

AVENUE

Avenue™ signal integration system

Model 5150 Analog Video and AES DA Data Pack

ENSEMBLE

D E S I G N S

Revision 3.1 SW v1.1.1

This data pack provides detailed installation, configuration and operation information for the **5150 Analog Video and AES Distribution Amplifier (DA)** as part of the Avenue Signal Integration System.

The module information in this data pack is organized into the following sections:

- Module Overview
- Applications
- Installation
- Cabling
- Module Configuration and Control
 - Front Panel Controls and Indicators
 - Avenue PC Remote Control
 - Avenue Touch Screen Remote Control
- Troubleshooting
- Software Updating
- Warranty and Factory Service
- Specifications

MODULE OVERVIEW

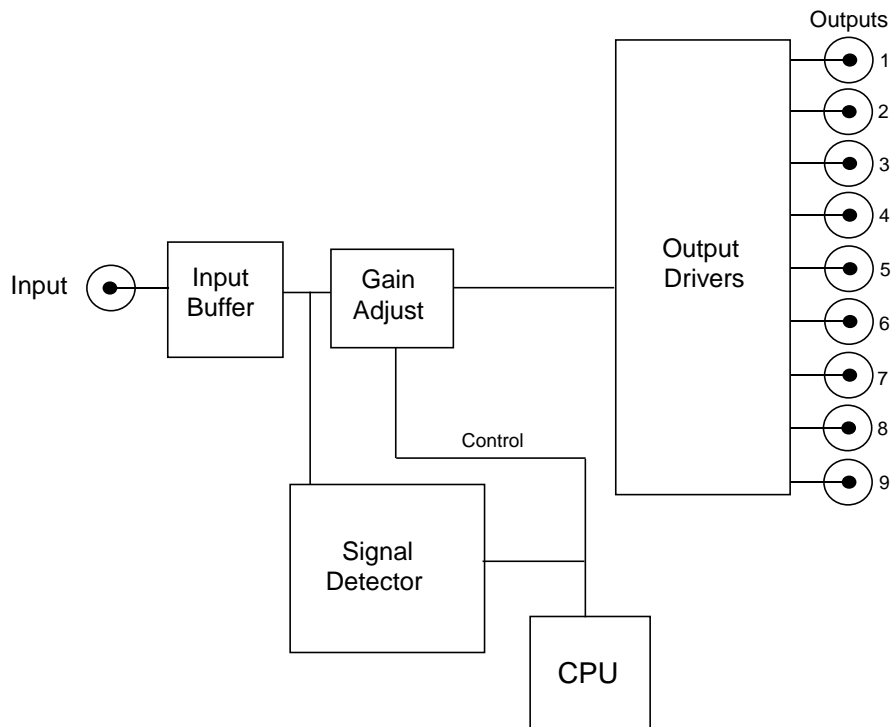
The 5150 module provides analog distribution of composite video signals, NTSC and PAL and AES audio. Nine buffered composite video outputs can be accessed from the one analog video input source.

Input signal validity is displayed locally and can be monitored through the Avenue remote control options. Gain can be adjusted locally as well as remotely. Remote control is accessed via the optional Avenue Touch Screen Control Panel and Avenue PC Control Applications.

As shown in the block diagram below, the signal passes through an input buffer circuit then goes on to the gain adjust circuitry. Overall gain can be adjusted locally with the trim pot on the module front panel or remotely with one of the remote applications as explained in the Front Panel Controls and Indicators section of this data pack.

Power is derived from the ± 12 volt frame power. It is regulated to the required +5 volts for the module by on-board regulator. The module is fused with a resettable fuse device. If the fuse opens due to an overcurrent condition, the module will lose power. After pulling the module, the fuse will reset automatically requiring no replacement fuse.

