

Using Panavision's Gamma software

with Panavision's Genesis Display Processor

manual v1.44

Contents

1. What do you want to do ?

Introduction to the GDP & Gamma software

2a. Why do we need Viewing LUTs with the Genesis?

2b. What can the GDP do in standalone mode?

2c. What can be done with GDP connected to a laptop with Panavision Gamma software?

Connecting

3. Connecting the GDP in Standalone mode

4. Connecting the GDP to a LAPTOP using Panavision GAMMA software

Loading & Launching the Software

5. Launching Gamma Software with a Mac

6. Launching Gamma Software with a PC

7. File formats used by Panavision Gamma software

8. About 3D LUTs

Using Gamma software

9. Panavision Gamma Software overview

10. Creating a 3D LUT with the GDP

11. PreGamma menu page

12. Gain/Ped menu page

13. Sat/Matrix menu page

14. PostGamma menu page

15. Frame menu page

16. Setup menu page

17. Getting more information

18. Appendix: manual for standalone GDP

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1. What do you want to do ?

A. *I want to use the GDP (Genesis Display Processor) as a standalone box. A Panavision technician or my post-production house has already pre-loaded a Viewing LUT into the GDP.*

→ You don't need most of this manual. To get details about standalone GDP operation you can jump directly to section 18, the last 5 pages of this manual.

B. *I want to use the GDP (Genesis Display Processor) as a standalone box, and I want to load a Viewing LUT file with a **.gbf**, **.acv**, **.a3d** or **.lut** suffix that a Panavision technician or my post-production house has given me.*

→ You should read this manual up to the section on **PreGamma** menu.

C. *I want to use Panavision Gamma software to define or modify one or more Viewing LUTs to load into the GDP.*

→ You should read this manual. You will mostly use the **PreGamma** menu. Viewing LUTs are best defined by a close collaboration between the cinematographer and the post-production house.

D. *I want to use Panavision Gamma software to create or modify one or more Viewing LUTs in order to pre-visualize my Look for the director and the crew.*

→ You should read this manual. You may end up using all the menu pages described here. Pre-visualizing the Look is best done by a close collaboration between the cinematographer and the post-production house.

E. *I want to learn about the GDP & Gamma software.*

→ You should read this manual. You can load the Panavision Gamma software on to your laptop and play with it **Off-Line** with no GDP connected.

2a. Why do we need Viewing LUTs with the Genesis?

The Panavision Genesis camera signal is transformed by a **Panalog** transfer curve designed to maximize the latitude of the image for subsequent output to 35 mm film. Because of its wide latitude, the Genesis video output will not be properly displayed on a video monitor. The image may look washed out and overexposed.

Note that some cinematographers simply adjust the brightness and contrast of their monitors to get a rough feel for the final image.

However the Genesis Display Processor offers a much better solution by applying a precise **Viewing LUT** to the signal for viewing on video monitors on the set or in dailies. This corrected signal can also be recorded on the sources going to the edit room.

2b. What can the GDP do in standalone mode?

In standalone mode, the GDP applies a previously loaded Viewing LUT to the Genesis camera signal so that the image can be properly displayed on a video monitor, on a video projector or during transfers for editing. The GDP can also apply previously memorized frame lines & mask.

2c. What can be done with GDP connected to a laptop with Panavision Gamma software?

1. Load, modify, save, import and export standard and 3D Viewing LUTs and see the resulting image in real-time.
2. The cinematographer can pre-visualize a Look for the Genesis image by interactively tweaking the signal in real-time by means of powerful gamma, saturation, color matrix, gain and pedestal controls. These settings can then be saved, loaded on to other GDPs and even exported for use in post-production (in the .gbf file format or as a 3D LUT).
3. Define framing lines & surrounding mask for the Genesis image.

3. Connecting the GDP in Standalone mode



A. Standalone GDP for 4:2:2 Viewing LUT

Connect HD-SDI output from Genesis or Sony 5000 VTR to HD-SDI A front input of the GDP

Connect GDP HD-SDI rear output to a 4:2:2 input of an HD monitor, HD video projector, or HD downconverter.

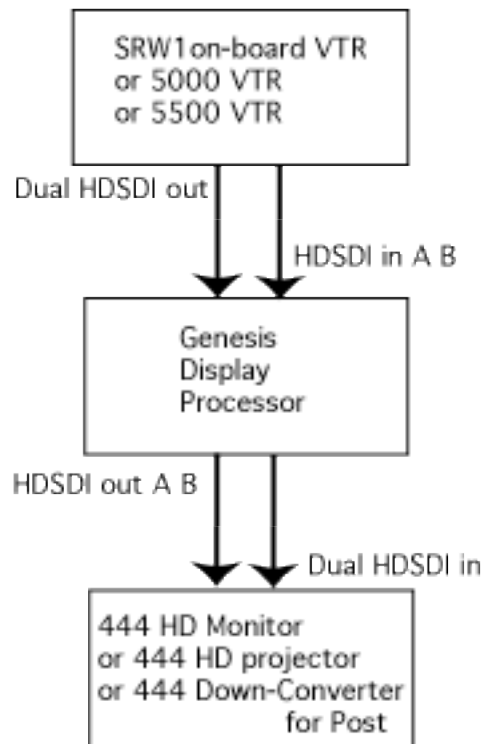
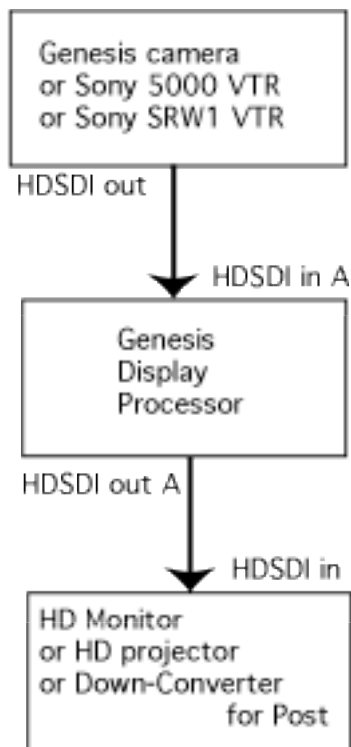
B. Standalone GDP for 4:4:4 Viewing LUT

Connect Dual link HD-SDI outputs from a Sony SR-W1 or Sony 5000 VTR to the GDP A and B HD-SDI front inputs
Connect the A and B HD-SDI rear outputs of the GDP to a 4:4:4 device.

Note: At present the « DVI » inputs and outputs on the GDP are not used.

To get more details about standalone GDP operation jump to section 18 (the last 5 pages of this manual)

Diagrams for GDP Standalone mode connection:



4. Connecting the GDP to a LAPTOP using Panavision GAMMA software

A. GDP with laptop for 4:2:2 Viewing LUT and/or

Look pre-visualizing

Use a crossover Ethernet cable between the Ethernet connector on the GDP front panel and the Ethernet connector on your Mac or PC laptop. See below for information on network settings.

Connect the GDP HD-SDI rear output to a 4:2:2 input of an HD monitor, HD video projector, or HD downconverter.

B. GDP with laptop for 4:4:4 Viewing LUT and/or

Look pre-visualizing

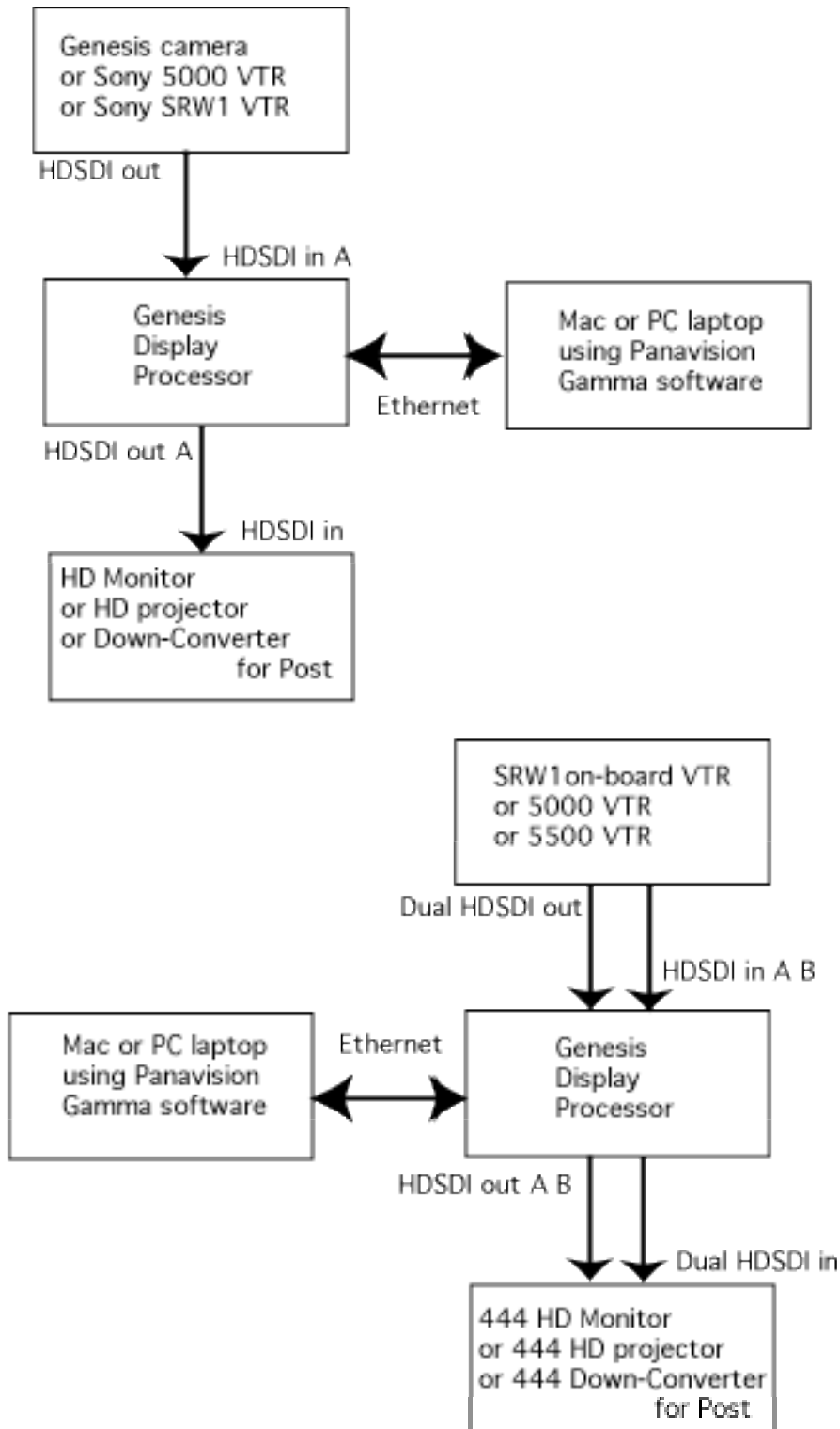
Connect the Ethernet connector on the GDP front panel to the Ethernet connector on your Mac or PC laptop by means of a crossover Ethernet cable. See below for information on network settings.

