures outside of its operating specifications.

GIR Ports

Plug the 1/8" IR blaster cables into the IR control ports of the rear of the unit. Clean the surface of the IR window on the front of each receiver (location varies depending on the receiver model). Peel the small adhesive protectant paper off of the IR Blaster cable LED emitter and stick the LED emitter on to the center of the receiver IR window. Test your installation to ensure that each receiver is being controlled and that no others are being controlled by the wrong blaster. **IMPORTANT:** Add the supplied IR signal cable label with the correct port number (sheets of labels are supplied with a range of port numbers from 1 to 32) to cover the cable at the LED emitter to help ensure the permanent adhering of the IR Blaster cable LED emitter to the receiver and to indicate which port the cable and receiver is connected to on the TotalGUARDIAN™ or TotalGUARDIAN™ GIR32 Expansion Units. This is important to add to insure that through cooling and heating cycles that the Blaster LED does not detach and then result in not allowing that receiver to be controlled remotely. These ports control a single IR-controlled tuner in the receiver. Two tuner receivers require a special IR-to-RF converter. Some integrators have suggested hotgluing the blaster to the receiver – if you choose to do this or any other method, ensure that the emitter is not obscured or it will not control the receiver.



GPDU

Can be mounted in any desired configuration or racked with a Multicom IRH panel (not supplied). Connect an Ethernet cable from the port on the GPDU to an open port on the EL24 (ports 1-6).

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***Note: the GPDU is rated for a max of 15 amps for the entire unit. 12 amps is recommended. Do not overload a single outlet, spread the load among all of the outlets possible. See the receiver table at the end of this document on power requirements for commonly used receivers and equipment. An overloaded GPDU may not open its protective circuit breaker immediately – carefully check and total all loads, including accommodating the higher inrush current on power up.**

GIR32 Expansion Unit

Install in a standard 19" rack. Mount unit level and with a 1 RU space above and below. Connect an Ethernet cable from the port on the GIR to an open port on the EL24 (ports 1-6). Follow preceding directions on GIR IR ports.



Powerup

Initialization

Each time, after applying power, each of the system components will go through a self-test and unit initialization. The LCD screen will be blue and without text output until the unit has completed its self-test and booting process.

Configuration

Setting the WAN Address

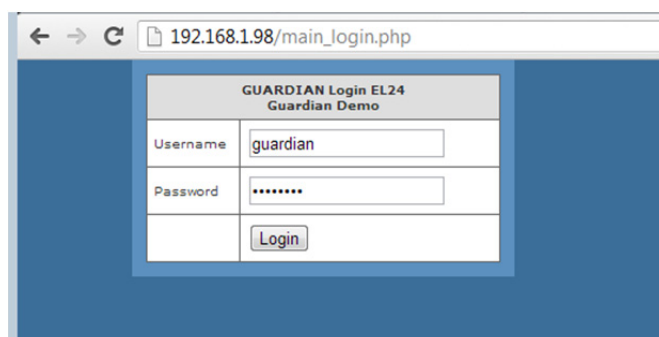
The default WAN IP address is <http://192.168.1.98>. If this needs to be changed, connect an Ethernet cable from to an open Ethernet port (3-8) on the EL24 (must NOT be the blue WAN port). Navigate to <http://192.168.3.1> from a connected machine that is set to the 192.168.3.X/24 subnet. The default login is Username: admin and Password: multicom. Click “Network > WAN”. In the IP Address/Subnet Mask/Default Gateway sections make your desired changes and click “Save”.

*Note: This IP address must have access to the internet for email and text alerts, and time/date setting to function properly.

Main Login

Connect an Ethernet cable to the WAN connection on the TotalGUARDIAN™ EL24. Make sure your computer is on an IP address on the 192.168.1.X/24 subnet (or the subnet you changed it to as shown above). Navigate to the default IP address (unless you have changed it, as shown above) via a web browser to <http://192.168.1.98>.

