User Guide

Scalar & Signal Processors

GSS 100

Graphic Still Store

Extron

68-974-01 Rev. D
11 19

Safety Instructions

Safety Instructions • English

WARNING: This symbol, ⚠, when used on the product, is intended to alert the user of the presence of uninsulated dangerous voltage within the product's enclosure that may present a risk of electric shock.

ATTENTION: This symbol, ⚠, when used on the product, is intended to alert the user of important operating and maintenance (servicing) instructions in the literature provided with the equipment.

For information on safety guidelines, regulatory compliances, EMI/EMF compatibility, accessibility, and related topics, see the Extron Safety and Regulatory Compliance Guide, part number 68-290-01, on the Extron website, **www.extron.com**.

Sicherheitsanweisungen • Deutsch

WARNUNG: Dieses Symbol ⚠ auf dem Produkt soll den Benutzer darauf aufmerksam machen, dass im Inneren des Gehäuses dieses Produktes gefährliche Spannungen herrschen, die nicht isoliert sind und die einen elektrischen Schlag verursachen können.

VORSICHT: Dieses Symbol ⚠ auf dem Produkt soll dem Benutzer in der im Lieferumfang enthaltenen Dokumentation besonders wichtige Hinweise zur Bedienung und Wartung (Instandhaltung) geben.

Weitere Informationen über die Sicherheitsrichtlinien, Produkthandhabung, EMI/EMF-Kompatibilität, Zugänglichkeit und verwandte Themen finden Sie in den Extron-Richtlinien für Sicherheit und Handhabung (Artikelnummer 68-290-01) auf der Extron-Website, **www.extron.com**.

Instrucciones de seguridad • Español

ADVERTENCIA: Este símbolo, ⚠, cuando se utiliza en el producto, avisa al usuario de la presencia de voltaje peligroso sin aislar dentro del producto, lo que puede representar un riesgo de descarga eléctrica.

ATENCIÓN: Este símbolo, ⚠, cuando se utiliza en el producto, avisa al usuario de la presencia de importantes instrucciones de uso y mantenimiento recogidas en la documentación proporcionada con el equipo.

Para obtener información sobre directrices de seguridad, cumplimiento de normativas, compatibilidad electromagnética, accesibilidad y temas relacionados, consulte la Guía de cumplimiento de normativas y seguridad de Extron, referencia 68-290-01, en el sitio Web de Extron, **www.extron.com**.

Instructions de sécurité • Français

AVERTISSEMENT : Ce pictogramme, ⚠, lorsqu'il est utilisé sur le produit, signale à l'utilisateur la présence à l'intérieur du boîtier du produit d'une tension électrique dangereuse susceptible de provoquer un choc électrique.

ATTENTION : Ce pictogramme, ⚠, lorsqu'il est utilisé sur le produit, signale à l'utilisateur des instructions d'utilisation ou de maintenance importantes qui se trouvent dans la documentation fournie avec le matériel.

Pour en savoir plus sur les règles de sécurité, la conformité à la réglementation, la compatibilité EMI/EMF, l'accessibilité, et autres sujets connexes, lisez les informations de sécurité et de conformité Extron, réf. 68-290-01, sur le site Extron, **www.extron.com**.

Istruzioni di sicurezza • Italiano

AVVERTENZA: Il simbolo, ⚠, se usato sul prodotto, serve ad avvertire l'utente della presenza di tensione non isolata pericolosa all'interno del contenitore del prodotto che può costituire un rischio di scosse elettriche.

ATTENTZIONE: Il simbolo, ⚠, se usato sul prodotto, serve ad avvertire l'utente della presenza di importanti istruzioni di funzionamento e manutenzione nella documentazione fornita con l'apparecchio.

Per informazioni su parametri di sicurezza, conformità alle normative, compatibilità EMI/EMF, accessibilità e argomenti simili, fare riferimento alla Guida alla conformità normativa e di sicurezza di Extron, cod. articolo 68-290-01, sul sito web di Extron, **www.extron.com**.

Instrukcje bezpieczeństwa • Polska

OSTRZEŻENIE: Ten symbol, ⚠, gdy używany na produkt, ma na celu poinformować użytkownika o obecności izolowanego i niebezpiecznego napięcia wewnątrz obudowy produktu, który może stanowić zagrożenie porażenia prądem elektrycznym.

UWAGI: Ten symbol, ⚠, gdy używany na produkt, jest przeznaczony do ostrzegania użytkownika ważne operacyjne oraz instrukcje konserwacji (obsługi) w literaturze, wyposażone w sprzęt.

Informacji na temat wytycznych w sprawie bezpieczeństwa, regulacji wzajemnej zgodności, zgodność EMI/EMF, dostępności i Tematy pokrewne, zobacz Extron bezpieczeństwa i regulacyjnego zgodności przewodnik, część numer 68-290-01, na stronie internetowej Extron, **www.extron.com**.

Инструкция по технике безопасности • Русский

ПРЕДУПРЕЖДЕНИЕ: Данный символ, ⚠, если указан на продукте, предупреждает пользователя о наличии неизолированного опасного напряжения внутри корпуса продукта, которое может привести к поражению электрическим током.

ВНИМАНИЕ: Данный символ, ⚠, если указан на продукте, предупреждает пользователя о наличии важных инструкций по эксплуатации и обслуживанию в руководстве, прилагаемом к данному оборудованию.

Для получения информации о правилах техники безопасности, соблюдении нормативных требований, электромагнитной совместимости (ЭМП/ЭДС), возможности доступа и других вопросах см. руководство по безопасности и соблюдению нормативных требований Extron на сайте Extron: , **www.extron.com**, номер по каталогу - 68-290-01.

安全说明 • 简体中文

警告: ⚠产品上的这个标志意在警告用户该产品机壳内有暴露的危险 电压，有触电危险。

注意: ⚠ 产品上的这个标志意在提示用户设备随附的用户手册中有重要的操作和维护(维修) 说明。

关于我们产品的安全指南、遵循的规范、EMI/EMF 的兼容性、无障碍使用的特性等相关内容，敬请访问 Extron 网站 , **www.extron.com**，参见 Extron 安全规范指南，产品编号 68-290-01。

安全記事 • 繁體中文

警告: ⚠ 若產品上使用此符號，是為了提醒使用者，產品機殼內存在著可能會導致觸電之風險的未絕緣危險電壓。

注意 ⚠ 若產品上使用此符號，是為了提醒使用者，設備隨附的用戶手冊中有重要的操作和維護（維修）說明。

有關安全性指導方針、法規遵守、EMI/EMF 相容性、存取範圍和相關主題的詳細資訊，請瀏覽 Extron 網站:**www.extron.com**，然後參閱《Extron 安全性與法規遵守手冊》，準則編號 68-290-01。

安全上のご注意 • 日本語

警告: この記号⚠が製品上に表示されている場合は、筐体内に絶縁されていない高電圧が流れ、感電の危険があることを示しています。

注意: この記号 ⚠ が製品上に表示されている場合は、本機の取扱説明書に記載されている重要な操作と保守(整備)の指示についてユーザーの注意を喚起するものです。

安全上のご注意、法規厳守、EMI/EMF適合性、その他の関連項目については、エクストロンのウェブサイト **www.extron.com** より『Extron Safety and Regulatory Compliance Guide』(P/N 68-290-01) をご覧ください。

안전 지침 • 한국어

경고: 이 기호⚠가 제품에 사용될 경우, 제품의 인클로저 내에 있는 접지되지 않은 위험한 전류로 인해 사용자가 감전될 위험이 있음을 경고합니다.

주의: 이 기호⚠가 제품에 사용될 경우, 장비와 함께 제공된 책자에 나와 있는 주요 운영 및 유지보수(정비) 지침을 경고합니다.

안전 가이드라인, 규제 준수, EMI/EMF 호환성, 접근성, 그리고 관련 항목에 대한 자세한 내용은 Extron 웹 사이트(**www.extron.com**)의 Extron 안전 및 규제 준수 안내서, 68-290-01 조항을 참조하십시오.

Trademarks
All trademarks mentioned in this guide are the properties of their respective owners.
The following registered trademarks (®), registered service marks (℠), and trademarks (™) are the property of RGB Systems, Inc. or Extron Electronics (see the current list of trademarks on the **Terms of Use** page at **www.extron.com**):

Registered Trademarks (®)
Extron, Cable Cubby, ControlScript, CrossPoint, DTP, eBUS, EDID Manager, EDID Minder, Flat Field, FlexOS, Glitch Free. Global Configurator, Global Scripter, GlobalViewer, Hideaway, HyperLane, IP Intercom, IP Link, Key Minder, LinkLicense, LockIt, MediaLink, MediaPort, NetPA, PlenumVault, PoleVault, PowerCage, PURE3, Quantum, Show Me, SoundField, SpeedMount, SpeedSwitch, StudioStation, System *INTEGRATOR*, TeamWork, TouchLink, V-Lock, VideoLounge, VN-Matrix, VoiceLift, WallVault, WindoWall, XTP, XTP Systems, and ZipClip
Registered Service Mark(℠) : S3 Service Support Solutions
Trademarks (™)
AAP, AFL (Accu-RATE Frame Lock), ADSP (Advanced Digital Sync Processing), Auto-Image, AVEdge, CableCover, CDRS (Class D Ripple Suppression), Codec Connect, DDSP (Digital Display Sync Processing), DMI (Dynamic Motion Interpolation), Driver Configurator, DSP Configurator, DSVP (Digital Sync Validation Processing), eLink, EQIP, Everlast, FastBite, FOX, FOXBOX, IP Intercom HelpDesk, MAAP, MicroDigital, Opti-Torque, PendantConnect, ProDSP, QS-FPC (QuickSwitch Front Panel Controller), Room Agent, Scope-Trigger, ShareLink, SIS, Simple Instruction Set, Skew-Free, SpeedNav, Triple-Action Switching, True4K, Vector 4K , WebShare, XTRA, and ZipCaddy

FCC Class A Notice

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC rules. The Class A limits provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause interference. This interference must be corrected at the expense of the user.

NOTE: For more information on safety guidelines, regulatory compliances, EMI/EMF compatibility, accessibility, and related topics, see the **Extron Safety and Regulatory Compliance Guide** on the Extron website.

Conventions Used in this Guide

Notifications

The following notifications are used in this guide:

ATTENTION:

- Risk of property damage.
- Risque de dommages matériels.

NOTE: A note draws attention to important information.

Software Commands

Commands are written in the fonts shown here:

```
^AR Merge Scene,,0p1 scene 1,1 ^B 51 ^W^C.0
[01] R 0004 00300 00400 00800 00600 [02] 35 [17] [03]
Esc X1 * X17 * X20 * X23 * X21 CE ←
```

NOTE: For commands and examples of computer or device responses used in this guide, the character "**0**" is the number zero and "O" is the capital letter "o."

Computer responses and directory paths that do not have variables are written in the font shown here:

```
Reply from 208.132.180.48: bytes=32 times=2ms TTL=32
C:\Program Files\Extron
```

Variables are written in slanted form as shown here:

```
ping xxx.xxx.xxx.xxx –t
SOH R Data STX Command ETB ETX
```

Selectable items, such as menu names, menu options, buttons, tabs, and field names are written in the font shown here:

From the **File** menu, select **New**.

Click the **OK** button.

Specifications Availability

Product specifications are available on the Extron website, **www.extron.com**.

Extron Glossary of Terms

A glossary of terms is available at **http://www.extron.com/technology/glossary.aspx**.

Contents

Introduction

This section introduces the Extron GSS 100 Graphic Still Store, including:

- **About this Guide**
- **About the GSS 100 Graphic Still Store**
- **Features**

About this Guide

This manual contains installation and operating information for the Extron GSS 100 Graphic Still Store.

NOTE: Throughout this guide, the unit is identified as either "GSS 100," the "GSS," or the "graphic still store."

About the GSS 100 Graphic Still Store

The Extron GSS 100 (see figure 1) is a portable graphic still store with 16 MB of memory, into which you can load up to 6 XGA (1024 x 768) bitmap images (BMP) or 32 or more (depending on the compression rate) XGA JPG still images. The GSS can then output them in an RGB video format. The GSS provides a pass-through RGB video input, in addition to the stored images, and allows you to switch the output between the input and one of the stored images. This allows you to display a still image of your own choosing, such as a logo, text, or a landscape, during meeting breaks or while you load or make last minute edits to a presentation on a laptop computer.

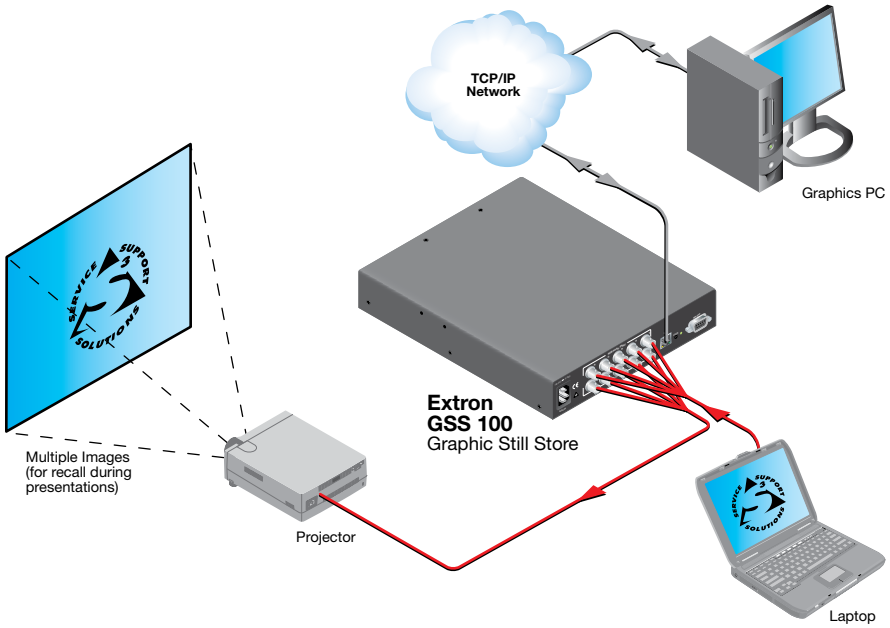


Figure 1. Typical GSS 100 Application

User-selected images, including the test patterns, can be uploaded to the GSS via its Ethernet port using HTML pages built into the GSS. The pass-through RGB input and the output are via female BNC connectors.

The GSS provides 16 MB of RAM for storage, providing room for up to 17 uploaded bitmap images. The number of images that the GSS can accommodate depends on the resolution of the images. Table 1 shows the number of BMP images that the GSS can accommodate, based on several common resolutions.