Connect the A and B HD-SDI rear outputs of the GDP to a 4:4:4 device.

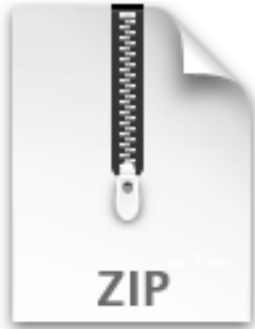
*As noted below, you can use the **Setup** menu page to mix 4:2:2 and 4:4:4 inputs and outputs. That is, you can have the GDP output a 444 signal with a 422 input, or output a 422 signal with a 444 input. These are rare configurations.*

Note: At present the DVI inputs and outputs on the GDP are not used.

Diagrams for GDP connection with laptop:



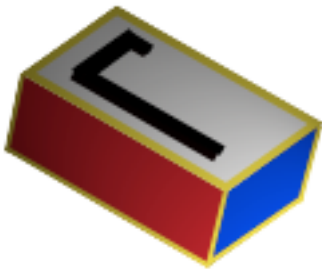
5. Launching Gamma Software with a Mac



gamma1.42.zip

1 - Download the latest version of Gamma software from <http://adi.panavision.com/gdp>

Unzip the file and put the Gamma software in a convenient spot on your laptop computer.



gamma1.42

2. Launch the Panavision Gamma software by double clicking it. A window will appear on your laptop.

3. Connect the GDP to your Mac via an Ethernet crossover cable. You must now configure a new Ethernet Location. Turn off any firewall software (or allow UDP communication on port 4304).

5. On the Macintosh, under the apple at top left, select **System Preferences**, in the new window select **Network** up top

6. In the Macintosh **Network** window:

Location: new location

name the location, for example "GDP" or "gamma"

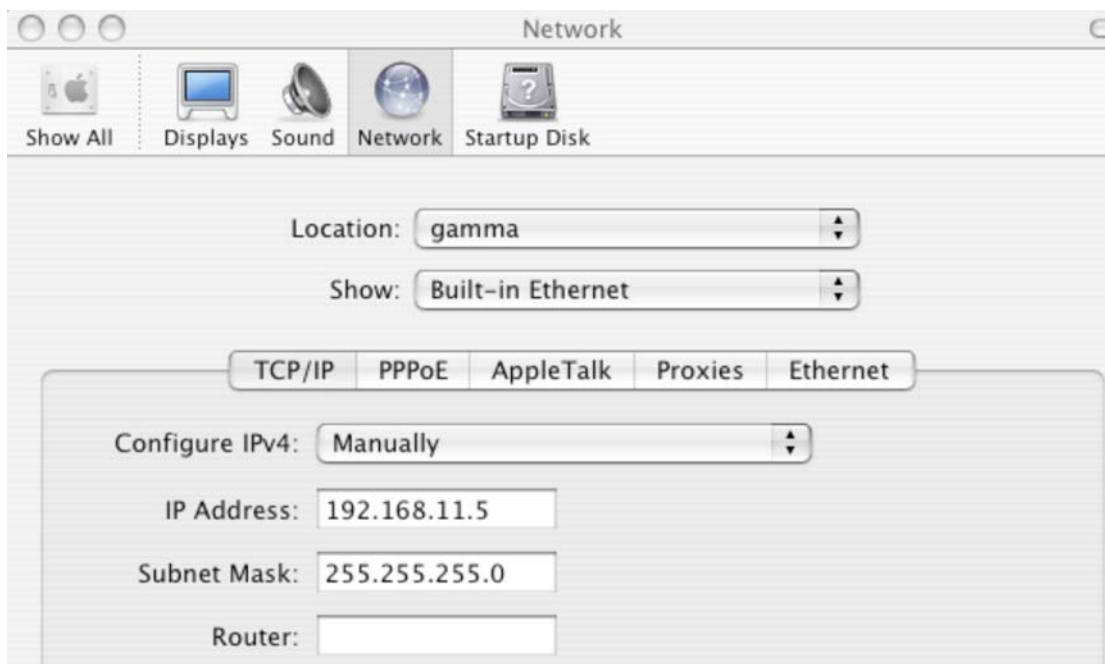
Show: Built-in Ethernet

Configure IPv4: Manually

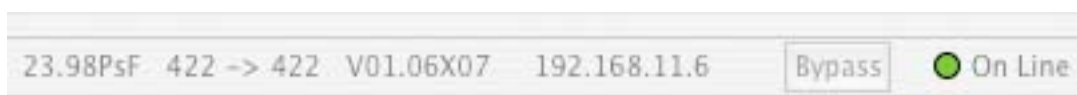
IP Address: 192.168.11.5

Subnet Mask: 255.255.255.0

This is the address you're giving your laptop. The Gamma software expects your laptop and the GDP box to be on the same 192.168.11 subnet. The GDP box IP address will be 192.168.11.XXX, where XXX is the serial number. For example GDP-201 will be 192.168.11.201



7. Your laptop and the GDP box should now be talking via Ethernet. At the bottom of the Gamma software window, your IP address should appear along with a green **On-line** indicator. If this doesn't happen, check that the fps and 422/444 settings in the Gamma **Setup** tab match those of your video signal.



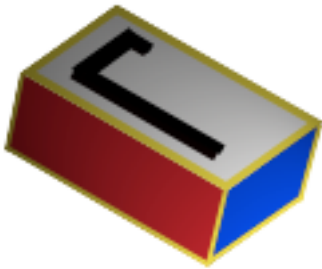
6. Launching Gamma Software with a PC



gamma1.42.zip

1 - Download the latest version of Gamma software from <http://adi.panavision.com/gdp>

Unzip the file and put the Gamma software in a convenient spot on your laptop computer.



gamma1.42

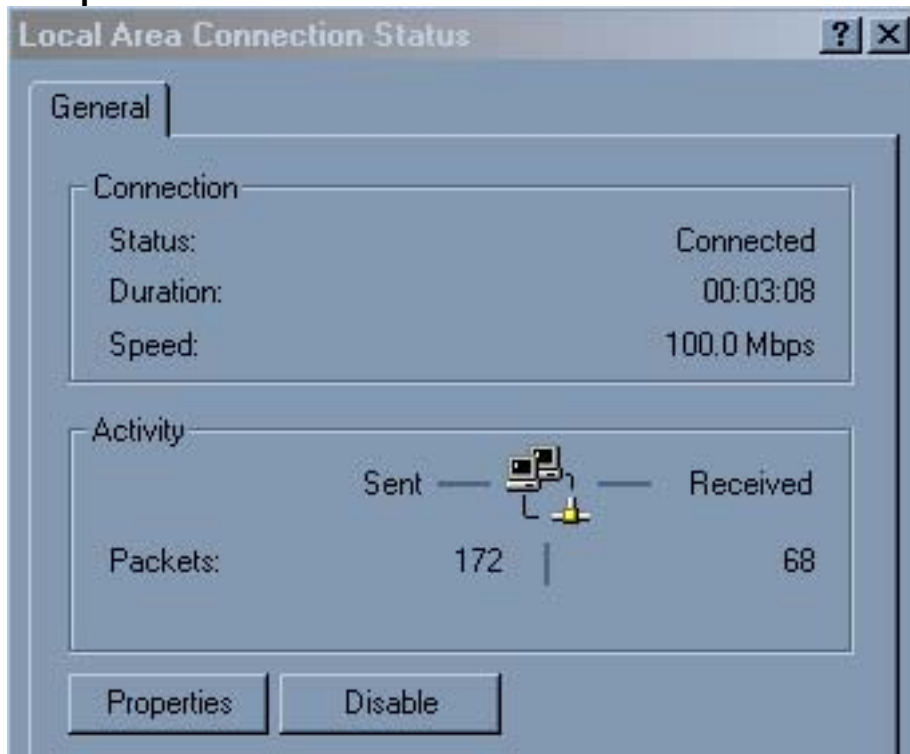
2. Launch the gamma software by double clicking it. A window will appear on your laptop.