The default login is: **Username: guardian Password: multicom**



Initial EL24 Setup

From the Status and Lineup Control page click “Settings > Admin”

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Total GUARDIAN Welcome ray[Logout]
07/15/2013 - 02:15pm

HOME ADMIN RECEIVERS GIR GPDU FIRMWARE SCHEDULE

System Control

Reboot | Shutdown ← Use to Reboot or to Shutdown the TotalGUARDIAN system

Export Configuration | Import Configuration ← Use to BACKUP/RESTORE the TotalGUARDIAN configuration including all of the receiver, GIR, GPDU, channel settings, etc

User Accounts

| Username | Level | Delete |
|----------|---|--------|
| ray | Admin ← User Account setting for FULL ACCESS privileges as an ADMIN | X |
| scott | Regular User ← User Account setting for LIMITED ACCESS privileges as a USER | X |

Add a User:

Username Password User Type ← User Account setting name, password, user type

Site Settings

Site Name Site Zip

Front Panel Display Text Line 1 ← Message to be displayed on EL24 screen, i.e. Integrator Name, Contact phone number, etc

Front Panel Display Text Line 2

WAN IP Address Display

Admin Emails ← Contact email addresses and/or SMS phone# for alerts, reports, notices, etc from the TotalGUARDIAN
(delimit addresses with a coma / AT&T txt msg ex: 4073317779@txt.att.net)

Min temp Threshold Max temp Threshold ← Threshold settings for environmental monitoring

ver:2.24 | S/N:105249 ← EL24 software version, unit serial number
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This page will enable you to:

- System control
 - Reboot / shutdown will take the corresponding actions to the unit
 - Export / import configuration allows the entire GUARDIAN configuration (except actual WAN settings) to be exported / imported
- Add/remove user accounts
 - Admin users have full access. Regular users can only control the lineup without making any system changes.
- Site settings
 - Site name will display on pages and reports/alerts
 - Site zip determines the weather data
 - Front panel display text shows on the exterior display
 - WAN IP address shows on the exterior display
 - Admin emails should be coma delimited and can include text message email addresses
 - Temp settings will send an alert to the admin emails every 15 minutes if thresholds are crossed

GIR32 Expansion Units

From the Status and Lineup Control page click “Settings > GIR”

This page will enable you to:

- Add / remove GIR Units
 - GIR Unit #1 is built into an EL24
 - Adding a GIR will automatically provision an connected non-configured GIR
 - A GIR can only be deleted only where there are no channels assigned to that GIR

The GIR32 is shipped from the factory as a “Unconfigured Unit” which it will show on the LCD display when powered up. That IP address is 192.168.3.99. Only connect one unconfigured GIR32 unit into the EL24 at a time. As shown below, from the “Settings > GIR” page, the default GIR address will be shown for the next GIR expansion unit (or select a different unit if desired) and select GIR Type (32), click submit and the connected “Unconfigured Unit” will be automatically programmed with the selected address.

Total GUARDIAN Welcome guardian[Logout]
08/08/2013 - 06:19pm

HOME ADMIN RECEIVERS GIR GPDU FIRMWARE SCHEDULE

| Type | ID | Delete |
|----------|----|--------|
| GIR (24) | 1 | |

Add a GIR:
GIR Address GIR Type

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See below where the new GIR (GIR Address 2) has been programmed and the EL24 is ready to attach and program another if it is available (GIR Address 3).

Total GUARDIAN Welcome guardian[Logout]
08/08/2013 - 06:36pm

HOME ADMIN RECEIVERS GIR GPDU FIRMWARE SCHEDULE

| Type | ID | Delete |
|----------|----|--------|
| GIR (24) | 1 | |
| GIR (32) | 2 | X |

Add a GIR:
GIR Address GIR Type

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GPDU Expansion Units

From the Status and Lineup Control page click “Settings > GPDU”

This page will enable you to:

- Add / remove GPDU Units
 - A GPDU can only be deleted only where there are no outlets assigned to that GPDU

Each GPDU must be set to its own Unit/IP address before it is connected to the EL24 or it with conflict with other GDPU. Check the GPDU LCD display to ensure that there are no duplicate IP addresses (should be 192.168.3.**101** for **Unit 1**, 192.168.3.**102** for **Unit 2**, etc).