Resolution	640x480	800x600	1024x768	1280x1024	1400x1050
Size	900 kB	1400 kB	2400 kB	4000 kB	4400 kB
Image space	17	11	6	4	3

Table 1. Approximate Image Space for BMP Files

NOTE: Because of the variable compression schemes for JPG images, there is no reliable method to calculate the number of JPG images that the GSS can hold.

- Progressive JPG images are not supported.
- Bitmap (BMP) images must be formatted as 24-bit RGB.

The graphic still store is housed in a rack-mountable, 1U high, half rack-width metal enclosure. The internal 100 VAC to 240 VAC, 50-60 Hz, 15-watt, power supply provides worldwide power compatibility.

Features

- **16 MB of internal memory storage** — Sufficient for 6 XGA resolution (1024 x 768) BMP graphics, or 32 or more JPG images at XGA resolution, depending on the compression rate.
- Input pass-through mode
- Cut or dissolve switch effect between stored images
- Slide show effect automatically cycles through images.
- **Auto-switch mode** — Automatically switches to the selected stored image or a slide show when sync is lost on the pass-through input.
- Rack and under-desk mountable
- Worldwide internal power supply

Installation

This section details the installation of the GSS 100, including:

- **Mounting the GSS**
- **Rear Panel Connections**

Mounting the GSS

ATTENTION:

- Installation and service must be performed by authorized personnel only.
- L'installation et l'entretien doivent être effectués uniquement par un technicien qualifié.

Detailed mounting instructions can be found in **Reference Information** starting on page 47. The 1U high, half-rack width GSS 100 can be placed on a tabletop, mounted on a rack shelf, (see **Rack Mounting** on page 47) or mounted under or through furniture (see **Furniture Mounting** on page 48). Use the applicable optional hardware:

- RSU 129 9.5-inch deep universal rack shelf kit
- RSB 129 9.5-inch deep basic rack shelf
- MBU 125 Under-desk mount kit
- MBD 129 Through-desk mount kit

Rear Panel Connections

All connectors are on the rear panel (see figure 2).

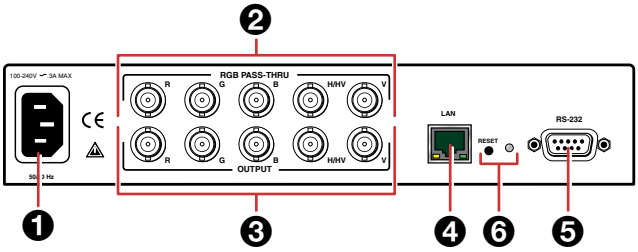


Figure 2. GSS 100 Graphic Still Store Rear Panel

Power Connection

❶ **AC power connector —** Plug a standard IEC power cord into this connector to connect the GSS to a 100 VAC to 240 VAC, 50 or 60 Hz power source.

Signal Connections

❷ **RGB PASS-THRU connectors —** Connect a high resolution or computer input (VGA, SVGA, XGA, SXGA, or UXGA) to these female BNC connectors.

❸ **OUTPUT connectors —** Connect an RGB video display or other device to these female BNC connectors (see figure 3 to connect the RGB video format for each configuration).

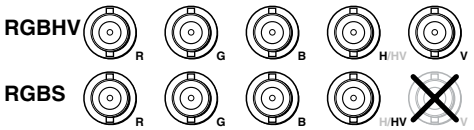


Figure 3. Video Output Connection Format

NOTE: The still image output format (RGBHV or RGBS) must be configured using the front panel controls or a Simple Instruction Set (SIS™) command (see **Programming Guide**, beginning on page 1). The output format applies only to the output of still images stored in the GSS; the RGB Pass-through video is output exactly as it is input.

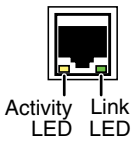
Remote Connections

Ethernet connection

❹ **LAN port** — Connect the GSS to a PC or to an Ethernet LAN, via this RJ-45 connector. You can use the HTML pages embedded in the GSS to upload still images from the PC to the GSS and to control the GSS. You can also use a PC to control the GSS with SIS commands.

Link LED indicator — The green (link) LED indicates that the GSS 100 is properly connected to an Ethernet LAN. This LED should light steadily.

Activity LED indicator — The yellow (activity) LED indicates transmission of data packets on the RJ-45 connector. This LED should flicker as the GSS 100 communicates.



Cabling

It is vital that your Ethernet cables be the correct cable type and that they be correctly terminated with the proper connector pinout. Ethernet links use Category (CAT) 3, 5e, or 6, unshielded twisted pair (UTP) or shielded twisted pair (STP) cables, terminated with RJ-45 connectors. Ethernet cables are limited to a length of 328 feet (100 m).

NOTES:

- Do not use standard telephone cables. Telephone cables do not support Ethernet or Fast Ethernet.
- Do not stretch or bend cables. Transmission errors can occur.

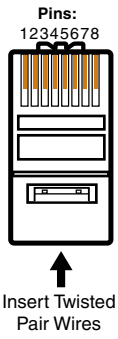
The cable used depends on your network speed. The GSS 100 supports both 10 Mbps (10Base-T — Ethernet) and 100 Mbps (100Base-T — Fast Ethernet), half-duplex and full-duplex Ethernet connections.

- 10Base-T Ethernet requires CAT 3 UTP or STP cable at minimum.
- 100Base-T Fast Ethernet requires CAT 5e UTP or STP cable at minimum.

RJ-45 connector wiring

The Ethernet cable can be terminated as a straight-through cable or a crossover cable and must be properly terminated for your application (see figure 4).

- **Crossover cable** — Direct connection between the computer and the GSS 100
- **Patch (straight) cable** — Connection of the GSS 100 to an Ethernet LAN



Crossover Cable

Pin	End 1 Wire color	End 2 Wire color
1	White-green	White-orange
2	Green	Orange
3	White-orange	White-green
4	Blue	Blue
5	White-blue	White-blue
6	Orange	Green
7	White-brown	White-brown
8	Brown	Brown
	T568A	T568B

A cable that is wired as T568A at one end and T568B at the other (Tx and Rx pairs reversed) is a "crossover" cable.

Straight-through Cable

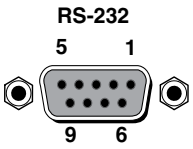
Pin	End 1 Wire color	End 2 Wire color
1	White-orange	White-orange
2	Orange	Orange
3	White-green	White-green
4	Blue	Blue
5	White-blue	White-blue
6	Green	Green
7	White-brown	White-brown
8	Brown	Brown
	T568B	T568B

A cable that is wired the same at both ends is called a "straight-through" cable, because no pin/pair assignments are swapped.

Figure 4. RJ-45 Connector and Pinout Tables

Serial connection

❺ **RS-232 port** — Connect a computer or control system to this 9-pin D connector to allow remote control using the SIS commands (see figure 5 and the **Programming Guide** section).



Pin	RS-232	Function
1	—	Not used
2	Tx	Transmit data
3	Rx	Receive data
4	—	Not used
5	Gnd	Signal ground
6	—	Not used
7	—	Not used
8	—	Not used
9	—	Not used

Figure 5. RS-232 Connector Pinout

Reset Button

❻ **RESET button** — The **Reset** button initiates three levels of reset to the GSS. Press and hold the button while the GSS is running or while you power up the GSS for different reset levels.

- **Events (mode 3) reset** — Hold the **Reset** button for approximately 3 seconds (the Reset LED blinks once), then release it and push it again for a moment to toggle events monitoring on and off.
- **IP settings (mode 4) reset** — Hold the **Reset** button for approximately 6 seconds (the Reset LED blinks twice), then release it and push it again for a moment to reset the IP functions of the GSS.
- **Absolute (mode 5) reset** — Hold the **Reset** button for approximately 9 seconds (the Reset LED blinks three times), then release it and push it again for a moment to restore the GSS to the default factory conditions.

NOTE: The absolute (mode 5) reset clears all image files, IP settings, and user settings and resets the graphic still store to the factory default.

Operation

This section describes the front panel operation of the GSS 100, including:

- **Front Panel Controls and Indicators**
- **Front Panel Operations**

Front Panel Controls and Indicators

Figure 6 shows the controls and indicators on the front panel of the GSS 100 (see **Front Panel Operations** on the next page for details on using these controls and indicators).

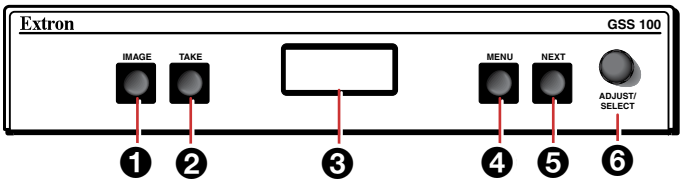


Figure 6. GSS 100 Front Panel

❶ **IMAGE button** — Press the **IMAGE** button to activate the menu on the LCD display (❸) that allows you to select between the pass-through input and one of the stored images.

❷ **TAKE button** — Press the **TAKE** button to select either the pass-through input or one of the stored images.

❸ **LCD display** — The 8-column by 2-line LCD screen displays output and configuration menus and status information.

❹ **MENU button** — Press the **MENU** button to enter and move through the main menu system in the GSS.

❺ **NEXT button** — Press the **NEXT** button to step through the submenus in the GSS menu system.

❻ **ADJUST/SELECT knob** — Rotate the **ADJUST/SELECT** knob to change settings when it is used in conjunction with the **IMAGE** and **TAKE** buttons or the **MENU** and **NEXT** buttons.

Front Panel Operations

Plug in all system components and turn on the input device (such as a desktop or laptop computers) and the output monitor. Use the LAN port to upload one or more still images to the GSS. Select either the pass-through input or one of the stored still images to output (see **Selecting an Image to Display** on the next page). The image should appear on the monitor connected to the output.

Power-on Indications

Power is applied when the power cord is connected between the GSS and an AC source. When AC power is applied, the GSS performs a self-test that shows the model name and the firmware version in the LCD display. After approximately 15 seconds, the LCD diplays its default cycle, alternating among four displays that show the model name, the currently displayed image (the pass-through input or the file name of one of the previously loaded images), the output resolution (of a stored image only; the pass-through input is output exactly as it is input), and the IP address of the unit (see figure 7).

The current settings are saved in nonvolatile memory. When power is applied, the latest configuration is retrieved.

NOTE: On figure 7 and all other flowcharts in this chapter, dashed lines indicate screen changes that are the result of a timeout function.

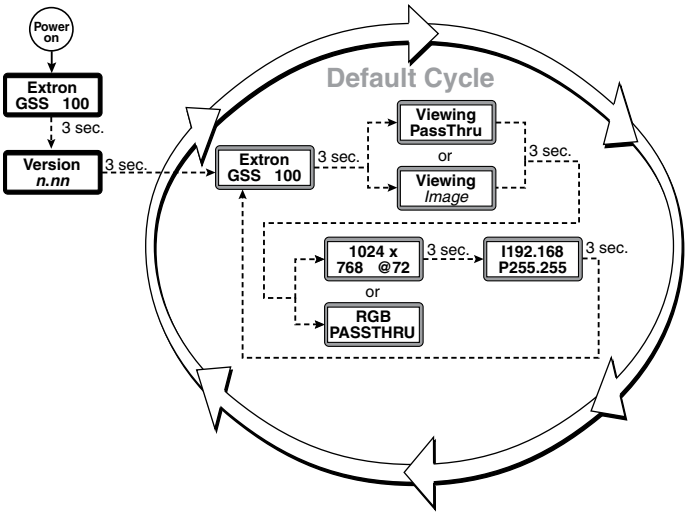


Figure 7. LCD Power-on Displays and Default Display Cycle

NOTE: If the displayed file name is too large (more than eight characters, including the file extension) for the LCD, the LCD shifts the file name:

Selecting an Image to Display

NOTES:

- The only valid file formats for uploaded image files are BMP and JPG.
- Valid file names are up to 240 alphanumeric characters with no spaces.
- Progressive JPG images are not supported.
- Bitmap (BMP) images must be formatted as 24-bit RGB.
- 1080i and 1080p files need to be mastered at a resolution of 1440 x 1080 instead of the expected 1920 x 1080.

Select an image to display as follows:

1. Press and release the **IMAGE** button (see figure 8).

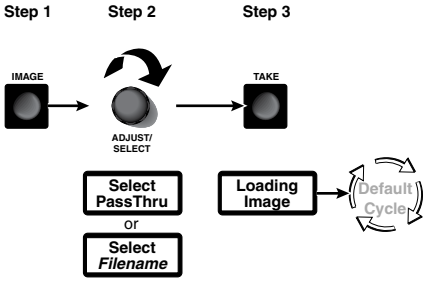


Figure 8. Selecting an Image

2. Rotate the **ADJUST/SELECT** knob to select either PassThru or one of the previously loaded images by file name.
3. Press and release the Take button. The LCD shows **Loading Image** and then returns to the default display cycle once the image is loaded.

Muting the Video Output

To toggle the video output mute on and off, press and **hold** the **TAKE** button for approximately 3 seconds (see figure 9). When the video output is muted (video is not output), an asterisk (*) appears and blinks in the LCD default display cycle, in either the output resolution display or the RGB pass-through display. When the video output is unmuted (video is output), the asterisk is not present.

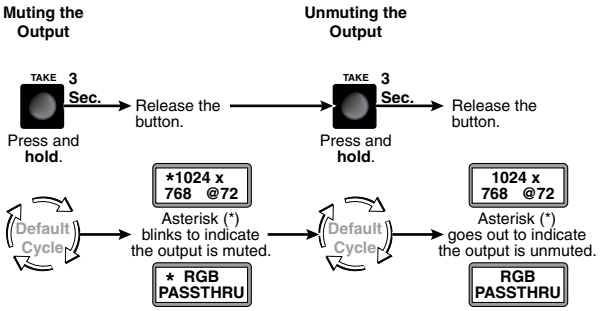


Figure 9. Muting and Unmuting the Output

Menu System Overview

Figure 10 shows a flowchart of the main menus in the menu system.

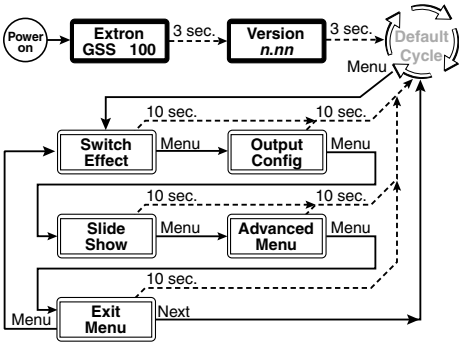


Figure 10. Menu System Flowchart

MENU button — Press the **MENU** button to activate the menu system and to scroll through the five main menus.