3. Connect the GDP to your PC via an Ethernet crossover cable.

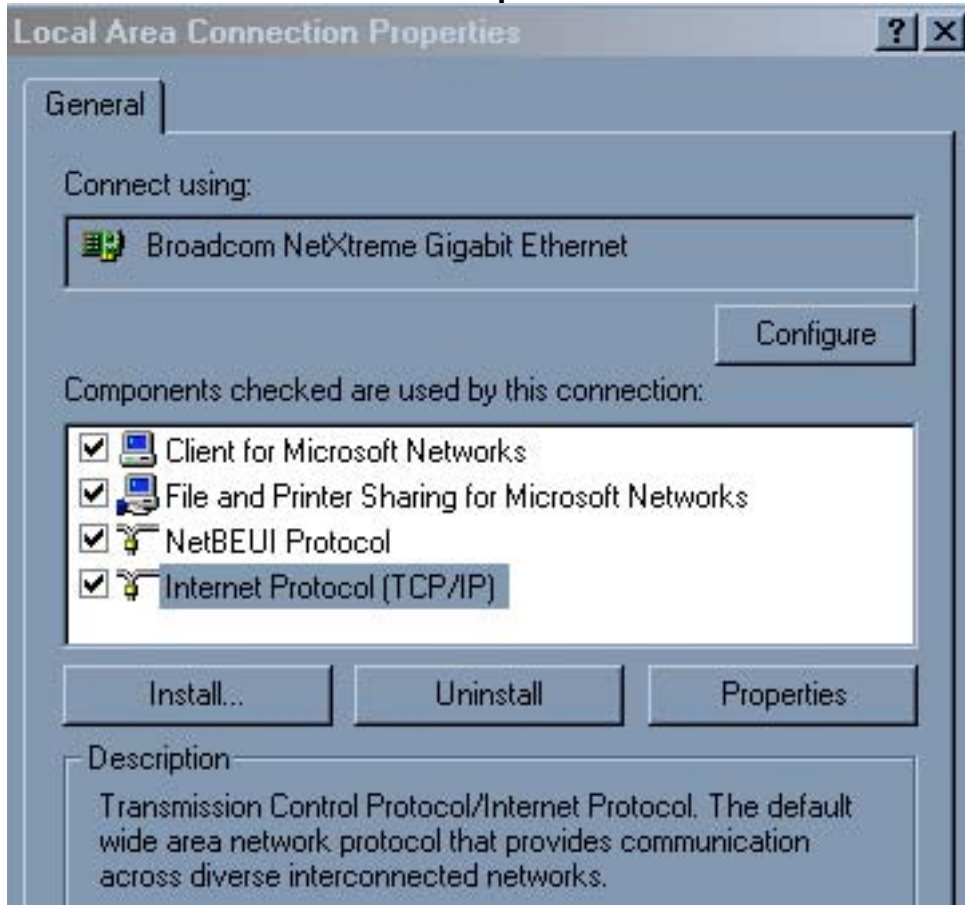
4. You must now configure a new Ethernet Location. Turn off any firewall software (or allow UDP communication on port 4304).

5. On your PC , open Control Panel and click on Local Area Connection

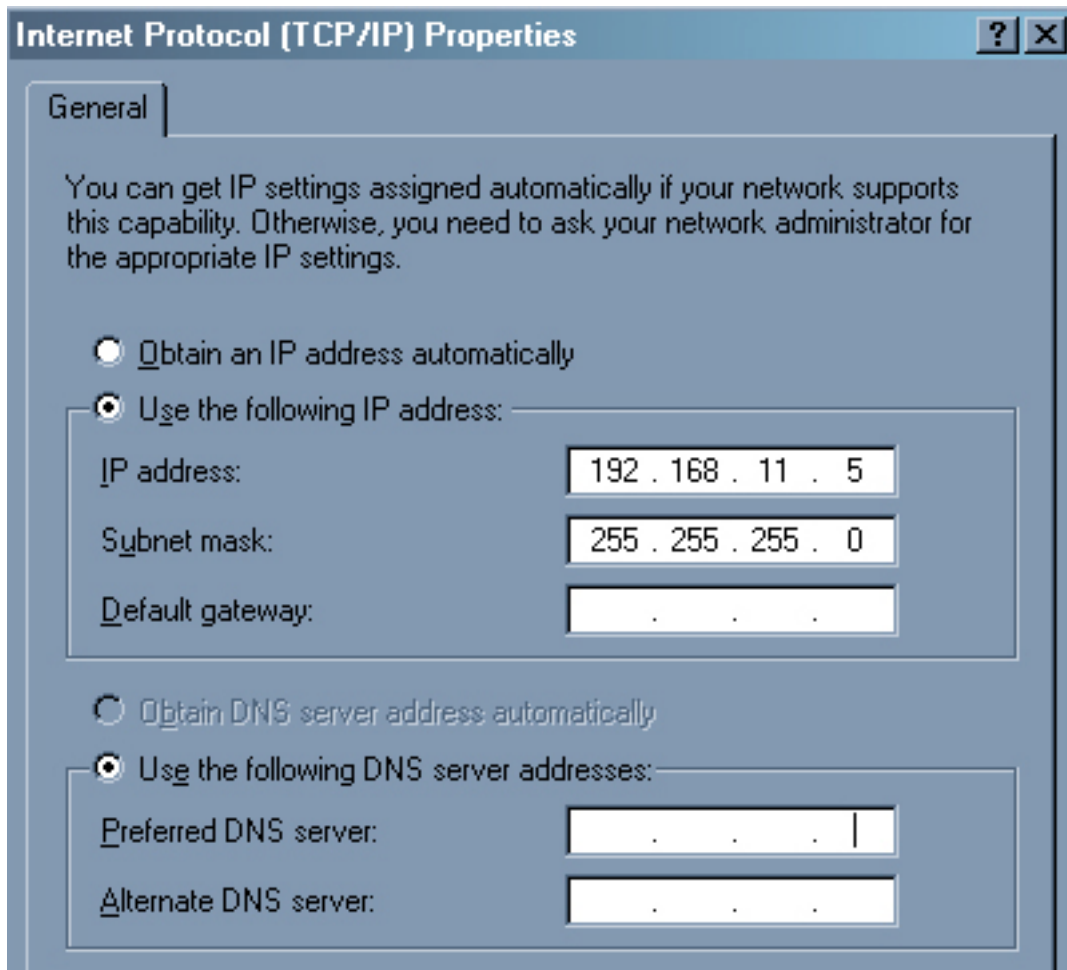
6. In "Local Area Connection Status" window click on **Properties**.



7. Then select **TCP/IP Properties**:



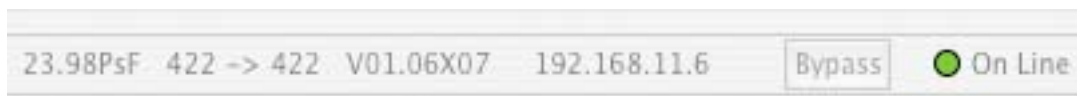
8. Enter **IP address** and **Subnet mask**



This is the address you're giving your laptop. The Gamma software expects your laptop and the GDP box to be on the same 192.168.11 subnet. The GDP box IP address will be 192.168.11.XXX, where XXX is the serial number. For example GDP-201 will be 192.168.11.201

7. Your laptop and the GDP box should now be talking via Ethernet.

At the bottom of the Gamma software window, your IP address should appear along with a green **On-line** indicator. If this doesn't happen, check that the fps and 422/444 settings in the Gamma **Setup** tab match those of your video signal.



7. File formats used by Panavision Gamma software

The Gamma software that comes with the Genesis Display Processor can use several file formats:



.gbf is a Panavision file format that contains most of the GDP settings defined by the Panavision Gamma software: PreGamma and Post Gamma Viewing LUTs, Gain/Ped and Saturation/Matrix settings. **.gbf** files are loaded and saved via the top bar **File** menu.

Note that .gbf files do not store the Frame menu or Setup menu pages.



.acv is an Adobe Photoshop "curve file" format for gamma curves. These files can be loaded or saved via buttons on the **PreGamma** or **PostGamma** menu pages.

At this time the .acv files only reproduce the settings on the PreGamma or PostGamma pages, they do not reflect the settings on the Gain/Ped or Saturation/Matrix pages, nor do they work with 3D LUTs.

.a3d

These are MegaGamma 3D LUT files. The Panavision Gamma software can upload or create these files using the top row **Lut** menu. When created these 3D LUTs reflect the **Gain/Ped** and **Sat/Matrix** settings as well as the PreGamma and PostGamma.

.lut

These are Thomson LUTher 3D LUT files. The Panavision Gamma software can upload or create these files using the top row **Lut** menu. When created these 3D LUTs reflect the **Gain/Ped** and **Sat/Matrix** settings as well as the PreGamma and PostGamma.