Connect an Ethernet cable from the port on the GPDU to an open port on the EL24 (ports 1-6).

Select the GPDU Address and GPDU Type corresponding to the GPDU LCD settings (as shown below).

Total GUARDIAN Welcome guardian[Logout]
08/08/2013 - 06:44pm

HOME ADMIN RECEIVERS GIR GPDU FIRMWARE SCHEDULE

| Type | ID | Delete |
|----------|----|--------|
| GPDU (8) | 1 | |

Add a GPDU:

GPDU Address GPDU Type

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Satellite Receivers

From the Status and Lineup Control page click “Settings > Receivers”

This page will enable you to:

- Add / remove satellite receivers (scroll to bottom of the list of receivers to add a new one)
 - A satellite can only be deleted only where there are no channels assigned to that receiver

***Note: Different manufacturer’s receivers cannot be mixed on the same GIR32 unit and its IR Ports. For example, if a “hybrid” system is needed then manufacturer#1’s receivers would be installed on the EL24 and a GIR32 would be configured with manufacturer#2’s receivers and the correct software drivers.**

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Total GUARDIAN Welcome ray[Logout]
07/15/2013 - 11:32am

HOME ADMIN RECEIVERS GIR GPDU FIRMWARE SCHEDULE

| Type | Receiver ID | Delete |
|--------------|--------------|--------|
| DISH 311 | R0111352931 | |
| DISH ViP211k | R0111205018 | X |
| DISH ViP222k | 232423131423 | |
| DISH ViP222k | R0111352920 | |

Add a Receiver:

Receiver ID Receiver Type

Assign Channels

From the Home page, Status and Lineup Control page click “Settings”. Click on the “Add a Channel” link at the bottom of the list of channels(see below):

Total GUARDIAN Welcome ray[Logout]
07/15/2013 - 10:44am

HOME ADMIN RECEIVERS GIR GPDU FIRMWARE SCHEDULE

| Sat | Pgm | Out | Receiver | Rcvr Type | GIR Address | GIR Outlet | GPDU Address | GPDU Outlet |
|-----|-----|-----|--------------|--------------|-------------|------------|--------------|-------------|
| 5 | ABC | 5 | R0111323313 | DISH ViP222k | 3 | 5 | 2 | 1 X |
| 6 | ABC | 6 | R0111323313 | DISH ViP222k | 3 | 6 | 2 | 2 X |
| 7 | ABC | 7 | R0111205018 | DISH ViP211k | 3 | 7 | 2 | 2 X |
| 8 | ABC | 8 | R0111352931 | DISH 311 | 3 | 8 | 2 | 2 X |
| 100 | ABC | 100 | 232423131423 | DISH ViP222k | 9 | 12 | | 0 X |

[Add a Channel](#) ←

This page will enable you to:

- Add / remove channels and to assign the equipment that interacts/controls with that specific channel:
 - Assigns Receiver to provide the program RF signal
 - Assigns GIR, the specific GIR and its port to use for sending IR signals to the receiver above
 - Assigns GPDU and outlet port, if desired/available, to use in AC power control of the receiver
- Adding a channel:
 - Sat Ch – the numerical channel the satellite receiver tunes

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- Ch Name – channel description (i.e. ABC HD)
- Output – numerical QAM/Analog output channel (can include decimals for QAM sub channels)
- Receiver – select the receiver ID for the channel
- GIR - select the GIR port where the receiver is connected
- GPDU – (optional) the outlet where the receiver is connected. Outlet can be used more than once in case of a power strip powering several receivers on the same outlet.