NEXT button — Press the **NEXT** button to move between the submenus of a selected main menu, to activate one for viewing or configuration, and to save a selection.

ADJUST/SELECT knob — When in a submenu, rotate the **ADJUST/SELECT** knob to scroll through the submenu options and select a setting. See the flowcharts in this section and specific subsections for explanations of knob adjustments.

NOTES:

- To return to the default cycle, let the GSS remain idle for 30 seconds until the selected screen times out, or press the **MENU** button until the `Exit Menu` appears, then press the **NEXT** button.
- From any menu or submenu, after 30 seconds of inactivity, the GSS saves all adjustment settings and times out to the default LCD display cycle.
- The GSS saves settings to its non-volatile memory every 3 minutes. Ensure that you wait at least 3 minutes after making any changes or those changes may be lost.

Switch Effect menu

Figure 11 is a flowchart that shows an overview of the `Switch Effect` menu and the available settings.

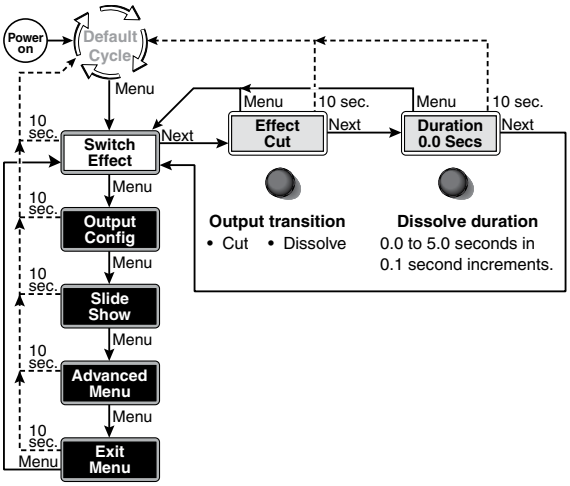


Figure 11. Switch Effect Menu Flowchart

Effect submenu

Rotate the **ADJUST/SELECT** knob while in the `Effect` submenu to cut (immediate switch) and dissolve (the image dissolves from old to new). Cut is the default selection.

Duration submenu

Rotate the **ADJUST/SELECT** knob while in the `Duration` submenu to select the duration for the dissolve effect (if it is selected), between 0.0 and 5.0 seconds in 0.1 second increments. The default duration is 1.0 seconds.

Output Configuration menu

Figure 12 is a flowchart that shows an overview of the `Output Configuration` menu and the available settings.

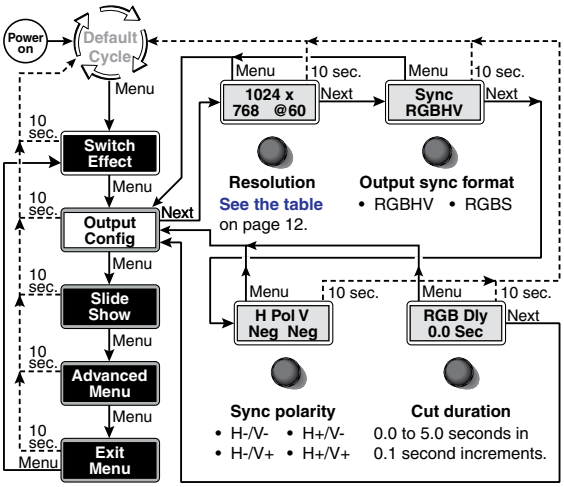


Figure 12. Output Configuration Submenu

NOTE: The `Output Configuration` menu settings apply only to the output of still images stored in the GSS; the RGB Pass-through video is output exactly as it is input.

Resolution submenu

Rotate the **ADJUST/SELECT** knob while in the `Resolution` submenu to select the resolution of the stored image output. 1024 x 768 at 60 Hz is the default resolution.

NOTE: To view an uncropped full screen image at 1080p or 1080i, the image resolution must be 1440 x 1080.

Resolution	50 Hz	60 Hz	72 Hz	96 Hz	100 Hz	120 Hz
640 x 480	•	•	•	•	•	•
800 x 600	•	•	•	•	•	•
852 x 480	•	•	•	•	•	
1024 x 768	•	•	•	•		
1024 x 852	•	•	•	•		
1024 x 1024	•	•	•			
1280 x 768	•	•				
1280 x 800	•	•				
1280 x 1024	•	•				
1360 x 765	•	•				
1365 x 768	•	•				
1366 x 768	•	•				
1365 x 1024	•	•				
1400 x 1050	•	•				
1440 x 900	•	•				
480p	•	•				
576p	•	•				
720p	•	•				
1080i	•	•				
1080p	•	•				

Sync format submenu

Rotate the **ADJUST/SELECT** knob while in the `Sync` format submenu to select the sync format for the still image output. RGBHV is the default selection.

Sync polarity submenu

Rotate the **ADJUST/SELECT** knob while in the Sync polarity submenu to select the sync polarity (positive and negative) for the still image output. Horizontal and vertical negative sync are the default selection.

RGB Delay submenu

The GSS can briefly blank the RGB (video) output while it switches between the stored image and the pass-through image. This allows the change in display to appear without a glitch. RGB delay is also known as Triple-Action Switching or video mute switching.

Rotate the **ADJUST/SELECT** knob while in the RGB Delay submenu to set the delay between 0 and 5 seconds, in 0.1-second increments. No delay (0.0 seconds) is the default setting.

Slide Show menu

Figure 13 is a flowchart that shows an overview of the `Slide Show` menu and the available settings.

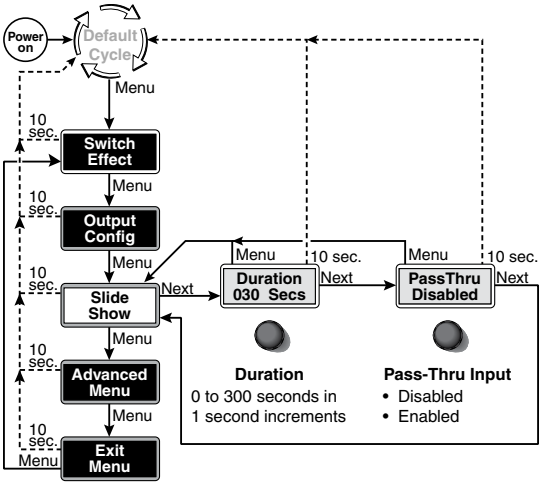


Figure 13. Slide Show Submenu Flowchart

Duration submenu

Rotate the **`ADJUST/SELECT`** knob while in the `Duration` submenu to set the duration of each displayed image in the slide show between 0 and 300 seconds, in 1-second increments. The default duration is 30 seconds.

NOTE: The actual time that an image is displayed may vary, based on the decoding time of the next image in the slide show.

Pass-Thru submenu

Rotate the **`ADJUST/SELECT`** knob while in the `Pass-Thru` submenu to enable or disable the inclusion of the pass-through input as part of the slide show. The pass-through input is disabled from being part of the slide show by default.

Advanced menu

Figure 14 is a flowchart that shows an overview of the `Advanced` menu and the available settings.

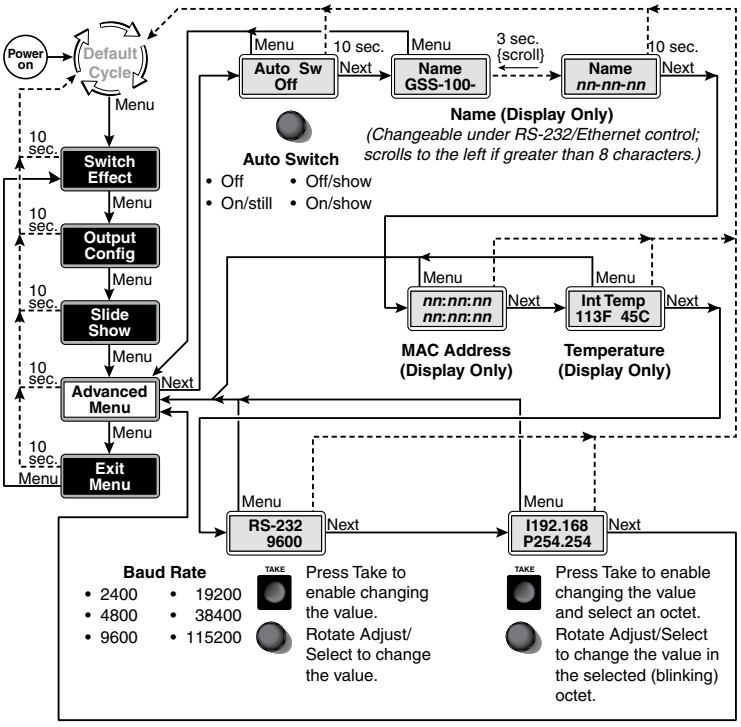


Figure 14. Advanced Submenu Flowchart

Auto Switch (and slide show) submenu

The GSS can be set to an auto-switch mode that monitors the sync signal on the RGB pass-through input and automatically switches to the last-displayed stored image or slide show for output when sync is lost. This submenu also allows you to turn the auto-switching and slide show on and off.

Rotate the **`ADJUST/SELECT`** mode while in the `Auto-Switch` submenu to select:

- **Off (auto-switch mode off and slide show off) —** Deactivates the automatic sync detection and the slide show.
- **Off/show (auto-switch off and slide show on) —** Leaves the automatic sync detection off and manually initiates the slide show. If the pass-through input was being displayed when this selection is made, the GSS displays the first image alphabetically by file name.
- **On/still (auto-switch on and slide show off) —** Activates the automatic sync detection and auto-switches to the still image. If sync is lost, the GSS switches to the last displayed image that was output and outputs that image until sync is restored or you select another image to display.
- **On/show (auto-Switch on and slide show on) —** Activates the automatic sync detection and auto-switches to the slide show. If sync is lost, the GSS switches to the last-displayed image and begins to cycle through the available images.

The default setting is Off.

Name display

The read-only Name display shows either the factory default name or a customized name that can be assigned under RS-232 or Ethernet control. If the name is greater than eight characters, the display shows the first eight characters of the assigned name and then scrolls the name to the left to display the remaining characters of the name.

The factory default name is the product name (GSS-100-) plus the last three pairs of the MAC address (see **Programming Guide** on page 16 and **HTML Control and IPL File Manager** on page 27 sections to assign a name).

MAC Address display

The read-only MAC Address display shows the hardcoded, factory assigned hardware address.

Internal Temperature display

The read-only Internal Temperature display shows the Fahrenheit and Celsius measurements for the GSS temperature.

ATTENTION:

- Temperatures above 150 degrees Fahrenheit (65 degrees Celsius) are potentially damaging to the GSS.
- Des températures supérieures à 65 degrés Celsius (150 degrés Fahrenheit) risquent d'endommager le GSS.

Baud Rate submenu

The Baud Rate menu is read-only without further action. The menu shows the selected baud rate for the RS-232 port of the GSS. The default setting is 9600.

To change the baud rate, press and release the **TAKE** button. The baud rate display starts blinking, and can be adjusted by rotating the **ADJUST/SELECT** knob.

NOTE: The baud rate is also selectable using SIS commands (see the **Programming Guide** section).

IP address submenu

The read-only IP address menu is read-only without further action. The menu shows the IP address of the GSS. The factory default IP address is 192.168.254.254.

To change the IP address, one octet at a time, press and release the **TAKE** button. The first (most-significant) octet starts blinking, and can be adjusted by rotating the **ADJUST/SELECT** knob. Repeatedly press and release the **TAKE** button to cycle through the four IP address octets, enabling them for editing, one at a time.

NOTE: The IP address is also selectable using SIS commands or the HTML pages (see the **Programming Guide** and **HTML Control and IPL File Manager** sections).

Exit menu

Press and release the **NEXT** button while in the **Exit** menu to return the LCD to the default display cycle.

Front Panel Security Lockout (Executive Mode)

The front panel security lockout (lock mode 1) limits the operation of the GSS from the front panel. When the GSS is locked, the front panel **MENU** and **NEXT** buttons are disabled, although the Image and Take buttons are still functional. If you push the Menu or Next button when the GSS is locked, the LCD shows **X Mode Enabled** for approximately 5 seconds and then returns to the default display cycle.

To toggle the lock on and off (lock mode 0), press and **hold** the **IMAGE** button and the **NEXT** button for approximately 2 seconds.

NOTE: Lock mode 2, available using SIS commands only, completely locks the front panel, including the Image and Take buttons. Lock mode 2 can also be disabled using SIS commands **only** (see the **Front panel lock (Executive mode)** SIS commands on page 22).

Front Panel Absolute Reset

The GSS 100 can be reset from the front panel, resetting the unit to its factory default conditions and deleting all uploaded images. Reset the GSS by pressing and holding the **MENU** and **NEXT** buttons while applying power to the unit (see figure 15).

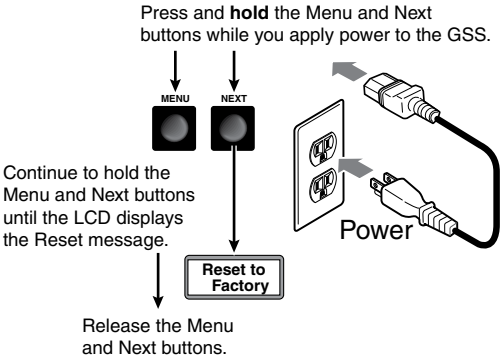


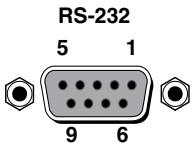
Figure 15. System Reset

NOTE: The front panel absolute reset can be used to recover a GSS that has been inadvertently loaded with image files in incompatible formats.

Programming Guide

This section describes Simple Instruction Set operation of the GSS 100.

The rear panel RS-232 connector (see figure 16) can be connected to the serial port of a host device, such as a computer or control system. Communications with the GSS are via the Extron Simple Instruction Set (SIS).



Pin	RS-232	Function
1	—	Not used
2	Tx	Transmit data
3	Rx	Receive data
4	—	Not used
5	Gnd	Signal ground
6	—	Not used
7	—	Not used
8	—	Not used
9	—	Not used

Figure 16. Remote Connector Pinout

The baud rate for the rear panel RS-232 port can be set to a variety of different rates. The default protocol for the port is as follows:

- 9600 baud
- 8-bit, 1 stop bit
- no parity
- no flow control

Simple Instruction Set Control

Symbols

Symbols (values), defined starting below, are used throughout the discussions of the GSS-initiated messages that begin below and the command and response table that begins on **page 20**. The symbols represent variables in the GSS-initiated messages and the command and response table fields.