CSV export.csv

.csv stands for “comma separated values”. It is a standard format which can be read by Microsoft Excel that saves 3D LUT values as a database. These files can be uploaded or created via the top bar **Lut** menu. When created these 3D LUTs reflect the **Gain/Ped** and **Sat/Matrix** settings as well as the PreGamma and PostGamma.

.txt

Panavision’s Gamma software can export different text files formatted to be compatible with either DaVinci, HDLink or C Struct devices. These files are exported via the top bar **File** menu. HDLink files can also be imported via this menu.

Some Luther 3D LUT files are in .txt format and can be uploaded or created via the top bar **Lut** menu. When created these 3D LUTs reflect the **Gain/Ped** and **Sat/Matrix** settings as well as the PreGamma and PostGamma.

8. About 3D LUTs

A standard LUT (sometimes called 2D) defines a series of input and output values for Red, Green or Blue values. This approach does not take into account possible interactions between R, G and B.

*3D LUTs are color cubes defined by 17 points of R G & B. This yields 4913 (17*17*17) triad RGB values. 3D LUTs are emerging as the industry standard for communicating pre-visualization and color-space information.*

*The Panavision GDP system enables you to save all of your Gamma, Pedestal, Gain, Saturation and Matrix settings in a 3D LUT that you create via the top bar **lut** menu.*

You can then load this 3D LUT in other GDPs, other LUT devices or even in some post-production systems. This approach allows you to have the same 3D Viewing LUT applied to all the monitors on a production, as well as to the editing material via a downconverter.

This approach makes the GDP a very powerful tool for sharing Viewing LUTs or the pre-visualization of the film's Look across the set, in editing and in post-production.

Panavision strongly recommends that the cinematographer define his or her strategy for Viewing LUTs and/or pre-visualization of the Look, in close collaboration with the colorist and the post-production house.

9. Panavision Gamma Software overview

The Panavision Gamma software has a **top menu bar** with 4 pull-down menu headings:

gamma 1.43

About gamma yields version, author & copyright info

Preferences... allows you to choose whether the **Reset** button on the **PreGamma** and **PostGamma** pages will reset all 4 curves (RGB and Master) or merely the 1 visible curve.

File

Open – open a .gbf file

Save – save a .gbf file

Import – HDLink format

Export – DaVinci, HDLink, C Struct, CSV formats

scratchpad – display or hide a scratchpad where you can save and load up to 5 Viewing LUTs temporarily

wipe –display or hide a window that enables you to do a horizontal or vertical wipe to compare the image with and without your Viewing LUT.

histogram – display or hide a window that allows you to analyze a histogram of the video signal.

RGB analysis– display RGB values of any pixel

Edit gives you standard **Undo, Cut, Copy, Paste, Clear** commands, alongside their keyboard shortcuts

Lut allows you to upload or create a 3D LUT file. At present, you can upload or create 3D LUTs in the following formats:

MegaGamma

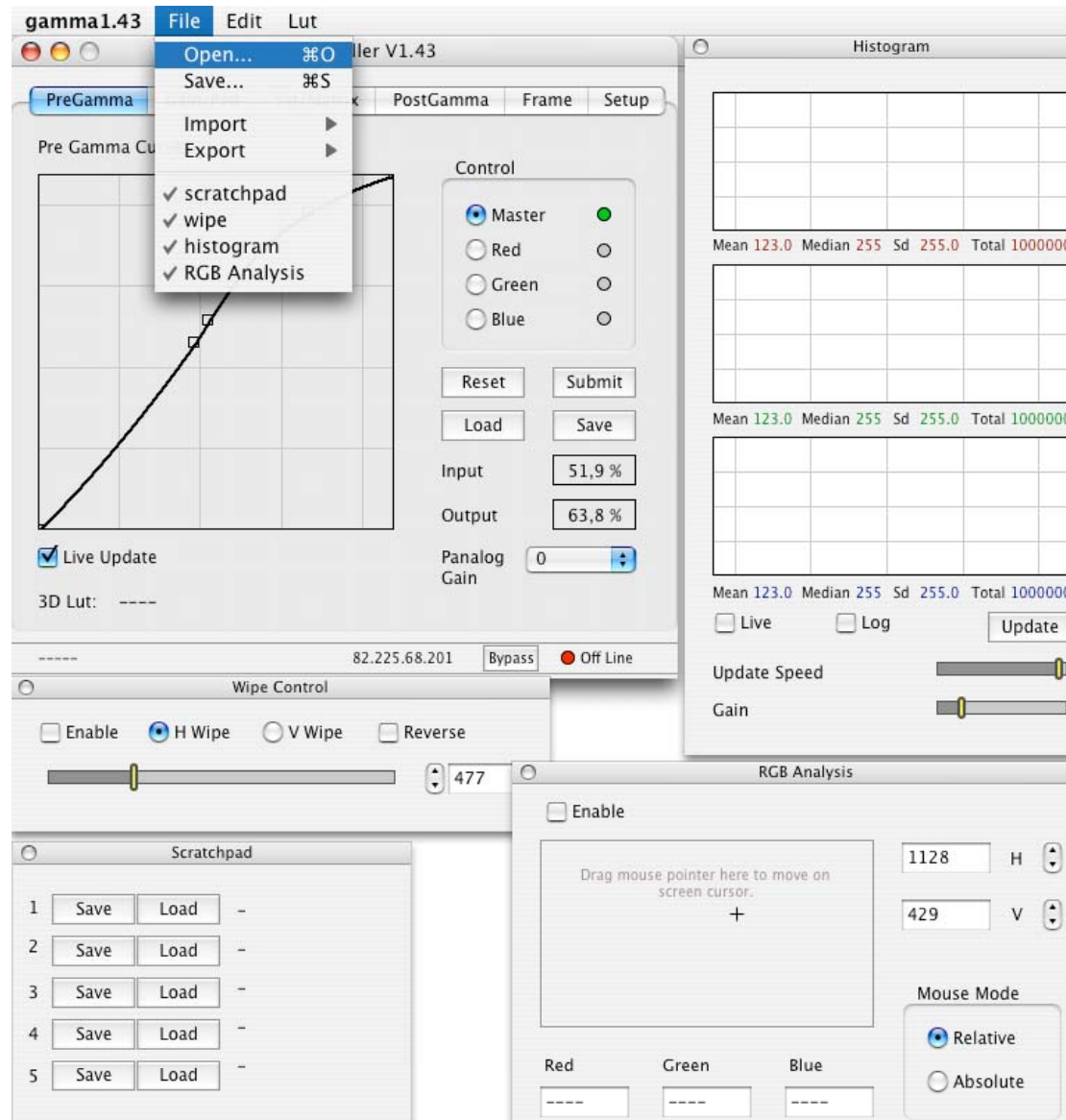
Comma separated (Excel compatible database)

Luther ascii

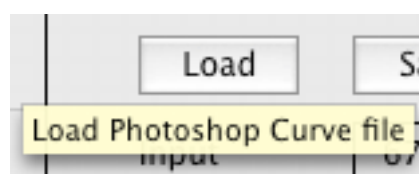
Luther binary

Pictured below are the 5 windows of Panavision Gamma software. The main window opens automatically, while, the others (histogram, scratchpad, wipe control, RGB analysis) are displayed via the top **File** pull-down menu.

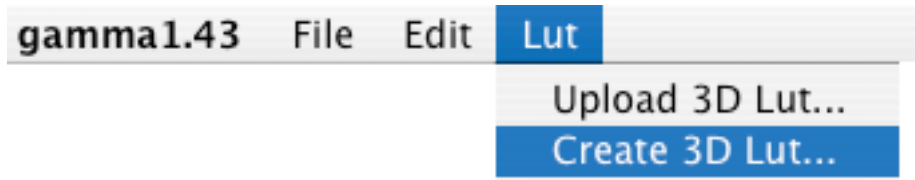
Most users will only use the main upper left-hand window, which is also the largest.



To get more information about a menu button, leave the cursor on it and a yellow information pane will appear.

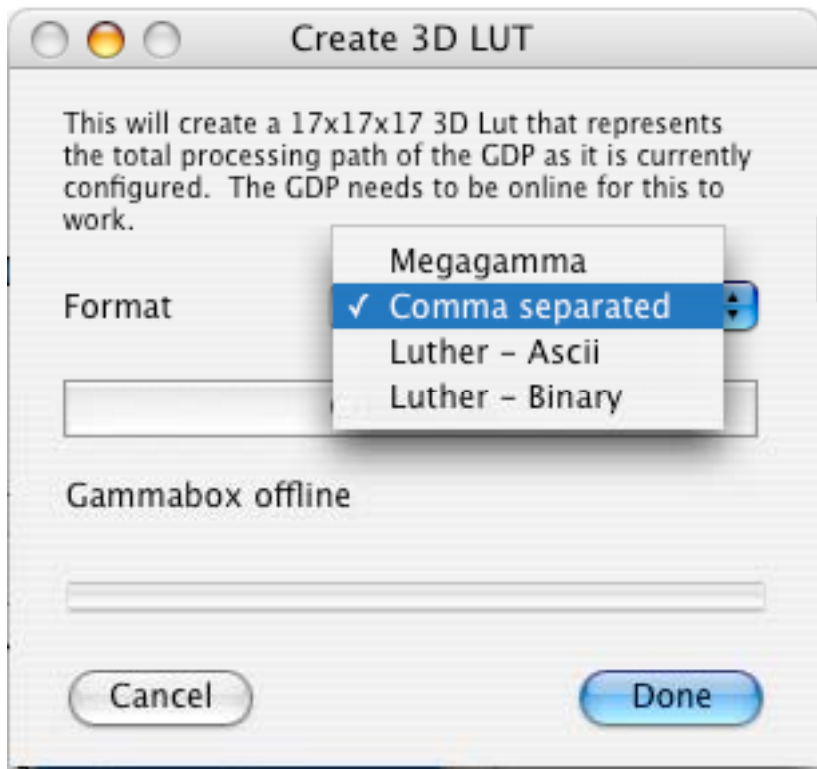


10. Creating a 3D LUT with the GDP



The Genesis Display Processor system creates a 3D LUT by sending a test signal through the box and comparing the output to the input to determine what has been done to the signal.