Total GUARDIAN Welcome ray[Logout]
07/15/2013 - 10:44am

| HOME | ADMIN | RECEIVERS | GIR | GPDU | FIRMWARE | SCHEDULE | | | |
|------|-------|-----------|--------------|--------------|-------------|------------|--------------|-------------|---|
| Sat | Pgm | Out | Receiver | Rcvr Type | GIR Address | GIR Outlet | GPDU Address | GPDU Outlet | |
| 5 | ABC | 5 | R0111323313 | DISH VIP222k | 3 | 5 | 2 | 1 | X |
| 6 | ABC | 6 | R0111323313 | DISH VIP222k | 3 | 6 | 2 | 2 | X |
| 7 | ABC | 7 | R0111205018 | DISH VIP211k | 3 | 7 | 2 | 2 | X |
| 8 | ABC | 8 | R0111352931 | DISH 311 | 3 | 8 | 2 | 2 | X |
| 100 | ABC | 100 | 232423131423 | DISH VIP222k | 9 | 12 | | 0 | X |

Hide

Sat Ch

Ch Name

Output

Receiver ←

GIR

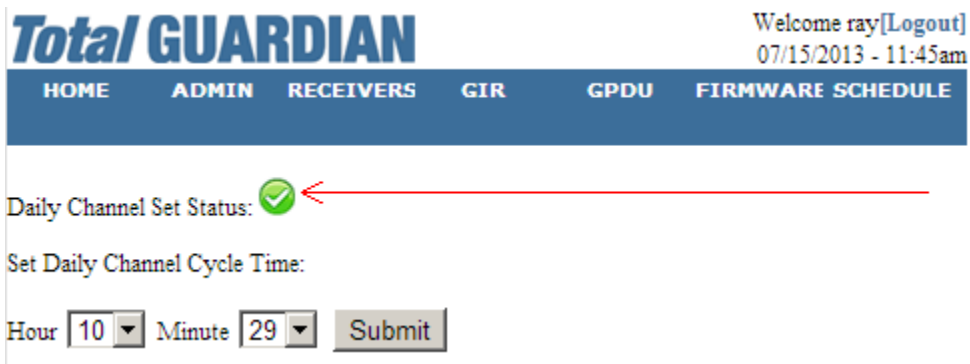
GPDU

Schedule Daily Lineup Set

From the Status and Lineup Control page click “Settings > Schedule”

This page will enable you to:

- Schedule the daily lineup set. This automated feature will push the correct channel setting to every receiver at the scheduled time daily. This will prevent / rectify channel drift.
 - Turn On (Off) daily lineup set
 - Turn on/off by clicking on the “Daily Channel Set Status” Icon (Green is ON)
 - Set the time of the daily lineup set



Firmware Updates

From the Status and Lineup Control page click “Settings > Firmware”



This page will enable you to:

- Update the firmware on the GIR, including EL and GIR32, units (note: upgrade only one unit at a time – wait until complete before starting the upgrade of the next)
- Show the current firmware on GIR units
- Upload/delete new firmware versions to the firmware manager on the EL24

Total GUARDIAN Welcome ray[Logout]
07/15/2013 - 12:52pm

HOME ADMIN RECEIVERS GIR GPDU FIRMWARE SCHEDULE

Firmware Installer

| Unit | Current | Load Firmware |
|------------|---|---|
| GIR (24) 1 | 21p ← | <input type="text" value="GPIR_v21z.bin"/> <input type="button" value="Install"/> ← |
| GIR (32) 3 |  | <input type="text" value="GPIR_v21z.bin"/> <input type="button" value="Install"/> |
| GIR (32) 9 |  | <input type="text" value="GPIR_v21z.bin"/> <input type="button" value="Install"/> |

← The current Firmware version for the unit

← The NEW Firmware version to UPDATE the unit

Firmware Manager

Filename: No file chosen

| Uploaded Firmware | Delete |
|-------------------|----------------------------------|
| GPIR_v21s.bin | <input type="button" value="x"/> |
| GPIR_v21z.bin | <input type="button" value="x"/> |

← Use to UPLOAD new Firmware Updates to EL24 before installing to all of the GIR24s and GIR32s

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Tools

From the Status and Lineup Control page click “Tools”

This page will enable you to:

- Ping various ip addresses for connectivity
- View the local weather

The screenshot shows the TotalGUARDIAN interface. At the top right, it says "Welcome ray[Logout] 07/15/2013 - 12:36pm". Below this is a navigation bar with "HOME", "SETTINGS", "TOOLS", and "VIEW LOG". The "Ping Test" section has a form with "Host: www.google.com", "Port: 80", and a "Test" button. Below the form, it displays "Host: www.google.com Port: 80 Up: Response Time 48 ms". The "Local Weather" section shows "currently 82°F Mostly Cloudy" and "tomorrow High 90°F Low 73°F" with a lightning bolt icon. At the bottom, it says "forecast provided by wunderground.com".