GSS-initiated (Unsolicited) Messages

When a local event, such as an equipment power-up, occurs, the GSS responds by sending a message to the host. The GSS-initiated messages are listed in the following pages. The messages are underlined.

The GSS does not expect a response from the host, but the host program may request a new status.

Power-up

`(c) Copyright 20xx, Extron Electronics, GSS 100, Vx.xx↵`

The GSS 100 issues the `Copyright` message (above) when it first powers on. V*x.xx* is the firmware version number.

Image selection

`Take`↵ `Bsy1`↵ `Bsy0`↵

The GSS issues the above sequence of commands when a front panel image selection operation or a slide show image change occurs.

- The `Take` message indicates the change of output image.
- The `Bsy1` message indicates to the connected control device that the GSS is busy processing the cut or dissolve transition and is unable to respond to input commands.
- The `Bsy0` message indicates that the GSS is no longer busy and can respond to input commands.

Switch effect

`Eff`X3↵

The GSS 100 initiates the `Eff` message when a front panel change in the image switch effect takes place.

`Dur`X3↵

The GSS 100 initiates the `Dur` message when a front panel change in the dissolve duration takes place.

Output configuration

NOTE: The output configuration settings apply only to the the output of still images stored in the GSS; the RGB pass-through video is output exactly as it is input.

`Rte`X5*X6↵

The GSS 100 initiates the `Rte` message when a front panel change in the output resolution takes place.

`Syn`X7↵

The GSS 100 initiates the `Syn` message when a front panel change in the output sync format takes place.

`Pol`X8↵

The GSS 100 initiates the `Pol` message when a front panel change in the output sync polarity takes place.

`Dly`X3↵

The GSS 100 initiates the `Dly` message when a front panel change in the RGB delay interval takes place.

Auto-switch and slide show control

`Pas`X2↵

The GSS 100 initiates the `Pas` message when a front panel change in the pass-through configuration takes place.

`Aut`X4↵

The GSS 100 initiates the `Aut` message when a front panel change in the auto-switch and slide show on and off status takes place.

`Sli`X3↵

The GSS 100 initiates the `Sli` message when a front panel change in the slide display duration takes place.

Front panel locks

Exe[x2]↵

The GSS 100 initiates the `Exe` message when a front panel change in the front panel lock on or off status takes place.

Host-to-GSS Instructions

SIS commands consist of one or more characters per field. No special characters are required to begin or end a command character sequence. When a command is valid, the unit executes the command and sends a response to the host device. All responses from the unit to the host end with a carriage return and a line feed (CR/LF = ↵), which signals the end of the response character string. A string is one or more characters.

Error Responses

When the GSS 100 receives a valid SIS command, it executes the command and sends a response to the host device. If the unit is unable to execute the command because the command is invalid or it contains invalid parameters, the unit returns an error response to the host. The error response codes are:

Error	Definition	Error	Definition
E10	Unrecognized command	E22	Busy
E12	Invalid port number	E24	Privilege violation
E13	Invalid parameter (number is out of range)	E25	Device not present
E14	Invalid for this configuration	E26	Maximum connections exceeded
E17	Invalid command for signal type	E27	Invalid event number
E18	System timed out	E28	Bad file name or file not found

Timeout

Pauses of 10 seconds or longer between command ASCII characters result in a timeout. The command operation is aborted with no other indication.

Using the Command and Response Tables

The command and response table begins on the **page 20**. Either uppercase or lowercase letters are acceptable in the command field except where indicated for the audio level (gain and attenuation) commands. Symbols are used throughout the table to represent variables in the command/response fields. Command and response examples are shown throughout the table. The ASCII to Hex conversion table below is for use with the command and response table.

Space →

ASCII to Hex Conversion Table																Esc	1B	CR	ØD	LF	ØA
	2Ø	!	21	"	22	#	23	$	24	%	25	&	26	'	27						
(	28	)	29	*	2A	+	2B	,	2C	-	2D	.	2E	/	2F						
Ø	3Ø	1	31	2	32	3	33	4	34	5	35	6	36	7	37						
8	38	9	39	:	3A	;	3B	<	3C	=	3D	>	3E	?	3F						
@	4Ø	A	41	B	42	C	43	D	44	E	45	F	46	G	47						
H	48	I	49	J	4A	K	4B	L	4C	M	4D	N	4E	O	4F						
P	5Ø	Q	51	R	52	S	53	T	54	U	55	V	56	W	57						
X	58	Y	59	Z	5A	[	5B	\	5C	]	5D	^	5E	_	5F						
`	6Ø	a	61	b	62	c	63	d	64	e	65	f	66	g	67						
h	68	i	69	j	6A	k	6B	l	6C	m	6D	n	6E	o	6F						
p	7Ø	q	71	r	72	s	73	t	74	u	75	v	76	w	77						
x	78	y	79	z	7A	{	7B	|	7C	}	7D	~	7E	DEL	7F						

Common Symbol Definitions		
↵	=	CR/LF (carriage return/line feed)
↵	=	Carriage return with line feed (hex 0D 0A)
← or ¦	=	Carriage return or pipe symbol (no line feed, hex 0D)
←	=	Carriage return with no line feed (no line feed, hex 0D) (for URL-encoded commands, use the pipe character, |, instead)
Esc	=	Escape key, or hex 1B (use `W` instead of Esc for web browsers, or at any time)
|	=	Pipe (vertical bar) character (URL equivalent to carriage return)
•	=	Space
*	=	Asterisk character (which is a command character, not a variable)

Command and Response Table for SIS Commands

NOTE: For commands and examples of computer or device responses used in this guide, the character "0" is the number zero and "O" is the capital letter "o."

Command	ASCII Command (Host to Unit)	Response (Unit to Host)	Additional Description
Image recall			
Recall an image to buffer	Esc X1 RF ←	Cim• X1 ↵	Select image X1 to display.
NOTE: It takes several seconds between the issuance of the recall command (Esc X1 RF ←) and the receipt of the Cim response.			
Show the image that is currently displayed	Esc RF ←	X1 ↵	The buffer is loaded with image X1.
Take	%	Tke ↵	Swap the displayed and buffered images using the selected effect (cut or dissolve).
Switch effect			
Set the effect to cut	9*0#	Eff0 ↵	Set the effect for switching images to cut (immediate).
Set the effect to dissolve	9*1#	Eff1 ↵	Set the effect for switching images to dissolve.
Read the effect	9#	X2 ↵	
Set the dissolve duration	10*X3#	Dur X3 ↵	Set the duration of the dissolve effect to X3.
Read the dissolve duration	10#	X3 ↵	The dissolve duration is X3.
Source selection			
Display pass-through	1!	Chn1 ↵	Display the pass-through input.
Display last image	0!	Chn0 ↵	Display the previously selected stored image.
View pass-through status	!	X2 ↵	Pass-through mode is X2.
Slide show interval			
Set slide show interval	2*X3#	Sli X3 ↵	Set the display time for each image to X3 seconds.
Read slide show interval	2#	X3 ↵	The display time for each image is X3 seconds.
Pass-through configuration			
Enable pass-through	1*1#	Pas1 ↵	Include the pass-through input in the slide show.
Disable pass-through	1*0#	Pas0 ↵	Do not include the pass-through input in the slide show.
Read the pass-through status	1#	X2 ↵	Show the status of the pass-through.

KEY:

X1 = Image file name — Image name with file extension (*.bmp or *.jpg)

X2 = Cut / dissolve status: 0 = cut, 1 = dissolve
Pass-through status: 0 = pass-thu, 1 = no pass-thru

X3 = Time (duration) — 00 – 50 (0.0 to 5.0 seconds) for dissolve duration
000 – 300 seconds for slide show interval

Command	ASCII Command (Host to Unit)	Response (Unit to Host)	Additional Description
Auto-switch and slide show mode			
Set auto-switch and slide show mode	4*X4#	Aut X4 ↵	Set auto-switch and slide show mode. X4 definitions: **0 = Off —** Auto-switch on loss of pass-through sync and slide show are disabled. **1 = Off/show —** Auto-switch on loss of pass-through is disabled. Slide show is running. **2 = On/still —** On loss of sync on the pass-through input, auto-switch to display the last-displayed image until pass-through sync is restored. **3 = On/show —** On loss of sync on the pass-through input, auto-switch to run the slide show until sync on the pass-through input is restored.
Show auto-switch and slide show mode	4#	X4 ↵	
Output rate			
Set the output rate	X5*X6=	Rte X5*X6 ↵	Set the output resolution for the stored image to X5 at X6 Hz.
NOTE: The output rate (=) command affects the display of the stored images only; pass-through sources are output exactly as they are input.			
Example:	3*1=	Rte3•1 ↵	Set the output resolution for the stored image to 1024 x 768 at 60 Hz.
Read output rate	=	X5*X6 ↵	The output resolution of the stored image is X5 at X6 Hz.
Output sync			
Set the output sync format	6*X7#	Syn X7 ↵	Set the output sync format of the stored image to X7.
NOTE: The output sync format (6#) command affects the display of the stored images only; pass-through sources are output exactly as they are input.			
Example:	6*0#	Syn0 ↵	Set the output sync format for the stored image to RGBHV.
View output sync format	6#	X7 ↵	The output sync format for the stored image is X7.

KEY:					
X4 = Auto-switch/slide show	0 = off	2 = on /still			
	1 = off / show	3 = on / show			
X5 = Resolution	0 = 640 x 480	5 = 1024 x 1024	10 = 1366 x 768	15 = 720p	
	1 = 600 x 600	6 = 1280 x 768	11 = 1365 x 1024	16 = 1080i	
	2 = 852 x 480	7 = 1280 x 1024	12 = 1400 x 1050	17 = 1080p	
	3 = 1024 x 768	8 = 1360 x 765	13 = 480p	18 = 1280 x 800	
	4 = 1024 x 852	9 = 1365 x 768	14 = 576p	19 = 1440 x 900	
X6 = Refresh rate	0 = 50 Hz	2 = 72 Hz	4 = 100 Hz		
	1 = 60 Hz	3 = 96 Hz	5 = 120 Hz		
X7 = Sync format	0 = RGBHV	1 = RGBS			
X8 = Sync polarity	0 = H– / V–	1 = H– / V+	2 = H+ / V–	3 = H+ / V+	

Command	ASCII Command (Host to Unit)	Response (Unit to Host)	Additional Description
Output sync (Continued)			
Set the output sync polarity	7*X8#	Pol X8 ↵	Set the output sync polarity of the stored image to X8.
NOTE: The output sync polarity (7#) command affects the display of the stored images only; pass-through sources are output exactly as they are input.			
Example:	7*0#	Pol0↵	Set the output sync polarity for the stored image to H– and V–.
View the output sync polarity	7#	X8↵	The output sync polarity for the stored image is X8.
RGB delay (for pass-through)			
Set RGB delay	8*X3#	Dly X3 ↵	Set the RGB delay value (video mute) before displaying the RGB pass-through input to X3.
Read RGB delay	8#	X3↵	
Video mute			
Mute video	1B	Vmt1↵	Mute the output video (black screen)
Unmute video	0B	Vmt0↵	Unmute the output video (output video)
Show video mute status	B	X2↵	
Front panel lock (Executive mode)			
Partially lock front panel	1X	Exe1↵	Partially lock the front panel. Only the Image and Take buttons function.
Completely lock front panel	2X	Exe2↵	Lock all front panel functions.
Unlock front panel	0X	Exe0↵	Unlock the front panel.
Show front panel lock status	X	X9↵	
Event (script) control			
Read event buffer memory	Esc X10 , X11 , X12 , X13 E←	X14↵	Read the contents of a specific section of a memory buffer for event number X10.
Read event status	Esc X10 E←	X15↵	Show the status of event X10. The following X15 information fields are displayed: event_type, event_state, event_paused, error_status, RcvBuff_ startptr, cvBuff_endptr, UsrBuff_startptr, and UsrBuff_endpt.

KEY:

X2 = Cut / dissolve status:	0 = cut	1 = dissolve			
Pass-through status:	0 = pass-thru	1 = no pass-thru			
X3 = Time (duration)	00 – 50 (0.0 to 5.0 seconds) for dissolve duration				
	000 – 300 seconds for slide show interval				
X8 = Sync polarity	0 = H– / V–	1 = H– / V+	2 = H+ / V–	3 = H+ / V+	
X(= Executive mode	0 = mode 0	1 = mode 1	2 = mode 2		
X10 = Event number	00 through 99				
X11 = Event buffer	0 = Receive	1 = User	2 = NVRAM		
X12 = Even buffer offset	00 through maximum buffer size				
X13 = Event data size (case sensitive)	b = bit	S = short (16 bits)	B = byte	L = long (32 bits)	
X14 = ASCII digits representing the numeric value of the data element read from the event buffer					
X15 = Event status fields	See the complete list in the Esc X10 E← command, above				

Command	ASCII Command (Host to Unit)	Response (Unit to Host)	Additional Description
Event (script) control (Continued)			
Write event to memory buffer	Esc X10 , X11 , X12 , X16 , X13 E ←	Ewr X10 , X16 ↵	Write event X10 to buffer X11, offset by X12. Include data X16, size X13.
Read string from event buffer memory	Esc X10 , X11 , X12 , X17 FE ←	*<string>* ↵	Read string from event X10, buffer X11, offset by X12, X17 bytes.
Write string to event buffer memory	Esc X16 , X10 , X11 , X12 FE ←	Ewr X10 , X16 ↵	Write data string X16 from event X10, buffer X11, offset by X12.
Start events	Esc 1AE ←	Ego ↵	Initiate all programmed events.
Stop events	Esc 0AE ←	Est ↵	Stop all programmed events.
Show # of running events	Esc AE ←	Enm *nn* ↵	*nn* is the number of events running.
View, information, part number, and firmware requests			
Information request	I	Chn X2 •Vmt X2 •Exe X9 •Typ X18 ↵	
Example:	I	Chn0•Vmt0•Exe1•Typ0 ↵	Pass-through input is not displayed, video output is not muted, panel is partially locked, no sync signal is detected on the pass-through input.
Request user memory usage	4I	X10 •Bytes•Used•out•of•17344•KBytes ↵	
Example:	4I	1149184•Bytes•Used•out•of•17344•KBytes ↵	This device has approximately 5850 kBytes of user memory available (17344 kBytes – 11491 kBytes) for additional stored images and HTML pages.
Request for part number	N	60-684-01 ↵	Display the GSS 100 part number.
Query firmware version	Q	X11 ↵	Firmware version *x.xx*.
Resets			
NOTE: The GSS is shipped password-protected. The factory configured passwords for all accounts on this device have been set to the device serial number. In the event of a complete system reset, the passwords convert to the default, which is no password.			
Erase all files	Esc Zfff ←	Zpf ↵	Erase user-supplied files. Does not reset IP settings.
Master reset	Esc Zxxx ←	Zpx ↵	Resets all user settings to their default values. Does not reset IP settings or delete loaded image files.
Absolute reset	Esc Zqqq ←	Zpq ↵	Resets all device settings to their factory defaults. Erases all loaded files. The firmware version remains unchanged.
Absolute reset, *retaining IP*	Esc ZY ←	Zpy ↵	Similar to absolute reset (Esc Zqqq ←), except that IP settings (IP address, subnet mask, gateway address, unit name, DHCP setting, and port mapping [Telnet/web/Direct Access] are excluded). Preserves communications with the device and is recommended after a firmware update.