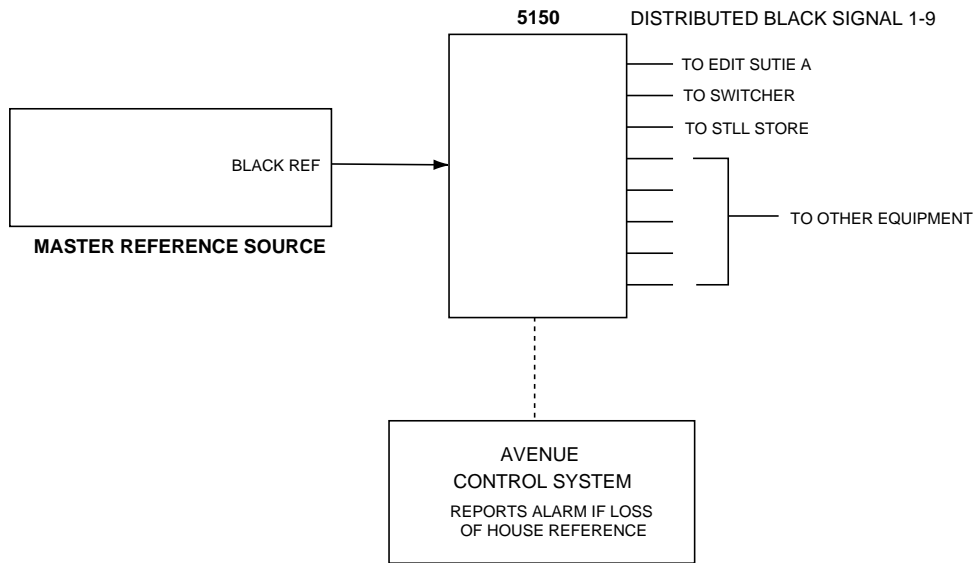
The on-board CPU can monitor and report the module ID information (slot location, software version and board revision) and signal presence detection which can be reported by the optional frame System Control module to the optional interfaces available.



5150 Analog Video DA Functional Block Diagram

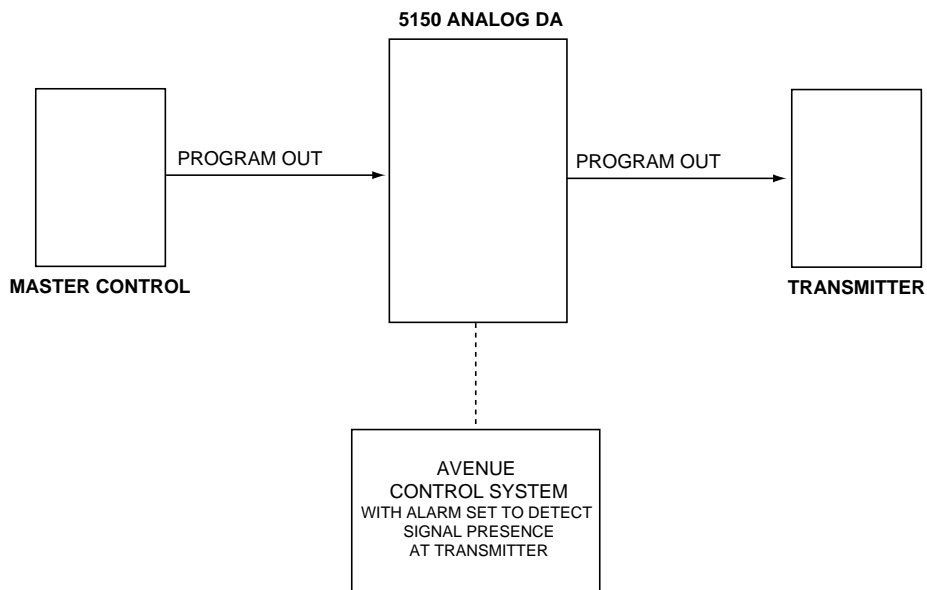
APPLICATIONS

As shown in the example below, the 5150 DA can be utilized to distribute a master reference source throughout a facility. The master reference genlock signal is inserted into the 5150 input then distributed to up to nine destinations. The Avenue remote control system can be set up to report an alarm if there is a loss of the house reference.