Logs

From the Status and Lineup Control page click “Logs”

This page will enable you to:

- View the log data

The screenshot shows the TotalGUARDIAN interface with the "Logs" section. At the top right, it says "Welcome ray[Logout] 07/15/2013 - 11:28am". Below this is a navigation bar with "HOME", "SETTINGS", "TOOLS", and "VIEW LOG". Below the navigation bar, it says "Pages: | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9". Below this is a table with the following data:

| Time | Unit | Value | Action |
|---------------------|--------|-------|---------------|
| 2013-05-24 08:24:34 | system | | System Reboot |
| 2013-05-24 08:15:05 | system | 50 | Humidity |
| 2013-05-24 08:15:05 | system | 79 | Temp |
| 2013-05-24 08:00:05 | system | 45 | Humidity |
| 2013-05-24 08:00:05 | system | 78 | Temp |

Unit Operation

Status and Lineup Control Page

This page will allow control of the TotalGUARDIAN™ and can be toggled between the Lineup Control page shown below for interacting with the main headend system receivers and the GPDU Control page (shown in the next section) for interacting with other /auxiliary attached equipment connected to GPDU's, i.e. media players, etc.

Total GUARDIAN Welcome matt[Logout] 06/05/2013 - 10:03am

HOME SETTINGS TOOLS VIEW LOG

All Outlets Off All Outlets On Set All Channels

Lineup Control GPDU Control

| Location | Unit Temp/Humidity | Weather |
|---------------------|--------------------|---|
| Guardian Demo 32750 | 82F / 43% | Sanford, FL 75°F Overcast wunderground.com* |

| Sat | Pgm | Output | Receiver | Actions | Set Ch |
|-----|----------|--------|-------------|---|-------------------------|
| 140 | ESPN HD | 32.1 | R0111205018 | <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> | <input type="text"/> Go |
| 144 | ESPN2 HD | 33.1 | R0111205019 | <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> | <input type="text"/> Go |
| 122 | Syfy HD | 34.1 | R0111205020 | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> | <input type="text"/> Go |
| 214 | Weather | 35.1 | R0111205021 | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> | <input type="text"/> Go |
| 118 | A&E HD | 36.1 | R0111205023 | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> | <input type="text"/> Go |
| 131 | AMC HD | 37.1 | R0111205024 | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> | <input type="text"/> Go |
| 176 | Toon HD | 38.1 | R0111205025 | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> | <input type="text"/> Go |
| 200 | CNN HD | 39.1 | R0111205022 | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> | <input type="text"/> Go |
| 211 | FOX | 40.1 | R0111205026 | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> | <input type="text"/> Go |

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- Bulk Controls
 - All outlets On / Off
 - Will turn on / off all connected GPDU outlets

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- Set All Channels
 - Will run the daily lineup set function on demand
- Control Page toggle
 - Lineup Control / GPDU Control
 - Toggles between the “Status and Lineup Control Page” and the “GPDU Control” page (See GPDU Control Page for details)
- General Information Panel
 - System name and location zip
 - Temperature and Humidity status (updated every 15 minutes)
 - Local weather (based on configured zip code)
- Channel Block
 - Channel Information
 - Sat Ch – the numerical channel the satellite receiver tunes
 - Ch Name – channel description (i.e. ABC HD)
 - Output – numerical QAM/Analog output channel (can include decimals for QAM sub channels)
 - Receiver – the receiver ID for the channel
 - Actions
 - Outlet Status/Control
 - Shows the current state of the outlet
 - Clicking will change the outlet state (on or off)
 - A yellow exclamation indications no communication to GPDU
 - Set Ch
 - Will set the receiver to the desired numeric satellite channel