KEY:

X2 = On or off status:	0 = off	1 = on			
Pass-through status:	0 = pass-thru	1 = no pass-thru			
X9 = Front panel lock modes	0 = unlock	1 = partial lock	2 = complete lock		
X10 = Event number	00 through 99				
X11 = Event buffer	0 = Receive	1 = User	2 = NVRAM		
X12 = Even buffer offset	00 through maximum buffer size				
X13 = Event data size (case sensitive)	b = bit	S = short (16 bits)	B = byte	L = long (32 bits)	
X16 = Event data to write					
X17 = Number of bytes to read					
X18 = Pass-through sync status	0 = No sync detected	2 = H sync detected			
	1 = V sync detected	3 = HV (composite) sync detected			

Command	ASCII Command (Host to Unit)	Response (Unit to Host)	Additional Description
File management			
NOTE: A directory name is an alphanumeric text string that can also include the minus (-), plus (+), and colon (:) signs. Blank and space characters are not permitted. The first character must be a letter. The directory name is not case-sensitive.			
Change or create directory	Esc path/directory/CJ ←	Dir•path/directory/↵	
Go to root directory	Esc /CJ ←	Dir•/↵	
Go up one directory	Esc E..CJ ←	Dir•path/directory/↵	
Show current directory	Esc CJ ←	path/directory/↵	
NOTE: The response to the View File Directory command differs, depending on whether the command is sent via an RS-232, RS-422, or Telnet connection or sent via a web browser connection.			
View file directory RS232/RS422 port and Telnet	Esc DF ←	*<filename1>,<date/time>,<length>*↵ *<filename2>,<date/time>,<length>*↵ *<filename3>,<date/time>,<length>*↵ • • • • *<filenamen>,<date/time>,<length>*↵ <number of Bytes>•Left↵↵	List user-supplied files.
View file directory web browser	Esc DF ←	Var file = new array (); File [1] = '*<filename1>,<date1>,<filesize1>*'; File [2] = '*<filename2>,<date2>,<filesize2>*'; File [3] = '*<filename3>,<date3>,<filesize3>*'; • • • • filename*<n>*File [*<n>*] = '*<filenamen>,<daten>,<filesizen>*'; File [<n+1>] = *<number of Bytes>*•Left	List user-supplied files.
List specific files from the current directory	Esc Xn DF ← Esc Xn Xn DF ←	{same response as above} {same response as above}	Xn is the the first character of the file extension. XnXn is the first character of the filename and the first character of the extension.
List specific files from the current directory and subdirectories	Esc Xn LF ← Esc Xn Xn LF ←	{same response as above} {same response as above}	Xn is the the first character of the file extension. XnXn is the first character of the filename and the first character of the extension.
Erase user-supplied web pages and files	Esc *<filename>*EF ←	Del*<filename>*↵	
Erase current directory and its files	Esc /EF ←	Ddl↵	
Erase current directory and subdirectories	Esc //EF ←	Ddl↵	

Command and Response Table for IP-Specific SIS Commands

NOTE: For commands and examples of computer or device responses used in this guide, the character "0" is the number zero and "O" is the capital letter "o."

Command	ASCII Command (host to unit)	Response (unit to host)	Additional description
IP and port setup commands			
Set device name	Esc X40 CN ↵	Ipn•X40 ↵	
Read device name	Esc CN ↵	X40 ↵	
Reset device name to factory default	Esc•CN ↵	Ipn•X41 ↵	"GSS-100" plus the last three pairs of the MAC address.
Set time and date	Esc X42 CT ↵	Ipt X42 ↵	
Read time and date	Esc CT ↵	X43 ↵	
Set GMT offset	Esc X44 CZ ↵	Ipz X44 ↵	In the command, the divider between hours and minutes can be either a colon (:) or a period. In the response, the divider is a colon.
Example:	Esc 8.0CZ ↵	Ipz+08:00 ↵	
Set Daylight Saving Time	Esc X45 CX ↵	X45 ↵	
Read Daylight Saving Time	Esc CX ↵	X45 ↵	
Set IP address	Esc X46 CI ↵	Ipi X46 ↵	
Read IP address	Esc CI ↵	X46 ↵	
Read hardware address	Esc CH ↵	X47 ↵	
Read # of open connections	Esc CC ↵	X48 ↵	
Set subnet mask	Esc X46 CS ↵	Ips X46 ↵	
Read subnet mask	Esc CS ↵	X46 ↵	
Set gateway IP address	Esc X46 CG ↵	Ipg X46 ↵	
Read gateway IP address	Esc CG ↵	X46 ↵	
Set administrator password	Esc X49 CA ↵	Ipa•X49 ↵	

NOTE: The GSS is shipped password-protected. The factory configured passwords for all accounts on this device have been set to the device serial number. In the event of a complete system reset, the passwords convert to the default, which is no password.

Read administrator password	Esc CA ↵	X49 ↵	

KEY:

X40 = Device name (Up to 240 alphanumeric characters)

NOTE: The following characters are invalid or not recommended in the name: {space} + ~ , @ = ` [ ] { } < > ' " ; : | \ and ?.

X41 = Default name GSS-100- + last 3 pairs of MAC address

X42 = Time and date (for set) In the format: MM/DD/YY•HH:MM:SS *where*:

- MM = month: 01 (Jan) through 12 (Dec)
- DD = day: 01 through 31
- YY = year: (20)00 through (20)99
- HH = hour: 00 through 23
- MM = minutes: 00 through 59
- SS = seconds: 00 through 59

X43 = Time and date (for read) In the format: Day,•DD•Mmm•YYYY•HH:MM:SS *where*:

- Day = weekday: Mon through Sun
- DD = date: 01 through 31
- Mmm = month: Jan through Dec
- YYYY = year: 2000 through 2099
- HH = hour: 00 through 24
- MM = minutes: 00 through 59
- SS = seconds: 00 through 59

X44 = GMT offset -12.0 through +14.0. Hours and minutes removed from GMT

X45 = Daylight Saving Time 0 = Daylight Saving Time off/ignore; 1 = Daylight Saving Time on (North America); 2 = Daylight Saving Time on (Europe); 3 = Daylight Saving Time on (Brazil)

X46 = IP address *nnn.nnn.nnn.nnn*

X47 = Hardware (MAC) address 00-05-A6-*nn-nn-nn*

X48 = Number of open connections 0 – 255

X49 = Password 12 alphanumeric characters

NOTE: The following characters are invalid or not recommended in passwords: {space} + ~ , @ = ` [ ] { } < > ' " ; : | \ and ?.

Command	ASCII Command (host to unit)	Response (unit to host)	Additional description
IP and port setup commands (Continued)			
Reset (clear) administrator password	Esc•CA←	Ipa•↵	
Set user password	Esc X49 CU←	Ipu•X49↵	
Read user password	Esc CU←	X49↵	
Reset (clear) user password	Esc•CU←	Ipu•↵	
Set DHCP on or off	Esc X50 DH←	Idh X50↵	X50: 0 = off, 1 = on
Read DHCP on/off status	Esc DH←	X50↵	
Set serial port parameters	Esc X51 *X52,X53,X54, X55 CP←	Cpn X51 •Ccp X52,X53,X54,X55↵	
Example:	Esc 01*9600,N,8,1CP←	Cpn01•Ccp9600,N,8,1↵	Set the the RS-232 port to 9600 baud, no parity, 8 data bits, and 1 stop bit.
Read serial port parameters	Esc 01CP←	X52,X53,X54,X55↵	
Configure current port timeout	Esc 0*X56 TC←	Pti0*X56↵	
View current port timeout	Esc 0TC←	X56↵	
Set global IP timeout	Esc 1*X56 TC←	Pti0*X56↵	
View global IP timeout	Esc 1TC←	X56↵	
Set verbose mode	Esc X57 CV←	Vrb X57↵	
Read verbose mode	Esc CV←	X57↵	

KEY:

X49 = Password — 12 alphanumeric characters

NOTE: The following characters are invalid or not recommended in passwords: {space} + ~ , @ = ` [ ] { } < > ‘ “ ” ; : | \ and ?.

X50 = DHCP — 0 =off, 1 = on

X51 = Port number — 00 – 99 (00 = all ports)

X52 = Baud rate — 2400, 3600, 4800, 7200, 9600, 14400, 19200, 28800, 38400, 57600, 115200

X53 = Parity — **o**dd, **e**ven, **n**one, **m**ark, **s**pace

NOTE: For the X53 parameter, use the first character only. The parameter is case insensitive.

X54 = Data bits — 7 or 8 (8 = default)

X55 = Stop bits — 1 or 2 (1 = default)

X56 = Port timeout — The number of seconds (in 10-second steps) before timeout on the IP connections: minimum = 1 (10 seconds), maximum = 6500 (65,000 seconds or just over 18 hours), default = 30 (300 seconds or 5 minutes). If no data is received during the timeout period, the Ethernet connection is closed. Applicable to Ethernet connection only; when connected via the RS-232 port, only the global timeout commands apply.

X57 = Verbose mode — 0 = clear or none (default for Telnet connection); 1 = verbose mode (default for RS-232 or RS-422 connection); 2 = tagged responses for queries; 3 = verbose mode and tagged for queries

NOTE: If tagged responses is enabled, all read commands return the constant string and the value as the set command does (for example, the read matrix name command EscCN← returns Ipn•X40↵).

HTML Control and IPL File Manager

This section describes the operation of the GSS 100, including:

The GSS can be configured through its Ethernet port, connected via a LAN or WAN and using a web browser such as the Microsoft® Internet Explorer®. The display of the configuration of the GSS has the appearance of web pages. This chapter describes the factory-installed HTML pages, which are always available and cannot be erased or overwritten.

NOTE: If your Ethernet connection to the GSS 100 is unstable, try turning off the proxy server in your web browser. In Internet Explorer, click **Tools** > **Internet Options** > **Connections** > **LAN Settings**, uncheck the **Use a proxy server...** box, and then click **OK**.

Configuring the Hardware

To function properly, the controlling PC and the GSS must be configured correctly: the PC must be network capable, with the proper protocols installed, and the hardware configured correctly. The GSS must also be set to recognize and accept commands.

PC Configuration

This manual assumes that you have a Windows PC equipped with an operating network adapter. To allow your PC to work with Ethernet-controlled products from Extron, the TCP/IP protocol must be installed and properly configured.

For use on an existing Ethernet LAN intranet, your network administrator can provide you with a unique IP address or confirm whether you need to set up the GSS for Dynamic Host Configuration protocol (DHCP) to have an address assigned automatically when you sign on.

Initial Startup

When you power on the GSS for the first time, there are two ways to set up the IP address:

- Use the ARP command method.
- Use the direct PC method.

The default web pages that are pre-loaded in the GSS provide a way to reconfigure the GSS after it has an active network connection with IP access. These web pages are compatible with Netscape Navigator (version 6.0 or higher) or Internet Explorer (version 5.5 or higher).

Once the GSS has been configured, an Ethernet (intranet or Internet) connection can subsequently be used to contact or control it.

GSS Configuration

Configuring the GSS using the ARP command

You can use the Address Resolution Protocol ("ARP") command to set up an IP address for your GSS. The ARP command associates the MAC address of the GSS with the assigned IP address in your computer. You must then use the "ping" command to access the GSS, at which point the IP address of the device server is reconfigured.

NOTE: Use this setup method in either of two configurations:

- Both your PC and the GSS connected to the same LAN using patch (straight) cables
- Direct connect between the two devices using a crossover Ethernet cable.

See **Cabling** and **RJ-45 connector wiring** in the Installation section.

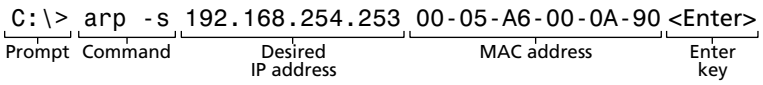
Use the ARP command to configure the IP address as follows:

1. Obtain a valid IP address for the GSS from your network administrator.
2. Obtain the MAC address (UID #) of the GSS from the label on the rear panel.
3. **If the GSS has never been configured**, and is still set to its factory defaults, proceed to step **4**.

   If the GSS has previously been configured, perform an IP settings (mode 4) reset (see **Reset Button** in the Installation section).

   NOTE: Your GSS must be configured with the default IP address (192.168.254.254) before executing the ARP command.

4. Click **`Start`** > **`Run...`** to activate the Run window. Type **`Cmd`** in the Run window and click **`OK`** to access the MS-DOS command prompt.
5. Enter the **`ARP -s`** command with the desired new IP address (obtained from the system administrator) and the MAC address of the GSS (from the label on the rear panel of the GSS), as follows:



6. Execute a ping command using the new IP address of the GSS as follows:

   `C:\> ping 192.168.254.253 <Enter>`

   After you send this command, the GSS changes to to the new address and starts responding to the ping requests (see figure 17). The IP address of the GSS is updated to the new address and you can reconnect using either Telnet or the web to verify that the update was successful.

```
C:\>ping 192.168.254.253

Pinging 192.168.254.253 with 32 bytes of data:

Reply from 192.168.254.253: bytes=32 time<10ms TTL=128
Reply from 192.168.254.253: bytes=32 time<10ms TTL=128
Reply from 192.168.254.253: bytes=32 time<10ms TTL=128
Reply from 192.168.254.253: bytes=32 time<10ms TTL=128

Ping statistics for 192.168.254.253:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 0ms, Average = 0ms
```

Figure 17. GSS Response to Ping Request

7. After the GSS responds to the ping command, issue the `arp -d` command at the command prompt to remove the IP address that you specified in step 5 from the ARP:

   `C:\> arp -d <IP address>` <Enter> (to remove the stated IP address)
   or
   `C:\> arp -d*` <Enter> (to remove all static IP addresses)

Configuring the GSS using a direct PC connection

This type of connection is used to initially connect to and configure the GSS. The default settings of the GSS (IP address, subnet mask, and optional administrator name and password) must be changed in order to use the GSS on an intranet (LAN) or the Internet (WAN).