This approach ensures that all your settings (PreGamma, Gain, Pedestal, Saturation1, Matrix, Saturation2 and PostGamma) are taken into account when creating the 3D LUT.



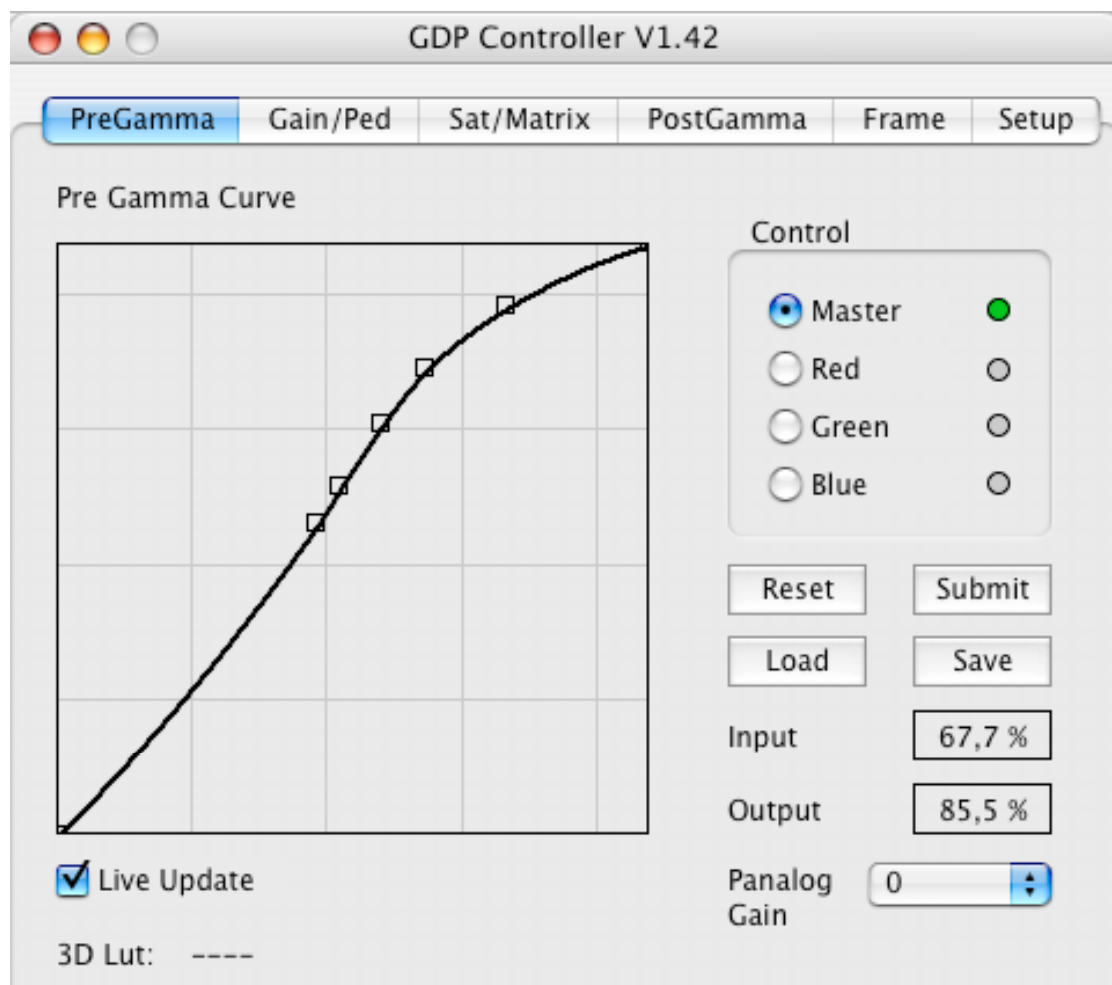
11. PreGamma menu page

This menu page allows you to load, save, define or change a transfer curve.

The PreGamma page is the most commonly used to load a Viewing LUT so that the Genesis image can be properly displayed on a video monitor.

What is the difference between using PreGamma and PostGamma ?

→ **PreGamma** is applied to the signal before **Gain/Ped** and/or **Sat/Matrix**, while **PostGamma** occurs last. *PreGamma is faster than PostGamma, and is updated live, while Post is not. PreGamma has less granularity than PostGamma : PreGamma has a 10 bit input with 1024 values, while Post Gamma has 12 bit input with 4096.*



The Graph

The PreGamma graph may be familiar to users of Adobe Photoshop. The X axis is the input value, the Y axis the output value. The grid units are 20%.

Points can be added by clicking the cursor on the graph, and click-dragging the small box thus created to a new location, which changes the over-all curve. On the right-side of the page, the **Input** and **Output** value of each point is indicated in percentage values, when the cursor slides above it.

Control - Master R G or B

LUTs can be created with separate Red Green and Blue curves or with Master (all three at once). You can work with each of the 4 curves by clicking on the corresponding button. The Master curve is black, the others are colored. In R G or B mode all 3 color curves are displayed at once.

Note that R G & B work independently of Master, so that you could theoretically have 4 curves define your LUT. A green dot alerts you to the curves that are not in their default position.

Each curve can be defined manually with a series of points. Photoshop gamma files cannot handle more than 17 points.

Live Update – Check this box to have the live video image change with the curve.

3D Lut – If you have a 3D LUT loaded, the file name will appear here.

Reset or **Reset All** – Changes the curve to the default straight line. Depending on setting in the **Preferences** top menu bar item, Reset applies to : a) the visible curve or b) all curves.

Submit – Sends the current curve to the GDP unit

Load – You can load an Adobe Photoshop curve file (extension .acv) to use as a Viewing LUT.

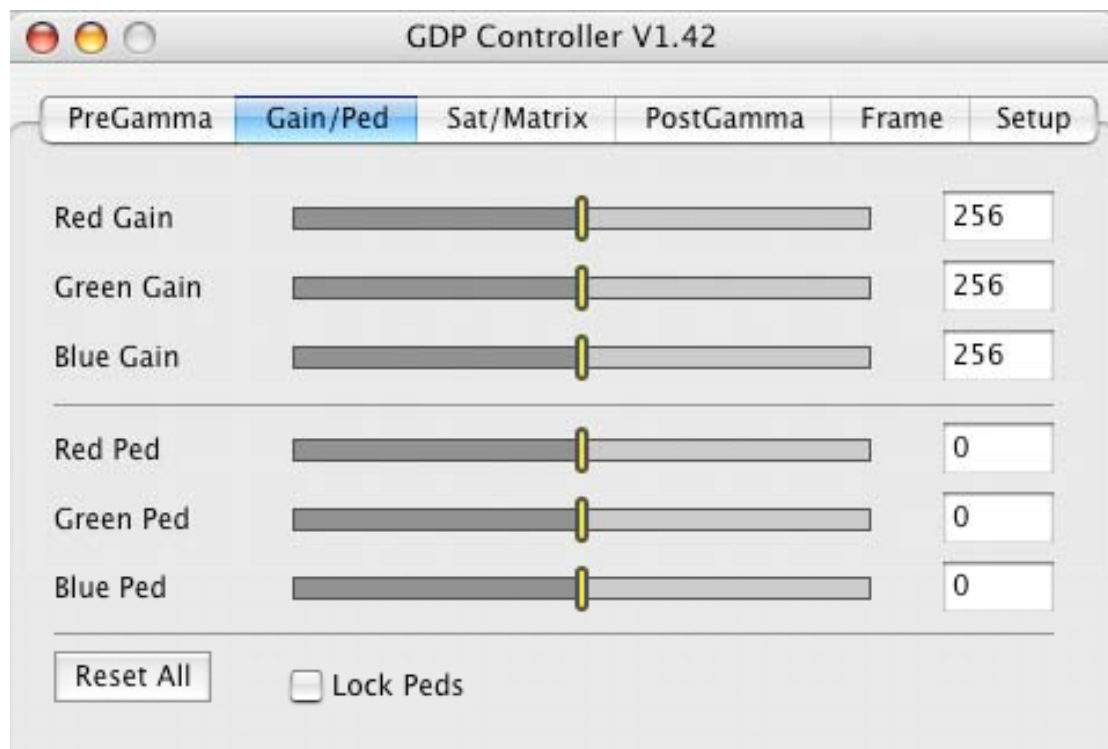
Save – You can save your Viewing LUT as an Adobe Photoshop curve file (extension .acv).

Panalog gain – Increase or decrease the signal (in stops)

12. Gain/Ped menu page

This menu page allows you to change the gain and/or pedestal of the Red Green or Blue component of the video signal.

You can also change the Master pedestal by locking RGB together. You can augment the Gain up to two times.