5150 Genlock Distribution Application

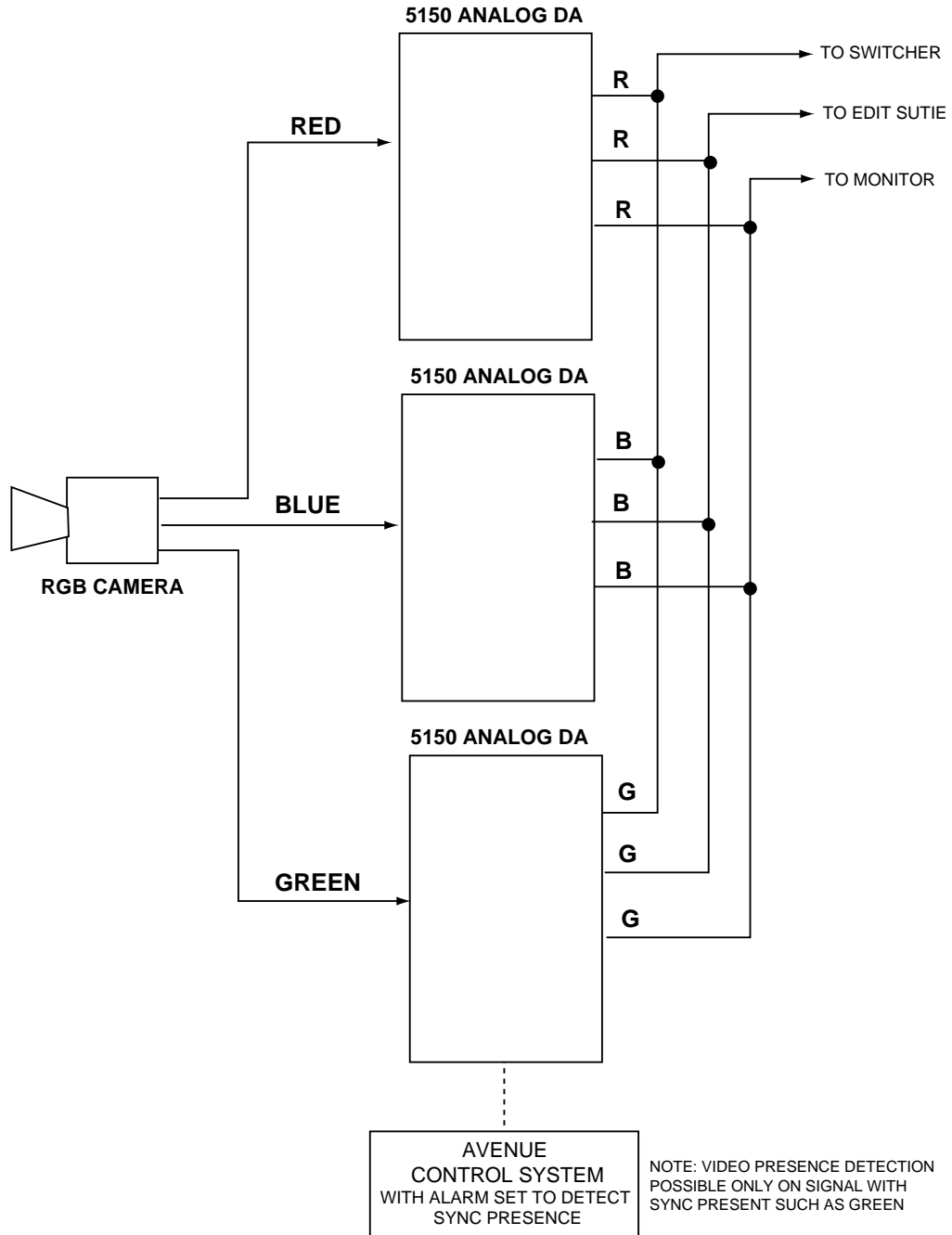
The application below shows the 5150 used a video presence detector. The Program Output signal from a master control device is fed to the 5150 input and then the output of the DA is sent to the transmitter. An alarm can be set in the Avenue control system to send an alert if the sync signal to the transmitter is lost.



5150 as Video Presence Detector

Model 5150 Analog Video/AES DA

Three 5150 DAs can be utilized as RGB distribution amplifiers as shown in the example below. The RGB signals from a camera can be distributed throughout the facility to a switcher, monitor and other equipment.