NOTE: The GSS is shipped password-protected. The factory configured passwords for all accounts on this device have been set to the device serial number. In the event of a complete system reset, the passwords convert to the default, which is no password.

1. Plug one end of a CAT 5 Ethernet crossover cable into the rear panel LAN port on the GSS (see **Cabling** on page 4 and **RJ-45 connector wiring** on page 5 in the Installation section to make a cable).
2. Plug the other end of the CAT 5 cable into the Ethernet port on your PC.
3. Right-click the **Network Neighborhood** or **My Network** icon on your Windows (98, 2000, NT, ME, or XP) desktop and select **Properties** from the menu.
4. Select **Internet Protocol (TCP/IP)** from the list and click **Properties**.

   (If you are using Windows 2000, right-click **Local Area Connection** and select **Properties** from the menu, select **Internet Protocol [TCP/IP]** from the list, and then click **Properties** again.)

   NOTE: If Internet Protocol (TCP/IP) is not available or is not on the list, you need to install it. Refer to your Windows user manual or the online Help system for your computer for information on installing the TCP/IP protocol.

5. Note the current IP address and subnet mask of the GSS in the space below: If your PC is set to **Obtain an IP address automatically**," note that instead.

   IP address:_____

   Subnet mask:_____

6. Depending on your operating system, click either **Specify an IP address** or **Use the following IP address**.
   a. Leave the default gateway blank.
   b. Enter the following IP and subnet mask values:

      IP address: 192.168.254.253

      Subnet mask: 255.255.0.0
7. Save the changes and exit the Network setup. Reboot the PC for the changes to become effective.
8. Launch web browser (Internet Explorer or Mozilla® Firefox®) on your PC.
   a. In the address field, enter:

      `http://192.168.254.253/index.html`

      The GSS displays the default startup page.
   b. Configure the GSS (see the remainder of this section for configuring the GSS).
9. After configuring the GSS, repeat steps **3** and **4**, changing your TCP/IP settings back to their original configuration.

Opening the Embedded Web Pages

Access the GSS 100 using HTML pages as follows:

1. Start the web browser program.
2. Click in the **Address** field of the browser.
3. Enter the IP address of the GSS in the **Address** field of the browser.

   NOTE: If the local system administrators have not changed the value, the factory-specified default, 192.168.254.254, is the correct value for this field.
4. If you want the browser to display a page other than the default page (such as a custom page that you have uploaded), enter a slash (/) and the name of the file to open.

   NOTES:
   - The **Address** field of the browser should display the address in the following format: *xxx.xxx.xxx.xxx*/{*optional_file_name.html*}.
   - The following characters are invalid in file names: {space} + ~ , @ = ‘ [ ] { } < > ’ “ “ ; : | \ and ?.
5. Press the keyboard <**Enter**> key. The GSS 100 checks to see if it is password protected.

   If the GSS 100 is not password protected, it checks and downloads the HTML pages (proceed to step **7**).

If the GSS 100 is password protected, the GSS 100 downloads the Enter Network Password page (see figure 18).

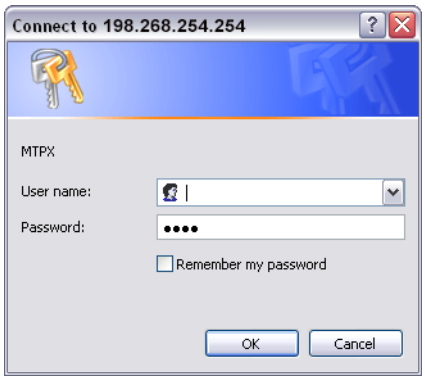


Figure 18. Enter Network Password page

NOTE: A User name entry is not required.

6. Click in the **Password** field and type in the appropriate administrator or user password. Click the **OK** button.

NOTE: The factory configured passwords for all accounts on this device have been set to the device serial number. Passwords are case sensitive.

7. The GSS 100 checks several possibilities, in the following order, and then responds accordingly:
   - Does the address include a specific file name, such as `192.168.254.254/file_name.html`? **If so**, the GSS 100 downloads that HTML page.
   - Is there a file in the memory of the GSS 100 that is named "index.html?" **If so**, the GSS 100 downloads "index.html" as the default startup page.
   - **If neither of the above conditions is true**, the GSS 100 downloads the factory-installed default startup page, "nortxe_index.html" (see **figure 19** on the next page), also known as the System Status page.

Status Tab

System Status Page

The `System Status` page (see figure 19) provides an overall view of the status of the GSS 100, including various IP addresses, and the status of the RS-232 port. The `System Status` page is the default page that the GSS 100 downloads when you connect to the GSS 100. Access the `System Status` page from other pages by clicking the **`Status`** tab.

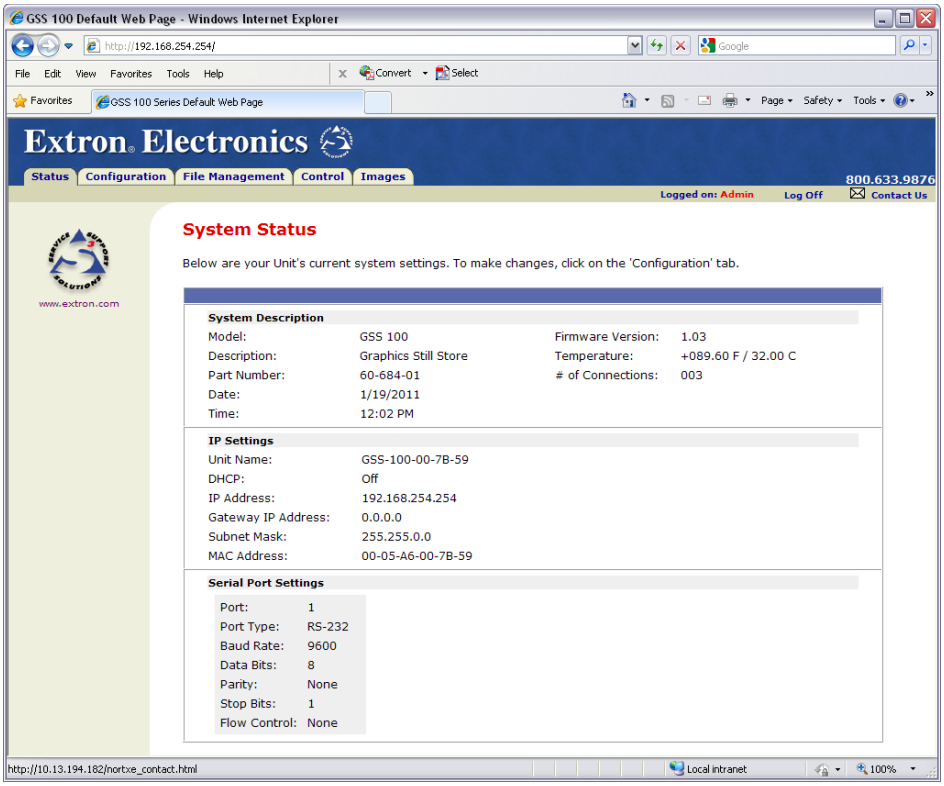


Figure 19. System Status Page

The status web page periodically updates itself to reflect the latest status of the GSS 100 components. If a variable changes, the display shows the change the next time it updates.

Configuration Tab

System Settings Page

The GSS 100 downloads the **System Settings** page (see figure 20) when you click the **Configuration** tab. The screen consists of fields in which you can view and edit IP administration and system settings. You can access the **Video Settings**, **Passwords**, and **Firmware Upgrade** pages by clicking the appropriate link.

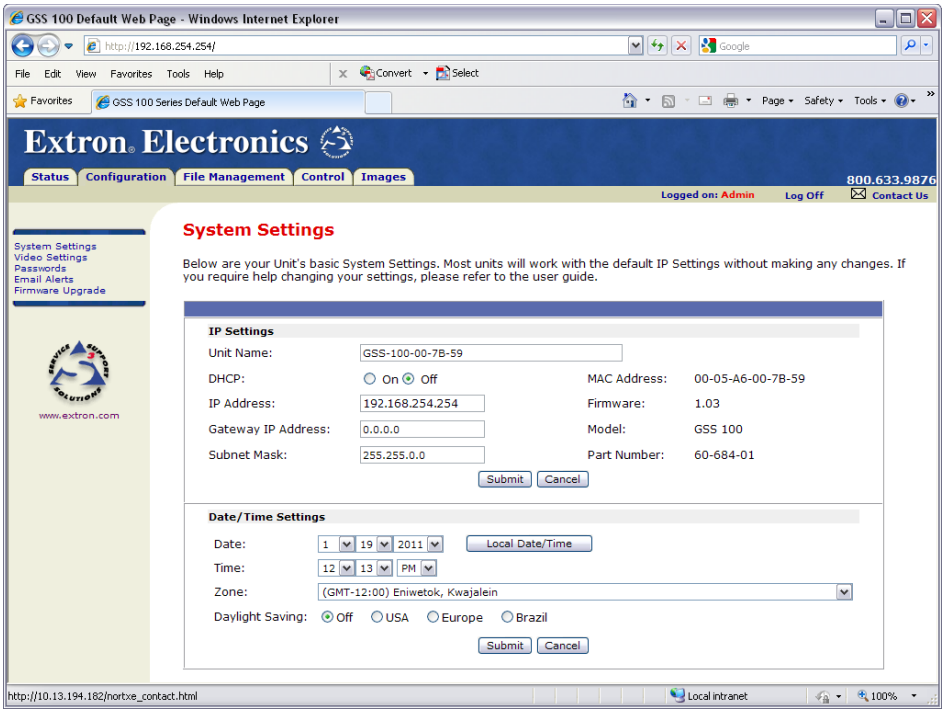


Figure 20. System Settings Page

On password-protected connections, there are two levels of protection: administrator and user. Administrators have full access to all functions on the system settings page. Users can select images to output, set output mutes, and view all settings with the exception of passwords.

IP Settings fields

The **IP Settings** fields provide a location for viewing and editing settings unique to the Ethernet interface. After editing any of the settings in this field, click the **Submit** button at the bottom of the field.

Unit Name field

The **Unit Name** field contains the locally-assigned name of the GSS. This name field can be changed to any valid name, up to 24 alphanumeric characters.

NOTE: The following characters are invalid or not recommended in the matrix name: + ~ , @ = ‘ [ ] { } < > ’ “ ; : | \ and ?.

DHCP radio buttons

The **DHCP On** radio button directs the GSS 100 to ignore any entered IP addresses and to obtain its IP address from a Dynamic Host Configuration Protocol (DHCP) server (if the network is DHCP capable). The **DHCP Off** radio button turns DHCP off. Contact the local system administrator to determine if DHCP is appropriate.

NOTE: The **IP Address**, **Gateway IP Address**, and **Subnet Mask** fields become uneditable if DHCP is on.

IP Address field

The **IP Address** field contains the IP address of the connected GSS 100. This value is encoded in the flash memory of the GSS 100.

Standard IP protocol consists of addresses comprised of four 1-, 2-, or 3-digit numeric subfields, properly called “octets,” separated by dots (periods). Each field can be numbered from 000 through 255. Leading zeroes, up to three digits total per field, are optional. Values of 256 and above are invalid.

The factory-installed default address is 192.168.254.254, but if this conflicts with other equipment at your installation, you can change the IP address to any valid value.

NOTE: IP address changes can cause conflicts with other equipment. Only local system administrators should change IP addresses.

Gateway IP Address field

The **Gateway IP Address** field identifies the address of the gateway to the mail server to be used if the GSS 100 and the mail server are not on the same subnet. Standard IP protocol rules apply to the gateway IP address.

The factory-installed default address is 000.000.000.000, but if this conflicts with other equipment at your installation, you can change the gateway IP address to any valid value.

Subnet Mask field

The **Subnet Mask** field is used to determine whether the GSS 100 is on the same subnet as the mail server when you are subnetting.

The factory-installed default address is 255.255.000.000, but if this conflicts with other equipment at your installation, you can change the subnet mask to any valid value.

MAC Address, Model, and Part Number fields

The Media Access Control (**MAC**) **Address**, **Model**, and **Part Number** are hardcoded in the GSS 100 and cannot be changed.

Firmware field

The **Firmware** field identifies the installed firmware version. This field is hardcoded in the GSS 100 and can be changed only by installing a different firmware version (see **Firmware Upgrade Page** on page 38).

Date/Time Settings fields

The **Date/Time Settings** fields (see figure 21) provide a location for viewing and setting the time functions.

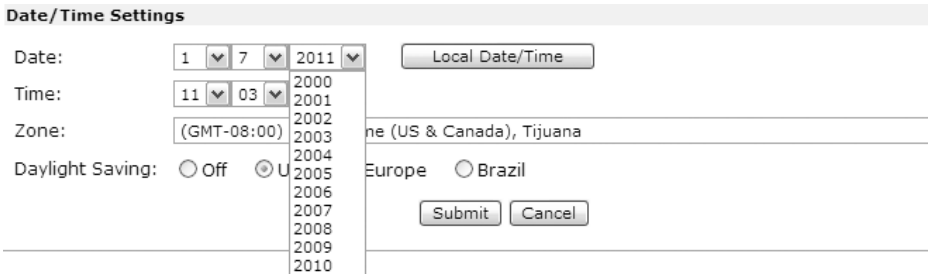


Figure 21. Date/Time Settings Fields

Change the date and time settings as follows:

1. Click the drop box for the variable to be changed. The adjustable variables are month, day, year, hours, minutes, AM/PM, and (time) zone. A drop-down scroll box appears (the year drop box is selected in figure 21).
2. Click and drag the slider or click the scroll up button or the scroll down button until the desired variable is visible.
3. Click the desired variable.

   NOTES:

   - If setting the time, set the local time. The **Zone** variable allows you to then enter the offset from Greenwich Mean Time (GMT).
   - The Zone field identifies the standard time zone selected and displays the amount of time, in hours and minutes, that the local time varies from the GMT international time reference.

4. Repeat steps **1** through **3** for other variables that need to be changed.
5. If appropriate, select the appropriate **Daylight Saving** radio button to turn on the daylight savings time feature for your region or nation.

   NOTE: When daylight saving time is turned on, the GSS 100 automatically updates its internal clock between standard time and daylight saving time in the spring and fall on the date that the time change occurs in the country or region selected. When daylight saving time is turned off, the GSS 100 does not adjust its time reference.