Various GPDU outlet modes are shown in screen capture below: ON, OFF, not communicating, and Not Assigned

The screenshot shows the TotalGUARDIAN web interface. At the top, there is a navigation bar with 'HOME', 'SETTINGS', 'TOOLS', and 'VIEW LOG'. Below this, there are links for 'All Outlets Off', 'All Outlets On', 'Set All Channels', 'Lineup Control', and 'GPDU Control'. The main content area is divided into three sections: 'Location' (Quality Hotel 34787), 'Unit Temp/Humidity' (79F / 56%), and 'Weather' (Orlando, FL, 84°F, Mostly Cloudy). Below these sections is a table with columns: Sat, Pgm, Output, Receiver, Actions, and Set Ch. The table contains four rows of data, each with a corresponding GPDU outlet status icon and a 'Go' button. Red arrows point from the status icons to labels on the right side of the page: 'GPDU outlet is powered ON', 'GPDU outlet is powered OFF', 'GPDU outlet is NOT communicating/connected', and 'No GPDU outlet is assigned to this receiver/ch'.

| Sat | Pgm | Output | Receiver | Actions | Set Ch |
|-----|-----|--------|--------------|---------|-------------------------|
| 5 | ABC | 5 | R0111352920 | | <input type="text"/> Go |
| 6 | NBC | 6 | R0111352920 | | <input type="text"/> Go |
| 8 | ABC | 8 | R0111352931 | | <input type="text"/> Go |
| 100 | ABC | 100 | 232423131423 | | <input type="text"/> Go |

GPDU Control Page

This page will show any unallocated GPDU outlets from the main channel lineup. An outlet will be removed if an outlet is used in the main channel lineup.

Use the GPDU Control page to add 120VAC powered equipment you wish to remotely control the power of, i.e. PCs, multimedia players, DVD players, etc.

The screenshot shows the TotalGUARDIAN web interface. At the top, there is a navigation menu with links for HOME, SETTINGS, TOOLS, and VIEW LOG. Below the menu, there are status indicators: "All Outlets Off | All Outlets On" and "Lineup Control | GPDU Control". A weather widget displays "Sanford, FL" with a temperature of "79°F" and "Mostly Cloudy" conditions. Below the weather widget is a table with the following columns: "Description", "GPDU ID", "GPDU Output", and "Status / Action". The table contains eight rows of data, each with an "Edit" button next to the description field. The first row has the description "Blu-ray Player". At the bottom of the page, there is a footer with version information: "ver:2.24 | S/N:105241", contact information: "www.multicominc.com | TotalGUARDIAN@multicominc.com | 800-423-2594", and a copyright notice: "© 2013 Multicom, Inc. All rights reserved."

| Location | Unit Temp/Humidity | Weather | | |
|--|--------------------|--|-----------------|--|
| Guardian Demo 32750 | 79F / 46% | Sanford, FL 79°F Mostly Cloudy wunderground.com* | | |
| Description | GPDU ID | GPDU Output | Status / Action | |
| Blu-ray Player <input type="button" value="Edit"/> | 2 | 1 | ✓ | |
| <input type="text"/> <input type="button" value="Edit"/> | 2 | 2 | ✓ | |
| <input type="text"/> <input type="button" value="Edit"/> | 2 | 3 | ✓ | |
| <input type="text"/> <input type="button" value="Edit"/> | 2 | 4 | ✓ | |
| <input type="text"/> <input type="button" value="Edit"/> | 2 | 5 | ✓ | |
| <input type="text"/> <input type="button" value="Edit"/> | 2 | 6 | ✓ | |
| <input type="text"/> <input type="button" value="Edit"/> | 2 | 7 | ✓ | |
| <input type="text"/> <input type="button" value="Edit"/> | 2 | 8 | ✓ | |

- Description
 - Allows labeling of unused outlets
- Status / Action
 - Shows the current state of the outlet
 - Clicking will change the outlet state (on or off)
 - A yellow exclamation indicates no communication to GPDU

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Power Requirements for Commonly Used Equipment

Note: the GPDU is rated for a max of 15 amps for the entire unit. Load up to 12 amps or lower is highly recommended.