5150 Analog DA Distributing RGB Signals

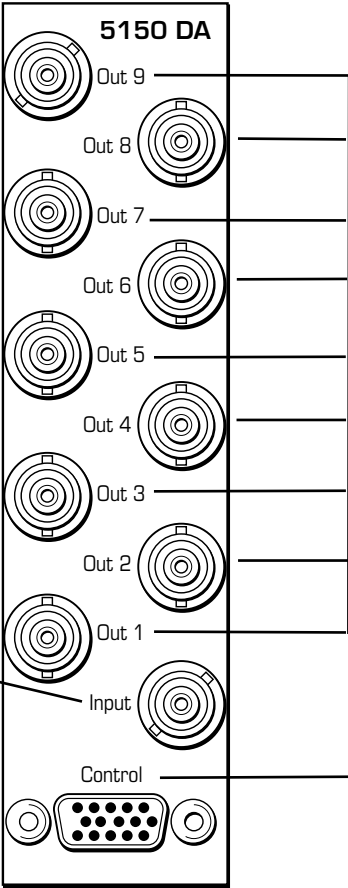
INSTALLATION

Plug the 5150 module into any one of the slots in the 1 RU or 3 RU frames and install the plastic overlay provided onto the corresponding group of rear BNC connectors associated with the module location. Note that the plastic overlay has an optional adhesive backing for securing it to the frame. Use of the adhesive backing is only necessary if you would like the location to be permanent and is not recommended if you need to change module locations. This module may be hot-swapped (inserted or removed) without powering down or disturbing performance of the other modules in the system.

CABLING

Refer to the 3 RU and 1 RU backplane diagrams of the module below for cabling instructions. Note that unless stated otherwise, the 1 RU cabling explanations are identical to those given in the 3 RU diagram.

3 RU Backplane



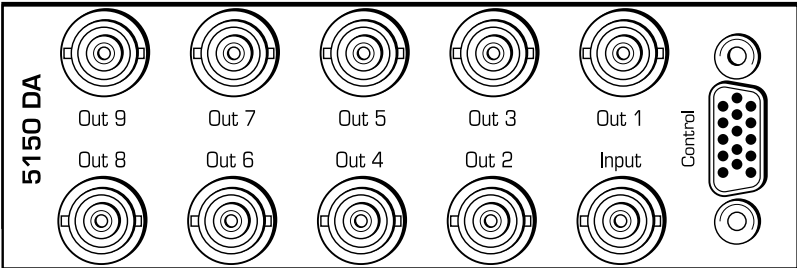
Connect up to nine analog output destinations to the **Out 1-9** BNCs.

Connect the analog video source signal to be distributed into the **Input** BNC.

NOTE: This input is self-terminated on the module, if the module is removed, the input will become unterminated.

The 15-pin connector is not used in this application.

1 RU Backplane



MODULE CONFIGURATION AND CONTROL

The parameters for each Avenue module must be configured after installation. This can be done remotely using one of the Avenue remote control options or locally using the module front panel controls. Each module has a **REMOTE/LOCAL** switch on the front edge of the circuit board which must first be set to the control mode you will be using.

The configuration parameter choices for the module will differ between **Remote** and **Local** modes. In **Remote** mode, the choices are made through software and allow more selections. The **5150 Parameter Table** below summarizes and compares the various configuration parameters that can be set remotely or locally and the default/factory settings.

If you are not using an remote control option, the module parameters must be configured from the front panel switches. Parameters that have no front panel control will be set to a default value. The **Local** switches are illustrated in the **Front Panel Controls and Indicators** section following the **5150 Parameter Table**.

Avenue module parameters can be configured and controlled remotely from one or both of the remote control options, the Avenue Touch Screen or the Avenue PC Application. Once the module parameters have been set remotely, the information is stored on the module CPU. This allows the module be moved to a different cell in the frame at your discretion without losing the stored information. Remote configuration will override whatever the switch settings are on the front edge of the module.

For setting the parameters remotely using the Avenue PC option, refer to the **Avenue PC Remote Configuration** section of this document.