This page allows you to pre-visualize your Look by doing a rough color timing of the image.

For example, you could warm the image by increasing the Red gain, or lower the locked peds to crush the blacks.

At present, you can either:

open or **save** your Sat/Matrix settings as part of a **.gbf** file via the top bar **File** pull-down menu,
or export an **.a3d** file via the **export 3d lut** command in the same **File** menu.

Red Gain

Green Gain

Blue Gain

Move the slider or enter a numerical value in the right-hand box.

256 represents zero gain. The 2 stop range runs from 1 (minus 1 stop or half the gain) to 512 (plus 1 stop or twice the gain).

Red Ped

Green Ped

Blue Ped

Move the slider or enter a numerical value in the right hand box to change the Pedestal (black levels) of the video signal.

0 represents no change. The range goes from -512 to +512.

Lock Peds - Check this box to vary all 3 pedestals simultaneously.

*Clicking **Lock Peds** does not change existing inequalities between Peds.*

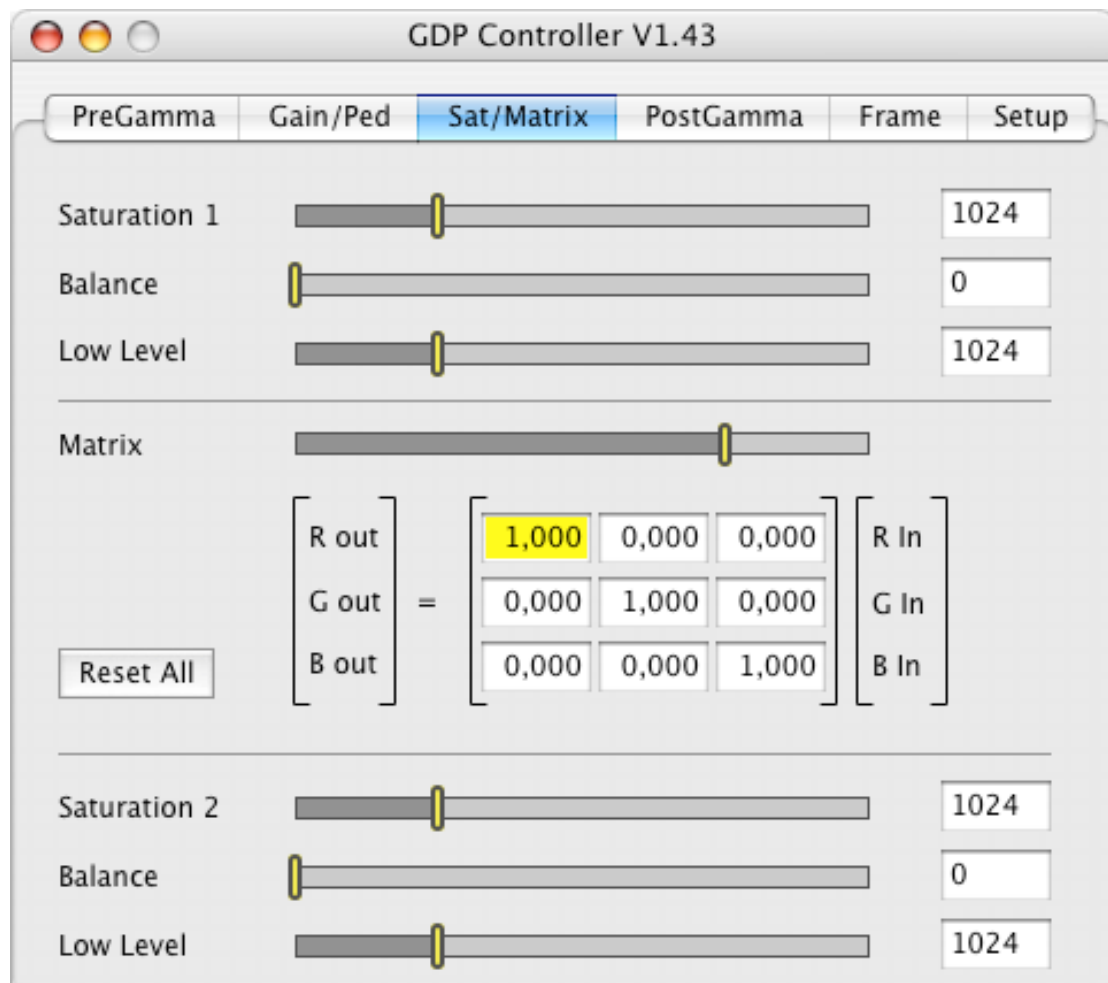
Reset All – Puts Gain and Peds back to unity setting.

*If there is an inequality between locked pedestals you may have to click **Reset All** twice to get back to unity.*

13. Sat/Matrix menu page

This menu page allows you to change the color saturation of highlights and low levels of the video signal. It also allows you to apply a matrix to the RGB signal.

The signal processing order is Saturation 1, then Matrix, then Saturation 2.



This page allows you to pre-visualize your Look by changing the saturation of the highlights and the blacks separately. This could prove useful if, for example, there is more saturation in the darks.

You can also define a matrix that changes the color of the image by adding R G and B coloring to the each of the original R G B components of the signal. Matrix settings are best manipulated by those with some experience.

Saturation 1 changes the color intensity of the highlights above the **Balance** position. The range is from 0 for monochrome to 1024 for unity, to a maximum of 4096, which represents four times the normal saturation.

Balance defines the gradual border between the highlights and the low level darks. The range is from 0, where there is no saturation control whatsoever for low level, to a maximum of 4096. Middle gray will depend on gamma settings, but is around 1600.

Low Level changes the color intensity of the dark areas below the **Balance** position.

Matrix

		R in	G in	B in
R out	=	-2 to +2	-2 to +2	-2 to +2
G out	=	-2 to +2	-2 to +2	-2 to +2
B out	=	-2 to +2	-2 to +2	-2 to +2

On the first line, you can define the R output to be a mixture of the R G and B inputs. The range for each color component is -2 to +2

On the second line, you can define the G output with mixtures of the R G and B inputs. And on the third line the same thing for the B output.

Saturation 2, Balance, Low Level

These 3 work like the controls of Saturation 1 above, but they apply to the signal after the Matrix.

Reset All puts the whole page back to unity.

*You can either import or export your Sat/Matrix settings as part of a **.gbf** file via the top bar **File** pull-down menu, or save them as part of a 3D LUT via the top bar **lut** menu.*

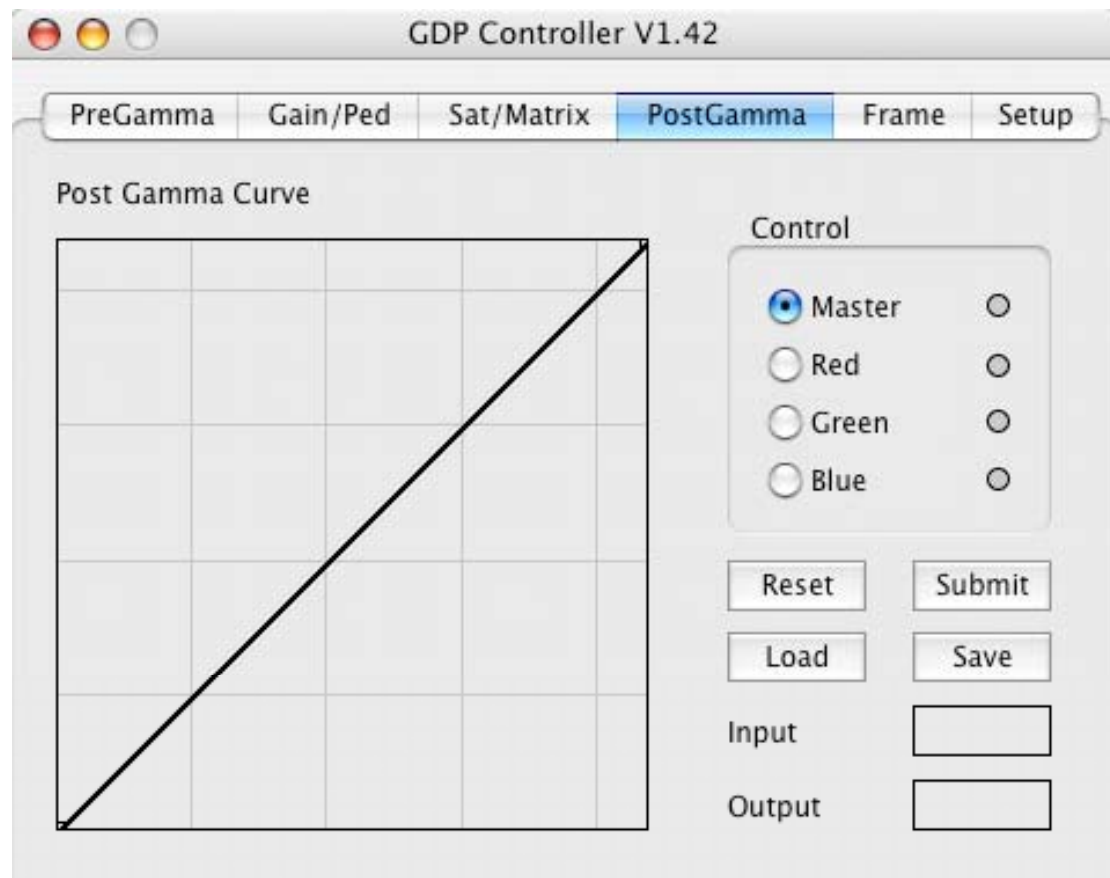
14. PostGamma menu page

This menu page allows you to load, save, define or change a Viewing LUT curve which is applied after any PreGamma, Gain, Pedestal, Saturation and Matrix manipulations that may have been applied.