6. Click the **Submit** button at the bottom of the Date/Time Settings area.

Video Settings Page

Access the **Video Settings** page (see figure 22) by clicking the **Video Settings** link on the **System Settings** page.

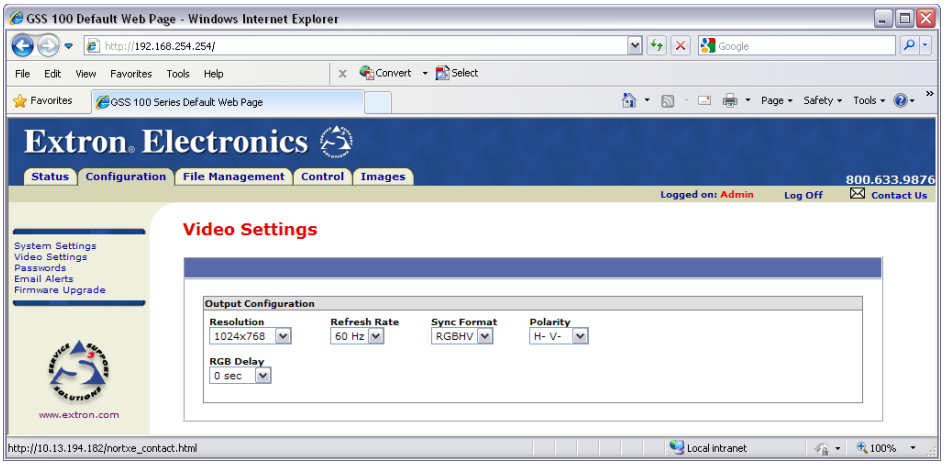


Figure 22. Video Settings Page

Set the video settings (resolution, refresh rate, sync format, and sync polarity) and RGB delay as follows:

1. Click the desired field. A drop down scroll box appears (see figure 23).

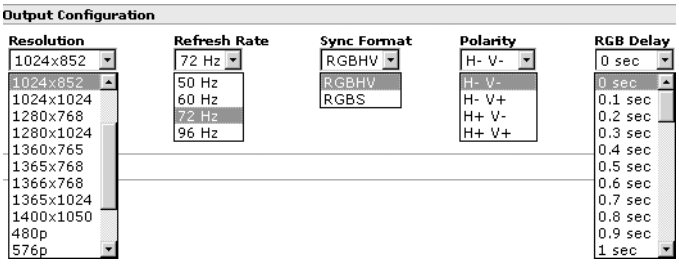


Figure 23. Output Configuration Drop Boxes

NOTE: The **RGB Delay** drop box is shown at the right of the page rather than under the Resolution box for clarity only.

2. If necessary, click and drag on the slider or click the scroll up (▲) or down (▼) button until the desired setting is visible.
3. Click the desired setting.

Passwords Page

Access the **Passwords** page (see figure 24) by clicking the **Passwords** link on the **System Settings** page.

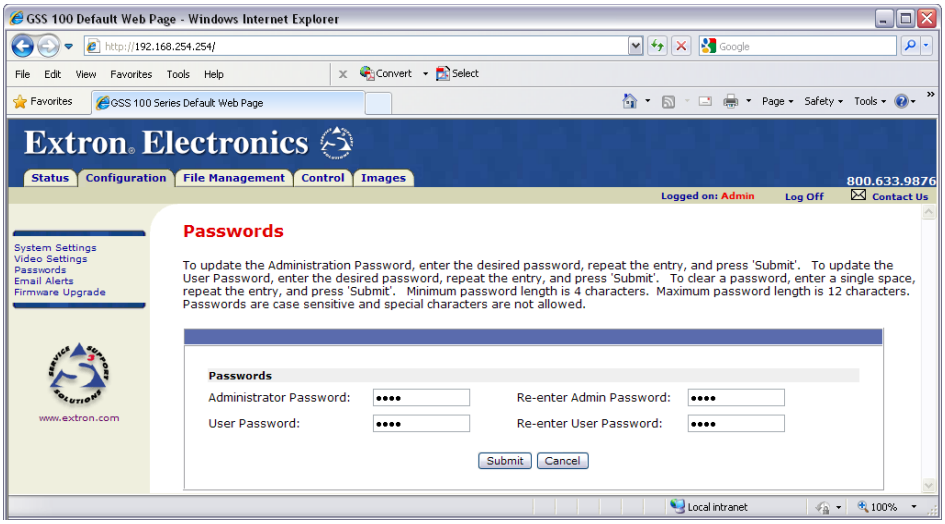


Figure 24. Passwords Page

The fields on the **Passwords** page are for entering and verifying administrator and user passwords. Passwords are case sensitive and are limited to 12 uppercase and lowercase alphanumeric characters. Each password must be entered twice: once in the **Password** field and then again in the **Re-enter Password** field. Characters in these fields are masked by asterisks (*****). If you do not want to password protect an access level, leave the **Password** field and the **Re-Enter Password** field blank. After entering the desired password in both fields, click the **Submit** button.

NOTES:

- The factory configured passwords for all accounts on this device have been set to the device serial number. Passwords are case sensitive.
- In the event of a complete system reset, the passwords convert to the default, which is no password. New passwords need to be configured to secure the device.
- On password-protected connections, there are two levels of protection: administrator and user. Administrators have full access to all capabilities and functions. Users can view all settings with the exception of passwords.
- If the switcher is password protected, fields on this page can be edited only by personnel logged in as administrators.
- An administrator password must be created before a user password can be created.

To clear an existing password so that no password is required, enter a single space character in the **Password** and **Re-enter Password** fields, and click the **Submit** button.

Email Alerts Page

The E-Mail Alerts page is an artifact of the HTML pages of other Extron products and has no function for the GSS 100. Future firmware revisions may remove this page.

Firmware Upgrade Page

The **Firmware Upgrade** page provides a way to replace the firmware that is coded on the control board of the GSS 100 without taking the GSS 100 out of service. Access the **Firmware Upgrade** page (see figure 25) by clicking the **Firmware Upgrade** link on the **System Settings** page.

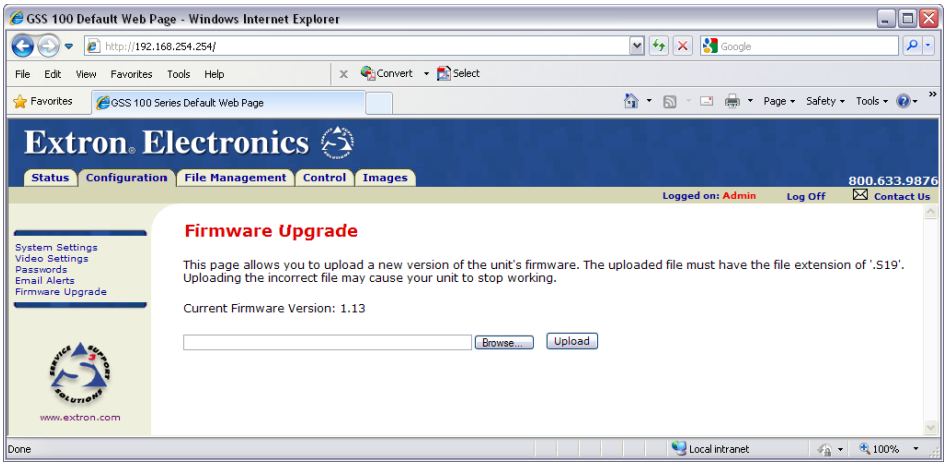


Figure 25. Firmware Upgrade Page

Update the GSS 100 firmware as follows:

NOTE: The **Firmware Upgrade** page is only for replacing the firmware that controls all GSS 100 operation. To insert your own custom HTML pages, see **File Management Tab** on page 40.

1. Visit the Extron website, **www.extron.com**, select the GSS 100 product category, select the latest firmware installation package (*.exe file) for the GSS 100, and download the file. Note the folder to which you save the firmware file.
2. Run the executable (*.exe) file to decompress the firmware file.
3. Connect the PC to the GSS 100 via the LAN port of the GSS 100.
4. Access the GSS 100 using HTML pages.
5. Click the **Configuration** tab.
6. Click the **Firmware Upgrade** link (see figure 26 on the next page).

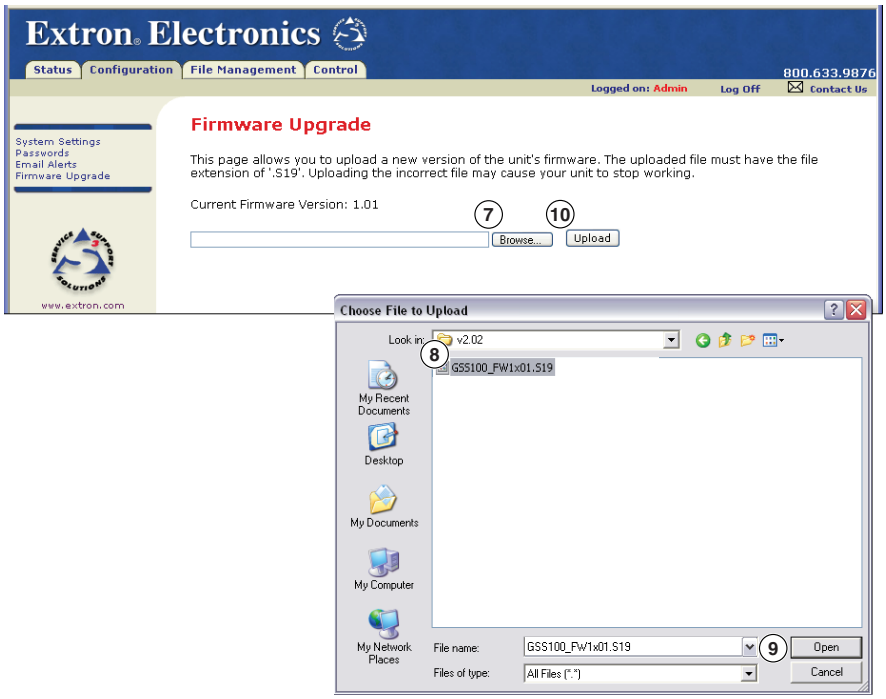


Figure 26. Firmware Upgrade

7. Click the **Browse** button. A **Choose File to Upload** window appears.
8. Navigate to the folder where you saved the firmware upgrade file. Select the file.

NOTES:

- Valid firmware files must have the file extension ".S19." A file with any other extension is not a firmware upgrade.
- The original factory-installed firmware is permanently available on the GSS 100. If the attempted firmware upload fails for any reason, the GSS 100 automatically reverts to the factory-installed firmware.

9. Click the **Open** button.
10. Click the **Upload button**. The firmware upload to the GSS 100 may take a few minutes. The LCD display on the GSS shows **Firmware Upload**, then **Re-Starting**. When the LCD returns to the default display cycle (see **Power-on Indications** on page 7), the firmware upload is complete.

File Management Tab

File Management Page

To delete files such as HTML pages from the GSS 100 or to upload your own files to the GSS 100, click the **File Management** tab. The GSS 100 downloads the File Management HTML page (see figure 27).

Figure 27. File Management Page

NOTE: The files listed in figure 27 are shown for example only and may not be present on your GSS 100.

To delete a file, click the **Delete** button associated with that file.

Upload your own files as follows:

NOTE: The following characters are invalid or not recommended in file names: {space} + ~ , @ = ‘ [ ] { } < > ’ “ “ ; : | \ and ?.

1. Click the **Browse** button.
2. Browse through your system and select the desired file or files.

   NOTE: If you want one of the pages that you create and upload to be the default startup page, name that file “index.html.”

3. Click the **Upload File** button. The file or files that you selected appear in the list.

Control Tab

Control Page

Click the **Control** tab to access the **Control** page (see figure 28).

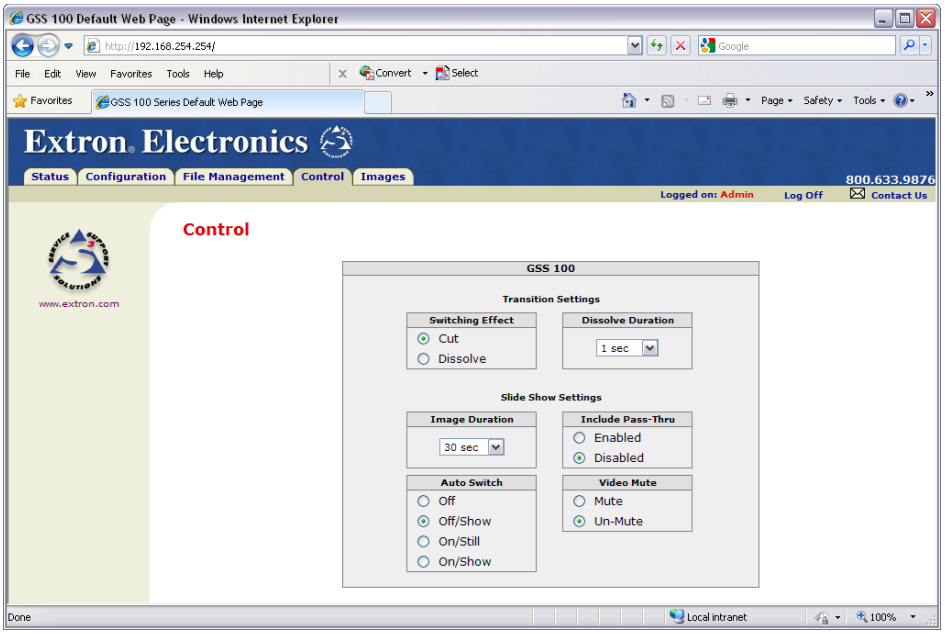


Figure 28. Control Page

On the **Control** page, you can set the transition effect (cut or dissolve), mute and unmute the video, and select the dissolve duration (from 0 to 5 seconds, in 0.1-second increments). You can also change the slide show settings, such as:

- The duration of each image displayed in the slide show (from 0 to 300 seconds)
- Inclusion of the pass-through input in the slide show
- **Auto Switch** mode
  - **Off** — Auto-switch on loss of pass-through sync and slide show are disabled.
  - **Off/show** — Auto-switch on loss of pass-through is disabled. Slide show is running.
  - **On/still** — On loss of sync on the pass-through input, auto-switch to display the last-displayed image until pass-through sync is restored.
  - **On/show** — On loss of sync on the pass-through input, auto-switch to run the slide show until sync on the pass-through input is restored.

Images Tab

Image Settings Page

Click the **Images** tab to access the Image Settings page.

You can upload and delete stored images and select a stored image for display on the **Image Settings** page (see figure 29). You can also select the pass-through input for display.