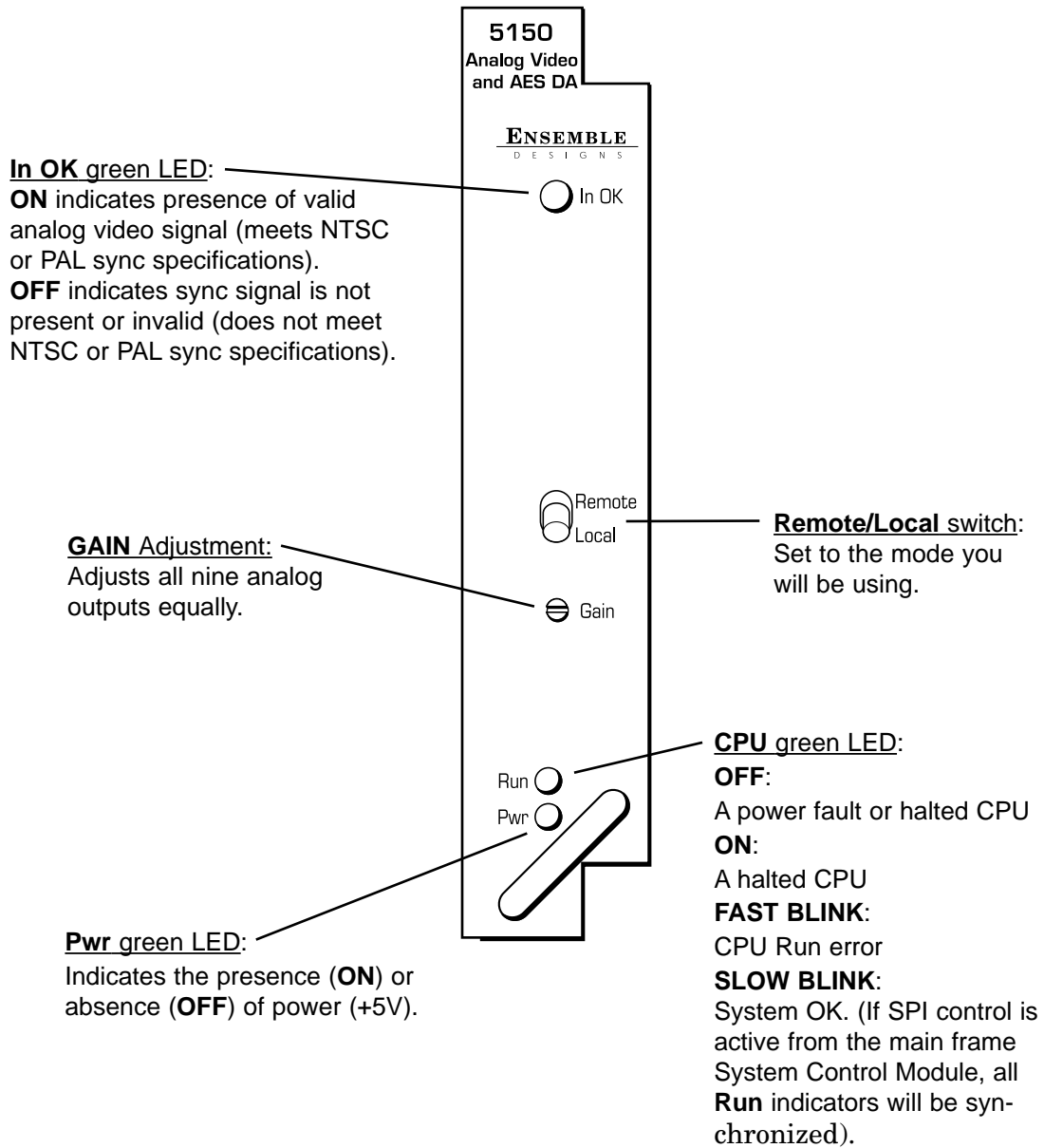
For setting the parameters remotely using the Avenue Touch Screen option, refer to the **Avenue Touch Screen Remote Configuration** section of this data pack following Avenue PC.