Most cinematographers use PreGamma -- not PostGamma -- to load a Viewing LUT to properly display the Genesis image on a video monitor.

What is the difference between using PreGamma and PostGamma ?

→ **PreGamma** is applied to the signal before **Gain/Ped** and/or **Sat/Matrix**, while **PostGamma** occurs last. **PreGamma** is faster than **PostGamma**, and is updated live, while **Post** is not. **PreGamma** has less granularity than **PostGamma** : **PreGamma** has a 10 bit input with 1024 values, while **Post Gamma** has 12 bit input with 4096.



The Graph

The PostGamma graph may be familiar to users of Photoshop. The X axis is the input value, the Y axis the output value. The grid units are 20%. Points can be added by clicking the cursor on the graph, and click-dragging the small box thus created to a new location, which changes the over-all curve. On the right-side of the page, the **Input** and **Output** value of each point is indicated in percentage values, when the cursor slides above it.

Control - Master R G or B

LUTs can be created with separate Red Green and Blue curves or with Master (all three at once). You can work with each of the 4 curves by clicking on the corresponding button. The Master curve is black, the others are colored. In R G or B mode all 3 color curves are displayed at once.

Note that R G and B work separately with Master, so that you could theoretically have 4 curves define your LUT. A green dot alerts you to curves that are not in their default position.

Each curve can be defined manually with a series of points. Note that Photoshop gamma files cannot handle more than 17 points.

Live Update – Check this box to have the live video image change with the curve.

Reset or **Reset All** – Changes the curve to the default straight line. Depending on setting in the **Preferences** top menu bar item, Reset applies to : a) the visible curve or b) all curves.

Submit – Sends the current curve to the GDP unit

Load – You can load an Adobe Photoshop curve file (extension .acv) to use as a Viewing LUT.

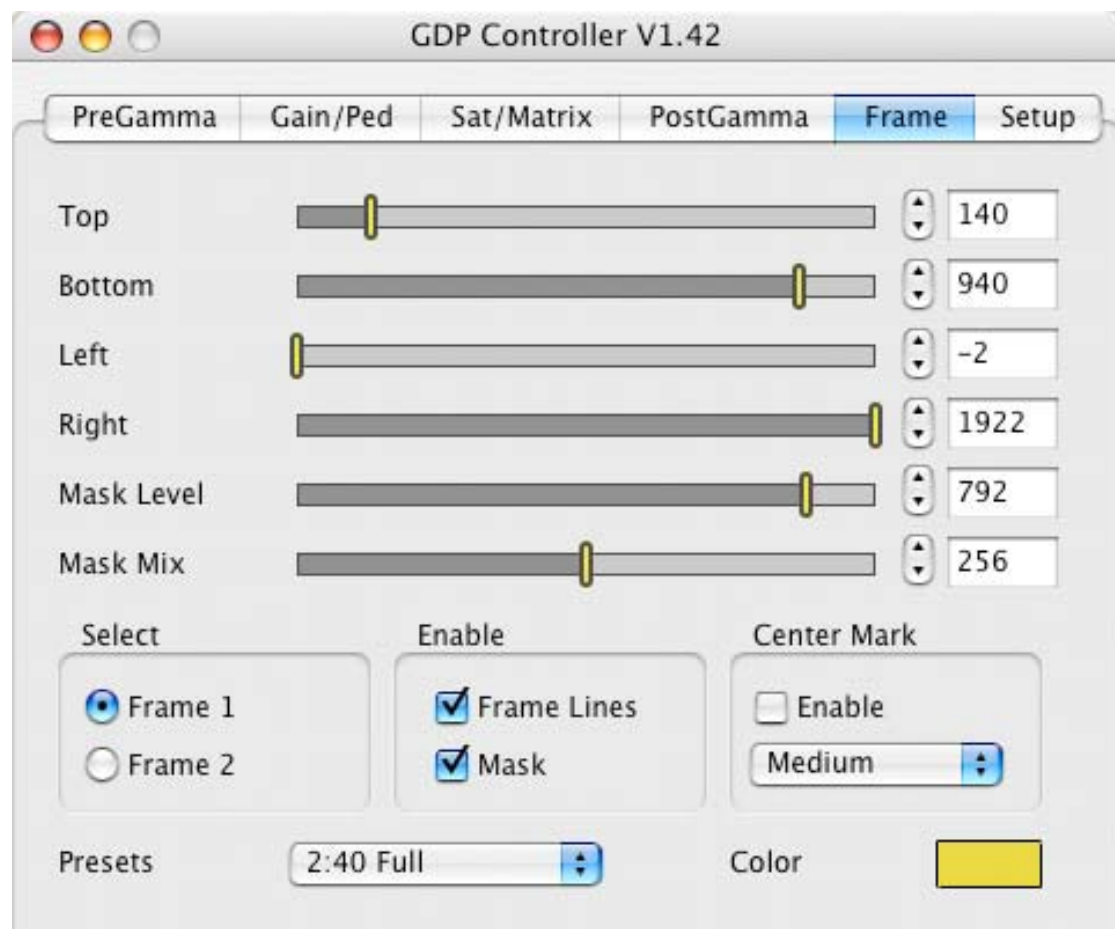
Save – You can save your Viewing LUT as an Adobe Photoshop curve file (extension .acv).

15. Frame menu page

This menu page allows you to define and save 2 sets of frame lines and masks. You can vary the mask intensity and mix (transparency).

There are preset frame line settings for: full 1.85, full 2.40, 1.85 safe area, 2.40 safe area, 1.33.

You can also select the color of the frame lines.



Top – select top frame line position (line 1-1080)

Bottom – select bottom frame line position (line 1-1080)

Left – select left frame line position (pixel -2 to 1922)

Right – select right frame line position (pixel -2 to 1922)

Mask Level – varies the darkness of the mask (0-896 values)

Mask Mix – varies the mix between the mask and the live image (0-512 values)

Select - Frame 1 / Frame 2

choose between 1 of 2 stored frame line & mask settings

Enable - Frame Lines / Mask

check boxes to enable frame lines and/or mask

Center Mark

Enable - check box to enable center mark

Small/Medium/Large – select the size of the center mark

Presets – if desired, you can select one of the following

1.85 full

2.40 full

1.85 (Safe Area)

2.40 (Safe Area)

1.33

Color – choose coloring of frame lines in separate window

16. Setup menu page

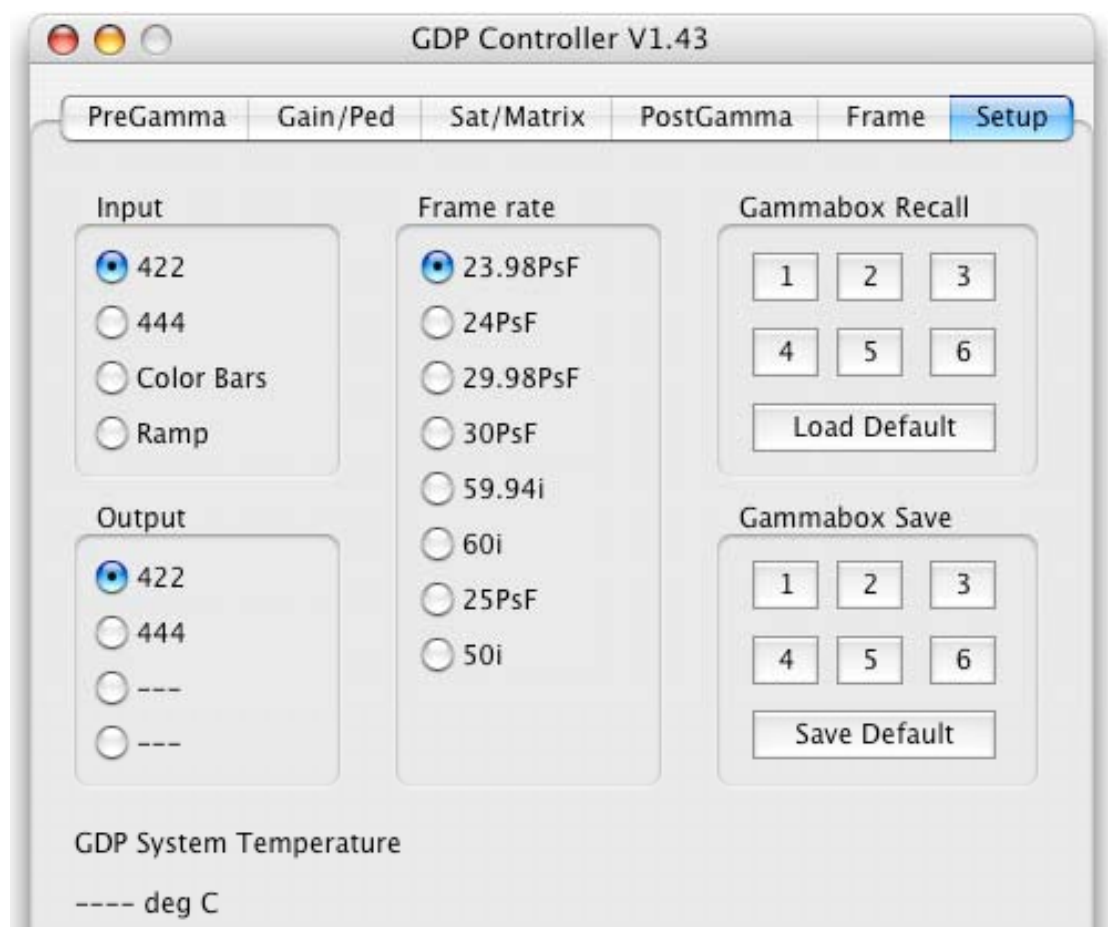
This menu page allows you to define the input frame rate and select whether the input and output signal is 444 or 422.