Do not overload a single outlet (less than 10 amps max) and be sure to spread the load over all of the outlets possible. An overloaded GPDU may not open its protective circuit breaker immediately – it may take minutes, hours, or longer before it will fail.

Carefully check and total all loads, including accommodating the higher inrush current on power up. Use a maximum load significantly lower than the rated 15A if the connected equipment has high inrush current on startup). Consult the manufacturer's equipment manual for details.

| Equipment Name | Rated Power | Rated Voltage | Amps | Suggested Max per each of the GPDU's 8 Outlets | Suggested Max per GPDU |
|--------------------|-------------|---------------|------|--|------------------------|
| DISH 211 | 55 watts | 120VAC | .46A | 3 | 24 |
| DISH 211K | 55 watts | 120VAC | .46A | 3 | 24 |
| DISH 222 | 85 watts | 120VAC | .71A | 2 | 16 |
| DISH 222K | 120 watts | 120VAC | 1A | 1 | 8 |
| DISH 311 | 40 watts | 120VAC | .33A | 4 | 32 |
| DISH 322 | 50 watts | 120VAC | .42A | 3 | 24 |
| DISH 2800 | 35 watts | 117VAC | .30A | 4 | 32 |
| DIRECTV D11 | | 120VAC | | | |
| DIRECTV D12 | 25 watts | 120VAC | .21A | 5 | 40 |
| DIRECTV H24 | 35 watts | 120VAC | .29A | 4 | 32 |
| DIRECTV COM23 | 35 watts | 120VAC | .29A | 4 | 32 |
| MOXEE 400-HD MPEG4 | 35 watts | 120VAC* | .29A | 4 | 32 |

Note: All values shown are from the printed information on the equipment cabinet (***subject to change without notice – check your receivers during installation to insure no overload of the system***). * - not shown on cabinet. ***A single receiver per outlet is always best but requires more GPDUs. The load and/or number of receivers is highly dependent on temperatures within the headend, the inrush current, etc. The recommendations are a guideline only for the maximum – your system operating with different parameters may actually mandate fewer. Note that overloaded GPDUs can operate for an extended period of time and then fail (usually with a “thrown” circuit breaker on the GPDU) due to the current sensing, thermal protection.***

Operating Conditions

Note: that operating the TotalGUARDIAN™ at elevated temperature for an extended period significantly reduces the life of the electronics AND voids the 1 year warranty. The equipment being monitored normally must not be operated at elevated temperatures or it will start operating erratically and then begin failing in unpredictable ways and usually permanently.

Frequently Asked Questions/Troubleshooting

The following are frequently asked questions about the initialization, setup, and ongoing operations using the system and its various components.

| QUESTION/ISSUE | POTENTIAL REASONS | RESOLUTIONS |
|--|--|---|
| Why won't my XYZ satellite receiver work with the TotalGUARDIAN? | The IR control cable is disconnected or in the wrong IR port or not on the receiver IR port. | Check correct location of the connector and IR blaster head. Send command to power on/off the receiver. The IR blaster head should turn on briefly to indicate command is being sent. |
| | The EL24/GIR32 unit controlling the receiver has the wrong firmware. | Each unit, the EL24 server, the GIR32 expansion unit can control the satellite receivers of a single manufacturer. The driver firmware for that specific manufacturer needs to be loaded in the unit. Reference the Firmware Updates section of the manual. |
| | | |
| Why did the TotalGUARDIAN tune my satellite receiver to the wrong channel? | Receivers can be tuned to wrong channels if control is attempted during rainfade/other satellite search/retuning operations. | Send the command to the receiver again during normal (non-retuning) operation of the receiver. |
| | Receiver is not working properly and needs to be replaced. | Determine by local manual testing of the receiver if all of its operations are normal. Replace if necessary. |
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