

AVENUE

Avenue™ signal integration system

Model 4110 DVB-ASI DA Data Pack

ENSEMBLE

D E S I G N S

Revision 1.1 SW v1.1.0

This data pack provides detailed installation, configuration and operation information for the **4110 DVB-ASI 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

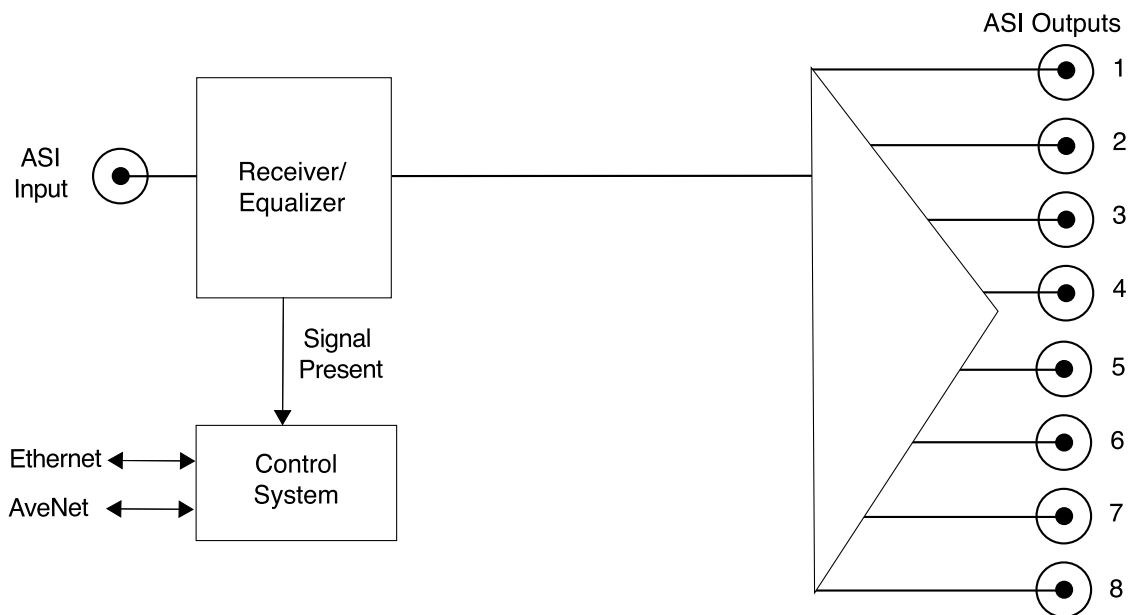
MODULE OVERVIEW

The 4110 DVB-ASI DA provides distribution of a DVB-ASI, DVB-SSI or SMPTE 310M input signal to eight outputs. The module handles data rates from 19.39 Mb/s to 270 Mb/s. Signal presence detection and cable equalization is provided on the module.

As shown in the block diagram below, the input signal passes through a receiver/equalizer circuit. The signal strength of the equalized output is monitored by the module processor for cable equalization and EQ warning information available to the user via the optional Avenue control interfaces. The DVB-ASI outputs are buffered then AC coupled to the BNCs on the rear of the frame providing eight serial outputs for distribution.

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.

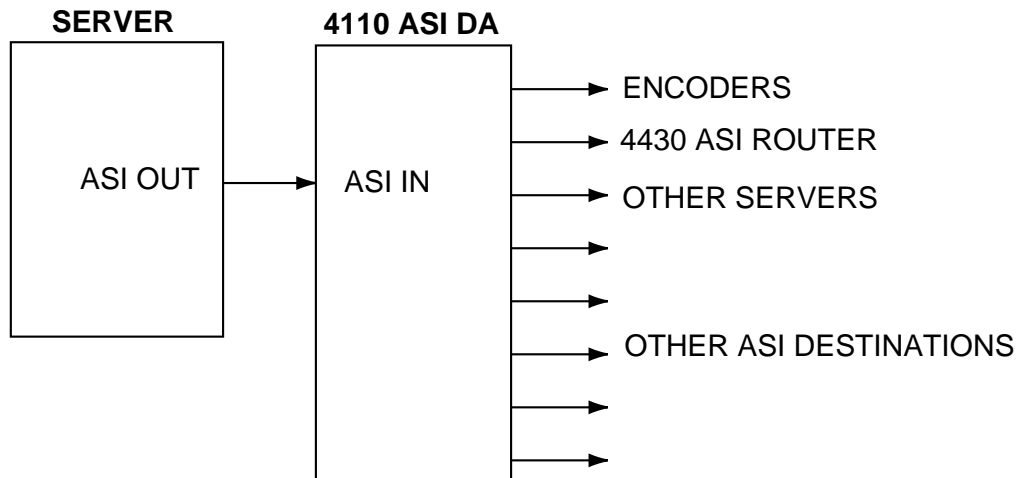
Module ID information (slot location, software version and board revision) can be monitored by the optional frame System Control module and read using the optional interfaces available.