You can also input internal color bars or a ramp test signal.

The page also allows you to save and recall six global settings in the Genesis Display Processor box' internal memory.

The software and GDP will not function properly if the frame rate or 422/444 selections are not the same as the input frame rate or 422/444 setting.

The global settings stored in the GDP are available even if the laptop is not connected.



Input – select the type of input signal to the GDP

Warning : the GDP may not work if you select 422 for a 444 signal or vice-versa

422

444

Color Bars – useful for seeing color rendition

Ramp – useful for seeing effect of gamma curves

Frame rate – select the frame rate of input signal

The progressive segmented-frame options are:

23.98PsF / 24PsF / 25PsF / 29.98PsF / 30PsF

The interlace options are:

50i / 59.94i / 60i

Output – select the type of output signal from the GDP

422 / 444

Gammabox Recall – recall 1 of 6 internal GDP box files, or the GDP Default. Each file contains all the settings from all the menu pages: PreGamma, Gain/Ped, Sat/Matrix, Frames, Setup.

1 2 3 4 5 6 Default

Gammabox Save – save all the settings from all the menu pages (PreGamma, Gain/Ped, Sat/Matrix, Frames, Setup) in 1 of 6 internal GDP box files, or save a GDP Default.

1 2 3 4 5 6 Default

Be cautious about storing a new default in GDP

Temperature – Displays internal GDP box temperature for trouble-shooting



17. Getting more information

For more information about Panavision Gamma software or the Genesis Display Processor, please contact your local Panavision Technical Marketing representative.

The following documents may also be helpful and can be obtained from your local Panavision Technical Marketing representative :

Genesis FAQs

Genesis Quick Reference Cards

Panavision Technical Marketing CD

with Genesis Menu Simulator and Genesis Movie

You can download this manual and other files at:

<http://adi.panavision.com/gdp>

<http://www.panavision.com.au/>

<http://pvdocs.com>

Please send any corrections or comments you may have for this manual to benjaminb.mail@free.fr

18. Appendix: manual for standalone GDP

Following are the instructions for stand-alone use of the Genesis Display Processor.

This assumes that a Panavision technician or your post-production house has already pre-loaded a Viewing LUT into the GDP.

You may want to separate these 5 pages for ease of use.

PANAVISION

Genesis Display Processor

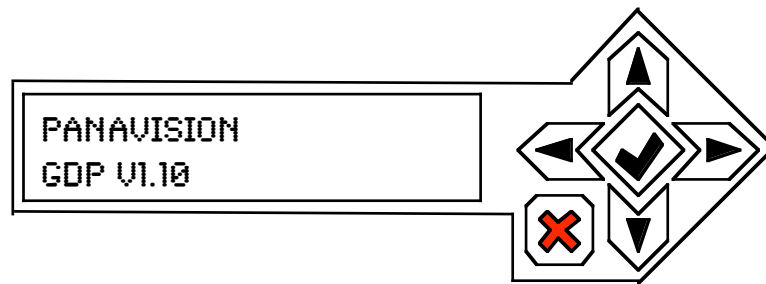


Instruction on Standalone use.





1st Edition Rev 1




Gamma version 1.43

Introduction



Rev B of the Genesis display processor adds an LCD to the front panel for local control. The LCD consists of a two line, 16-character display and 6 key keypad.

The GDP local control can be in one of three operational conditions. It's normal mode only shows status and allows selection of bypass using the  key. This is called STATUS mode. To change from this to other modes the  key is used. A short press  will cause the unit to enter a condition enabling the selection of a number of presets that store all operational parameters, this is called PRESET mode. If the  key is held for more than 2 seconds a SETUP mode will be entered. If no user input is detected for more than 20 seconds the unit will revert to its STATUS mode to stop accidental changes.

In both PRESET and SETUP mode  the  keys are used to scroll through a series of menus, the  key is then generally used to select or change the menu item.

GDP Local control

Local control using LCD keypad.

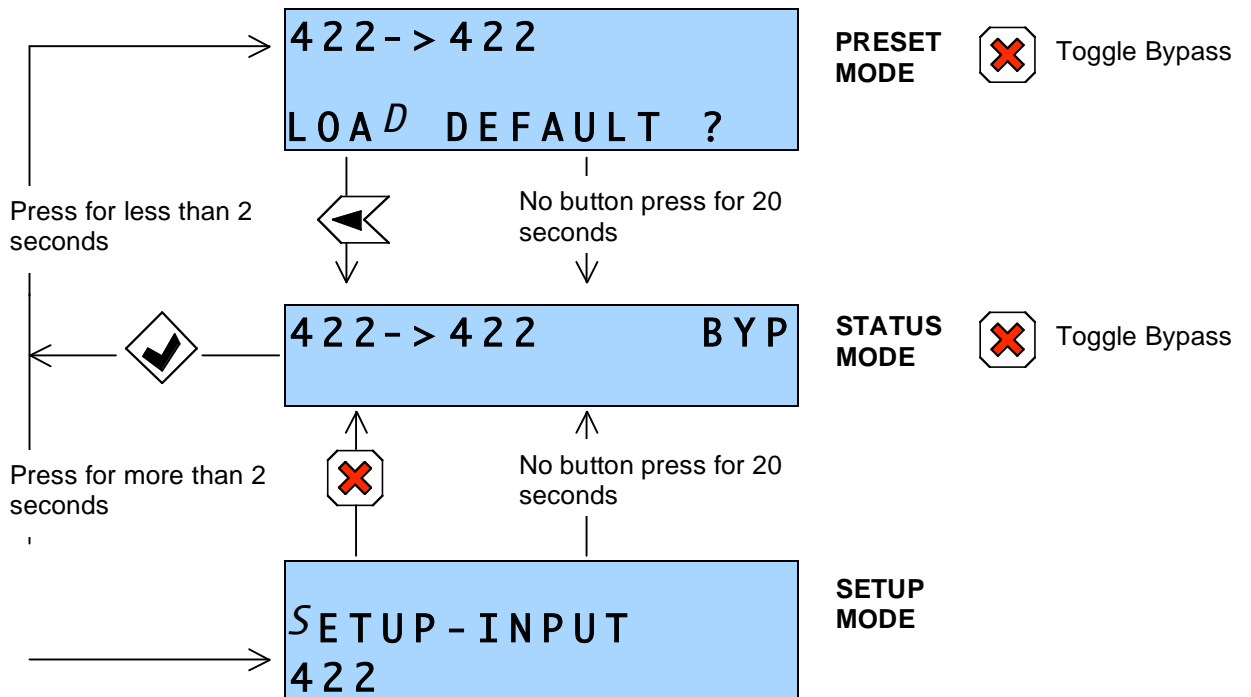
The GDP local control will be in one of three modes.

Status mode – Only  is functional and controls Bypass function.

Preset Mode – Default and user setting may be recalled.

Setup Mode – Certain settings such as input mode may be configured.

Switching between the three modes is as follows.



Preset Mode Control

422->422
LOAD DEFAULT ?



Select Default Settings

422->422
LOAD PRESET 1 ?



Select User Preset 1 Settings

422->422
LOAD PRESET 2 ?



Select User Preset 1 Settings

422->422
LOAD PRESET 3 ?



Select User Preset 1 Settings

422->422
LOAD PRESET 4 ?



Select User Preset 1 Settings

422->422
LOAD PRESET 5 ?



Select User Preset 1 Settings

422->422
LOAD PRESET 6 ?

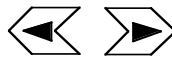


Select User Preset 1 Settings

Common controls active all the time

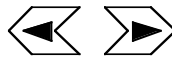
Setup Mode Control

SETUP - INPUT
422



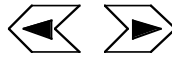
Change Input mode
Select 422, 444, CB or RMP

SETUP - OUTPUT
422



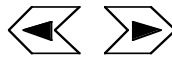
Change Output mode
Select 422 or 444

SETUP - STANDARD
23.98P s F



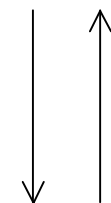
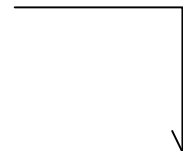
Change System Frame rate
Select 23.98, 29.97 etc

SETUP - LCD
70

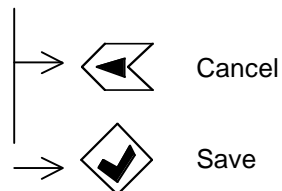


Change LCD Brightness
5 - 100%

SETUP - SAVE



SETUP - SAVE
SAVE DEFAULT ?



STATUS - TEMP
42.50 degC

Common controls active all the time