5150 Parameter Table

CONTROL	LOCAL	REMOTE	DEFAULT VALUE
Gain	Gain potentiometer: adjust signal \pm 10%	90-110%	100%

Front Panel Controls and Indicators

Each front edge indicator and switch setting is explained in the diagram below:



Avenue PC Remote Configuration

The Avenue PC remote control menus for this module are illustrated and explained in this section. Refer to the 5150 Parameter Table for a summary of available parameters that can be set remotely through the menus illustrated. For more information on using Avenue PC, refer to the Avenue PC Control Application Software data pack that came with the option.

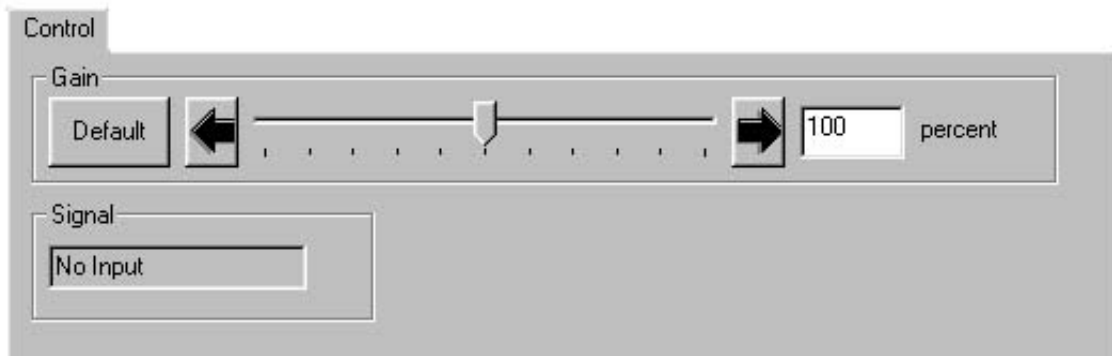
5150 Avenue PC Menus

In the **Control Menu** shown below, set the following parameters:

- **Gain** - set the gain of the analog output video to the desired setting (90-110 percent).

The following indicator is available in this menu:

- **Signal** - will indicate the input signal status of the module and will display **No Input** or **Input OK**.



Avenue Touch Screen Remote Configuration

Avenue Touch Screen remote control menus for this module are illustrated and explained below. Refer to the 5150 Parameter Table for a summary of available parameters that can be set remotely through the menus illustrated. For more information on using Avenue Touch Screen, refer to the Avenue Touch Screen data pack that came with the option.

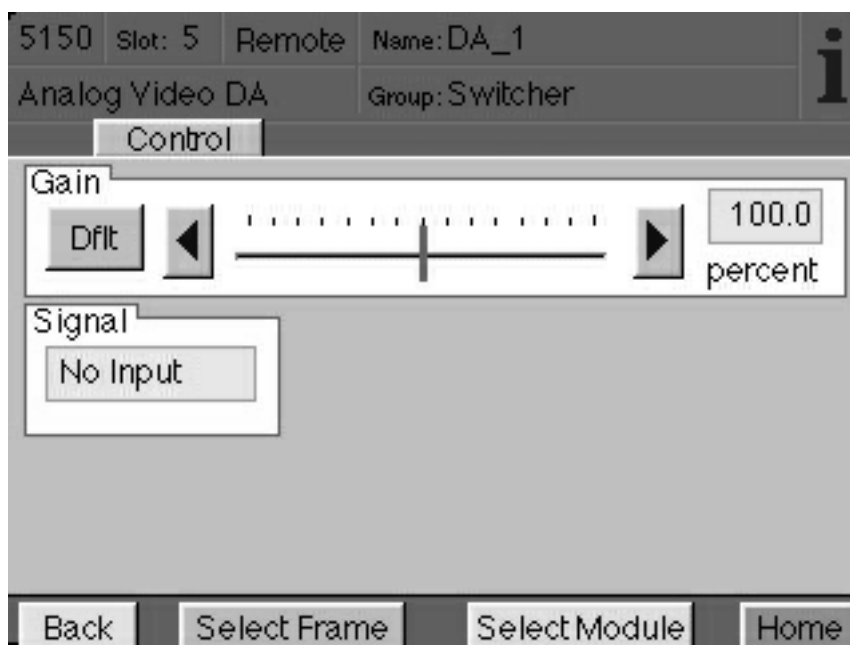
5150 Avenue Touch Screen Menus

In the **Control Menu** shown below, set the following parameters:

- **Gain** - set the gain of the analog output video to the desired setting (90-110 percent).