The **Image Index** column displays thumbnails of all stored images in the GSS. The **Current Image** field identifies the image file that is currently being displayed. The **Selected Image** field identifies the image file (if different from the current image) that is selected and awaiting the Take command.

NOTE: If no new image has been selected, the **Current Image** and **Selected Image** fields contain the same file name.

Figure 29. Image Settings Page

Uploading (adding) an image

Upload an image to the GSS 100 as follows:

1. Click the **Add** button. The **Add Image** field appears (see figure 30).

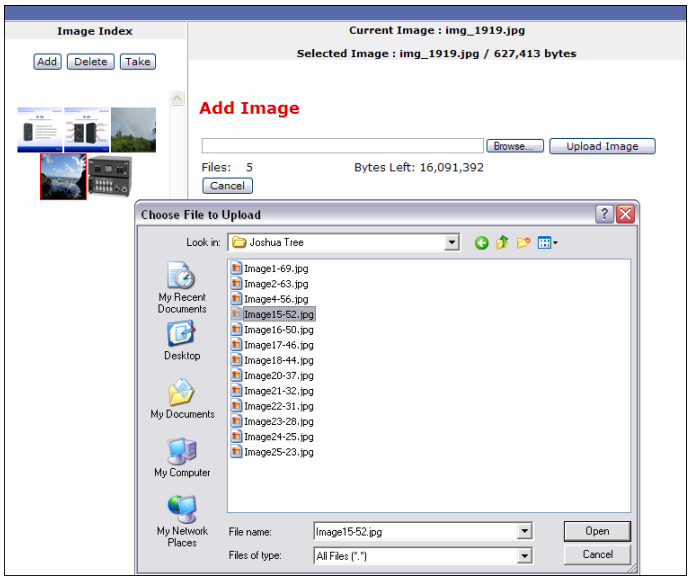


Figure 30. Uploading an Image

2. Click the **Browse** button. The **Choose File to Upload** window appears.
3. Browse through your system and select the desired image file.

NOTES:

- The only valid file formats for uploaded image files are BMP and JPG.
- Valid file names are up to 240 alphanumeric characters with no spaces.
- Progressive JPG images are not supported.
- Bitmap (BMP) images must be formatted as 24-bit RGB.
- 1080i and 1080p files need to be mastered at a resolution of 1440 x 1080 instead of the expected 1920 x 1080.

4. Click the **Open** button. The complete file path and name appear in the **Add Image** field.
5. Click the **Upload Image** button. After several seconds, a thumbnail of the uploaded image appears in the Image Index portion of the page and the image is available for display.

Deleting a stored image

Delete a stored image from the GSS 100 as follows:

1. Select (click) the thumbnail of the image to be deleted.
2. Click the **Delete** button. A confirmation message appears.
3. Click the **Ok** button.

Selecting a stored image

Select a stored image for the GSS 100 to output as follows:

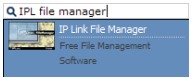
1. Select (click) the thumbnail of the image to be displayed. The file name and a larger image appear in the **Selected Image** field.
2. Click the **TAKE** button. After several seconds, GSS outputs the image and shows the name of the displayed image in the **Current Image** banner on this page.

Installing the IPL File Manager and Uploading Images

You can also upload images using the free Extron IPL File Manager program, designed for the Extron IP Link family of products. You can download the IP Link File Manager software from the Extron website, **www.extron.com**.

Installing the IPL File Manager

1. Log on to the Extron website, **www.extron.com**.
2. Type **IPL file manager** in the Search box in the upper-right corner of the web page. Press the keyboard **<Enter>** key.



3. Click **Download**. The Save As window opens.
4. Navigate to the desired location for your file, then click the **Save** button. The IP Link File Manager is stored on your PC.

5. To install the IP Link File Manager, double-click the **IPLinkFileManager.exe** file that you downloaded. Follow the instructions on the installation program windows.

Uploading Image Files

After you have set up the progam for the GSS that is connected to your computer, you can now upload image files to the GSS. These files can be BMP and JPG files.

Use the IP Link File Manager program to upload files to the GSS as follows:

1. Click **Start** > **Programs** > **Extron Electronics** > **IPL Tools** > **IP Link File Manager** > **IPL File Manager** to start the program.

   If the Select Startup Mode window (see **figure 31** on the next page) **does not** appear, proceed to step **4**:

2. If the Select Startup Mode window (see **figure 31**) appears:

   And you have not used this program while connected to this GSS before, proceed to step **3**.

   And you have used this program while connected to this GSS before, click **Use Previous Setup** and proceed to step **4**.

   NOTE: Select the **Never ask again** check box to skip the Select Startup Mode window step from now on.

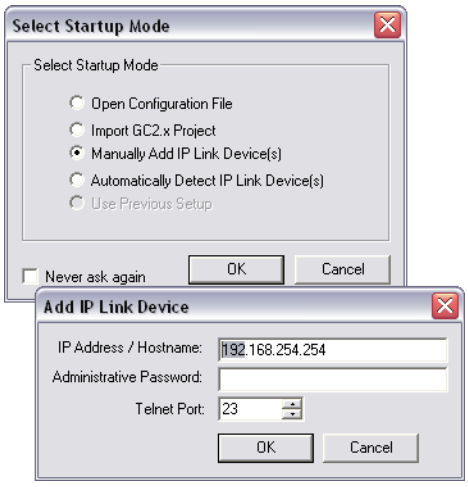


Figure 31. Select Startup Mode Window

3. Type the IP address of the GSS and, if the GSS is password protected, the password into the **`Add IP Link Interface`** box. Click **`OK`**.

   NOTE: The factory configured passwords for all accounts on this device have been set to the device serial number. Passwords are case sensitive.

4. The `IP Link File Manager` program window appears (see figure 32). The window contains two major sections.

   - **Computer System (left section)** — Displays the file system of your computer. In this section you can browse to locate files on your PC hard drive or a server to which you have access.
   - **IP Link Interfaces (right section)** — Displays the files that are loaded in the GSS.

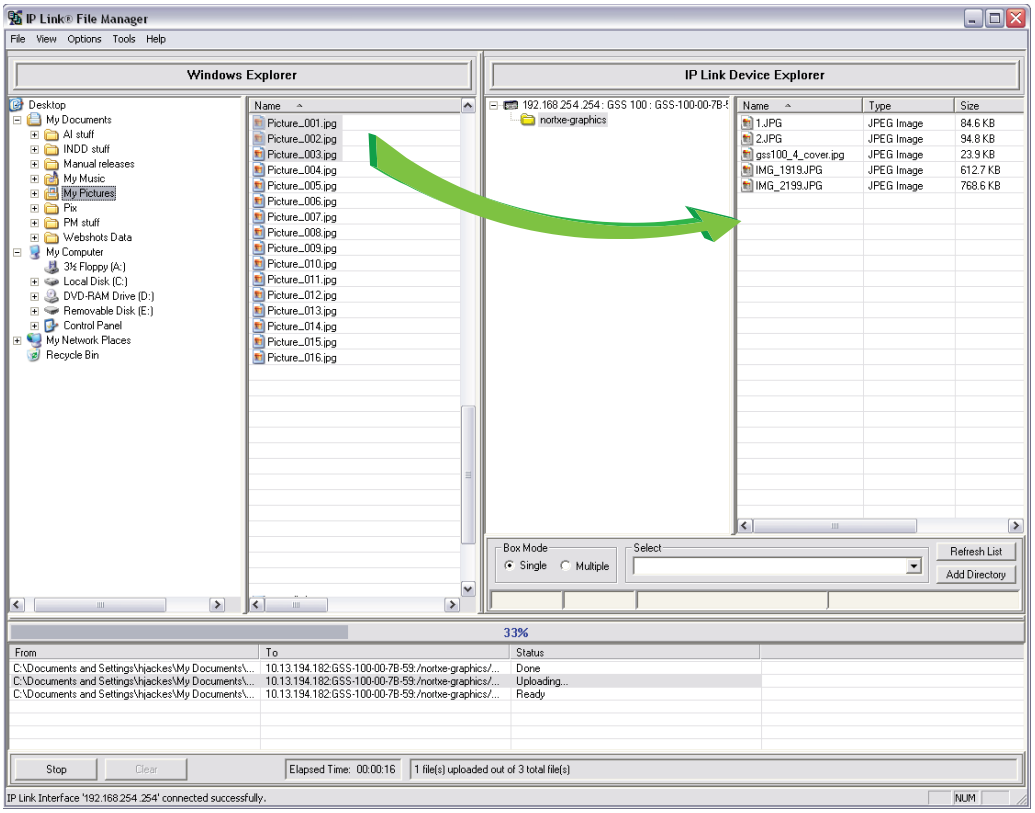


Figure 32. IP Link File Manager Program Window

5. Check to see that the GSS contents include the directory `nortxe-graphics`.

   If the "nortxe-graphics" directory is present in the GSS, proceed to step **6**.

   If the "nortxe-graphics" directory is <u>not</u> present in the GSS, create the folder as follows:

   a. Right-click the IP address of the GSS in the IP Link Interfaces (right) section of the window.

   b. Click **`Add Directory`**.

   c. Type the name `nortxe-graphics` and then press the <Enter> key on the PC.

6. Upload images to the GSS as follows:

NOTES:

- The only valid file formats for uploaded image files are BMP and JPG.
- Valid file names are up to 240 alphanumeric characters with no spaces.
- Progressive JPG images are not supported.
- Bitmap (BMP) images must be formatted as 24-bit RGB.
- 1080i and 1080p files need to be mastered at a resolution of 1440 x 1080 instead of the expected 1920 x 1080.

In the Computer System (left) section of the IP Link File Manager window, navigate the folder that contains the file or files that you want to upload to the GSS.

a. Select one or more files that you want to upload.

b. Drag the file or files to the `nortxe-graphics` directory in the IP Link Interfaces (right) section.

   The file upload queue at the bottom of the IP Link File Manager program window shows the files that you have dragged to the GSS and the status of the upload.

   After a few seconds, the names of the dragged files appear in the interface file list.

7. Delete images from the GSS by clicking on them, pressing the **<Delete>** key on the PC, and clicking **Yes** in the advisory box that appears.

Special Characters

The HTML language reserves certain characters for specific functions. The GSS does not accept these characters as part of its name, passwords, or locally created file names.

Valid file names:

- Are a maximum of 24 uppercase or lowercase alphanumeric characters
- Cannot include spaces or underscore characters
- Cannot start with a number or a dash
- Cannot end with a dash

Reference Information

Mounting the Unit

The GSS 100 is housed in a rack-mountable, 1U high, half rack-width metal enclosure.

Tabletop Placement

For tabletop or desktop placement only, install the self-adhesive rubber feet (provided) onto the four corners of the bottom of the enclosure.

Rack Mounting

UL Requirements

The following Underwriters Laboratories (UL) requirements pertain to the installation of the GSS 100 into a wall or furniture.

1. **Elevated operating ambient temperature —** If the unit is installed in a closed or multi-unit rack assembly, the operating ambient temperature of the rack environment may be greater than room ambient. Therefore, consider installing the equipment in an environment compatible with the 113 °F (45 °C) maximum ambient temperature (Tma) specified by Extron.
2. **Reduced air flow —** Installation of the equipment in a rack should be such that the amount of air flow required for safe operation of the equipment is not compromised.
3. **Mechanical loading —** Mounting of the equipment in the rack should be such that a hazardous condition is not achieved due to uneven mechanical loading.
4. **Circuit overloading —** Consideration should be given to the connection of the equipment to the supply circuit and the effect that overloading of the circuits might have on overcurrent protection and supply wiring. Appropriate consideration of equipment nameplate ratings should be used when addressing this concern.
5. **Reliable earthing (grounding) —** Reliable earthing of rack-mounted equipment should be maintained. Particular attention should be given to supply connections other than direct connections to the branch circuit (that is, the use of power strips).

Installation instructions

Secure the unit to an optional 1U (one unit high, one unit wide) rack shelf and install the shelf in a rack in accordance with the directions that accompany the shelf.

Furniture Mounting

Under-Furniture Mounting

Secure an optional MBU 125 under-desk mounting kit brackets to the unit and mount the unit under a desk or table in accordance with the directions that accompany the kit.

Through-furniture mounting

Secure an optional MBD 129 through-desk mounting kit brackets to the unit and mount the unit through a desk or other furniture in accordance with the directions that accompany the kit.

Extron Warranty

Extron Electronics warrants this product against defects in materials and workmanship for a period of three years from the date of purchase. In the event of malfunction during the warranty period attributable directly to faulty workmanship and/or materials, Extron Electronics will, at its option, repair or replace said products or components, to whatever extent it shall deem necessary to restore said product to proper operating condition, provided that it is returned within the warranty period, with proof of purchase and description of malfunction to:

USA, Canada, South America, and Central America:
Extron Electronics
1230 South Lewis Street
Anaheim, CA 92805
U.S.A.

Asia:
Extron Asia Pte Ltd
135 Joo Seng Road, #04-01
PM Industrial Bldg.
Singapore 368363
Singapore

Japan:
Extron Electronics, Japan
Kyodo Building, 16 Ichibancho
Chiyoda-ku, Tokyo 102-0082
Japan

Europe:
Extron Europe
Hanzeboulevard 10
3825 PH Amersfoort
The Netherlands

China:
Extron China
686 Ronghua Road
Songjiang District
Shanghai 201611
China

Middle East:
Extron Middle East
Dubai Airport Free Zone
F13, PO Box 293666
United Arab Emirates, Dubai

Africa:
Extron South Africa
South Tower
160 Jan Smuts Avenue
Rosebank 2196, South Africa

This Limited Warranty does not apply if the fault has been caused by misuse, improper handling care, electrical or mechanical abuse, abnormal operating conditions, or if modifications were made to the product that were not authorized by Extron.

NOTE: If a product is defective, please call Extron and ask for an Application Engineer to receive an RA (Return Authorization) number. This will begin the repair process.

USA:	714.491.1500 or 800.633.9876	**Asia**:	65.6383.4400
Europe:	31.33.453.4040 or 800.3987.6673	**Japan**:	81.3.3511.7655
Africa:	27.11.447.6162	**Middle East**:	971.4.299.1800

Units must be returned insured, with shipping charges prepaid. If not insured, you assume the risk of loss or damage during shipment. Returned units must include the serial number and a description of the problem, as well as the name of the person to contact in case there are any questions.

Extron Electronics makes no further warranties either expressed or implied with respect to the product and its quality, performance, merchantability, or fitness for any particular use. In no event will Extron Electronics be liable for direct, indirect, or consequential damages resulting from any defect in this product even if Extron Electronics has been advised of such damage.

Please note that laws vary from state to state and country to country, and that some provisions of this warranty may not apply to you.