The following indicator is available in this menu:

- **Signal** - will indicate the input signal status of the module and will display **No Input** or **Input OK**.



TROUBLESHOOTING

To aid in troubleshooting, signal reference levels and presence, power and CPU status can be easily monitored from the front panel of this module using the indicators explained in the previous section.

If using the **Remote** mode, the following status items can be monitored using the Avenue Touch Screen Control Panel or PC Application:

- Signal presence and validity
- Power status
- Slot ID, Software Version and Board Revision

Refer to the overall troubleshooting tips given below for the **5150** module:

No status lights are lit on front panel:

- Check that frame power is present (green LED{s} on frame power supplies).
- Check that module is firmly seated in frame. Try removing it and plugging it in again.

Can't control module:

- Check status of CPU **Run** green LED. Should be blinking slowly and in unison with other modules if System Control module is present. If not, try removing it and plugging it in again.
- System Control module may not be working properly if installed.

No analog signal out of module:

- Check cabling to input of module and presence of valid signal.

No In OK indication:

- Check for presence and validity of sync on input signal.

You may also refer to the technical support section of the Ensemble or Graham-Patten web sites for the latest information on your equipment at the URLs below:

<http://www.ensembledesigns.com/support>

<http://www.grahampatten.com>

SOFTWARE UPDATING

Software upgrades for each module can be downloaded remotely if the optional System Control module is installed. These can be downloaded onto your PC and then Avenue PC will distribute the update to the individual module. (Refer to the Avenue PC documentation for more information) Periodically updates will be posted on our web site. If you do not have the required System Control Module and Avenue PC, modules can be sent back to the factory for software upgrades.

WARRANTY AND FACTORY SERVICE

Warranty

This Module is covered by a five year limited warranty, as stated in the main Preface of this manual. If you require service (under warranty or not), please contact Ensemble Designs or Graham-Patten Systems and ask for customer service before you return the unit. This will allow the service technician to provide any other suggestions for identifying the problem and recommend possible solutions.

Factory Service

If you return equipment for repair, please get a Return Material Authorization Number (RMA) from the factory first.

Ship the product and a written description of the problem to:

Ensemble Designs, Inc.

Attention: Customer Service RMA #####

870 Gold Flat Rd.

Nevada City, CA. 95959 USA

(530) 478-1830

Fax: (530) 478-1832

service@endes.com

<http://www.ensembledesigns.com>

Be sure to put your RMA number on the outside of the box.

OR

Graham-Patten Systems, Inc.

13366 Grass Valley Avenue

Grass Valley, CA 95945

(800) 422-6662 or (530) 273-8412

Fax: (530) 273-7458

service@gpsys.com

<http://www.grahampatten.com>

SPECIFICATIONS

5150 Analog Video DA

Input Signal Description:

Number: One, terminating on module
Signal Type: NTSC/525, PAL/625 composite video or AES audio
Impedance: 75 ohm
Return Loss: 15K - 5 MHz >40 dB

Output Signal Description

Number: Nine
Signal Type: NTSC/525, PAL/625 composite video or AES audio
Impedance: 75 ohm
Return Loss: 15K - 5 MHz >40 dB
DC Follow input: +/- 50 mV
Delay: 10 nS
14 degrees NTSC, 17 degrees PAL
Frequency Response: 300 KHz to 5.5 Mhz
(referenced to 1 MHz) < +/- 0.1 dB
K Factor, 2T Pulse: <0.25% Kp
Differential Phase: 10-90% apl < 0.1 degree
Differential Gain: 10-90% apl < 0.15%

General Specifications

Power Consumption: < 3.0 Watts
Temperature Range: 0 to 40 degrees C ambient (all specs met)
Relative Humidity: 0 to 95% noncondensing
Altitude: 0 to 10,000 ft
Fusing: 1.5 Amp PTC resettable fuse

Due to ongoing product development, all specifications subject to change.