4110 DVB-ASI DA Functional Block Diagram

APPLICATIONS

The 4110 DVB-ASI Distribution Amplifier is ideal for applications where distribution of ASI signals from a server to other ASI-compatible destinations is required. Use the 4110 module to distribute signals as shown in the example below.



4110 DVB-ASI Distribution Amplifier and 4430 ASI Router Application

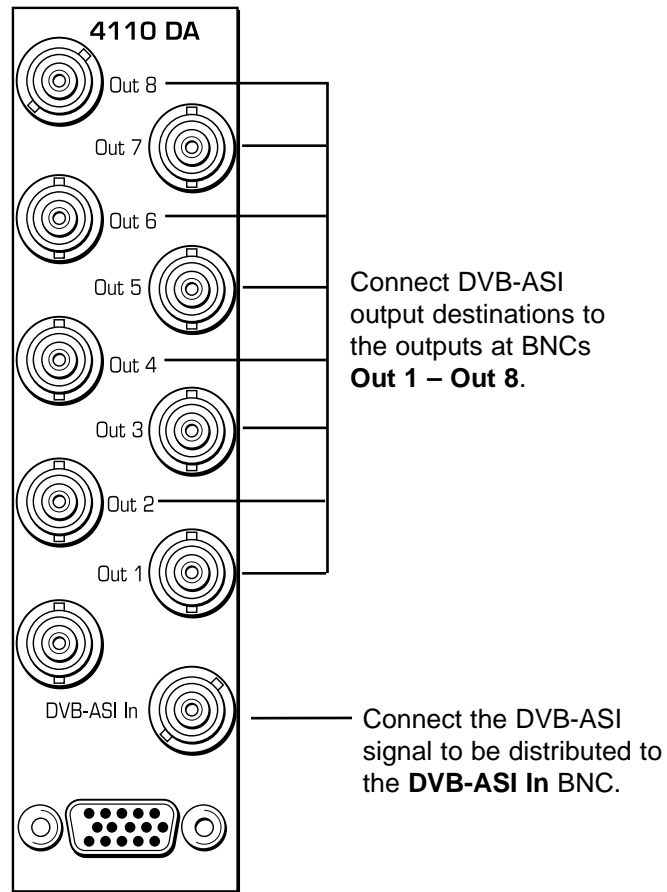
INSTALLATION

Plug the 4110 module into any one of the slots in the 1 RU or 3 RU frame 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.

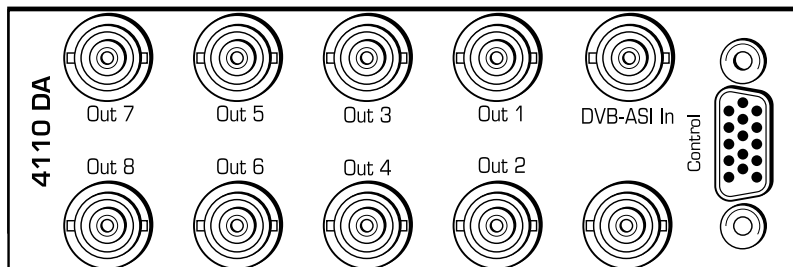
CABLING

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



1 RU Backplane



MODULE CONFIGURATION AND CONTROL

The configuration parameters for each Avenue module must be selected 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 **4110 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 **4110 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.

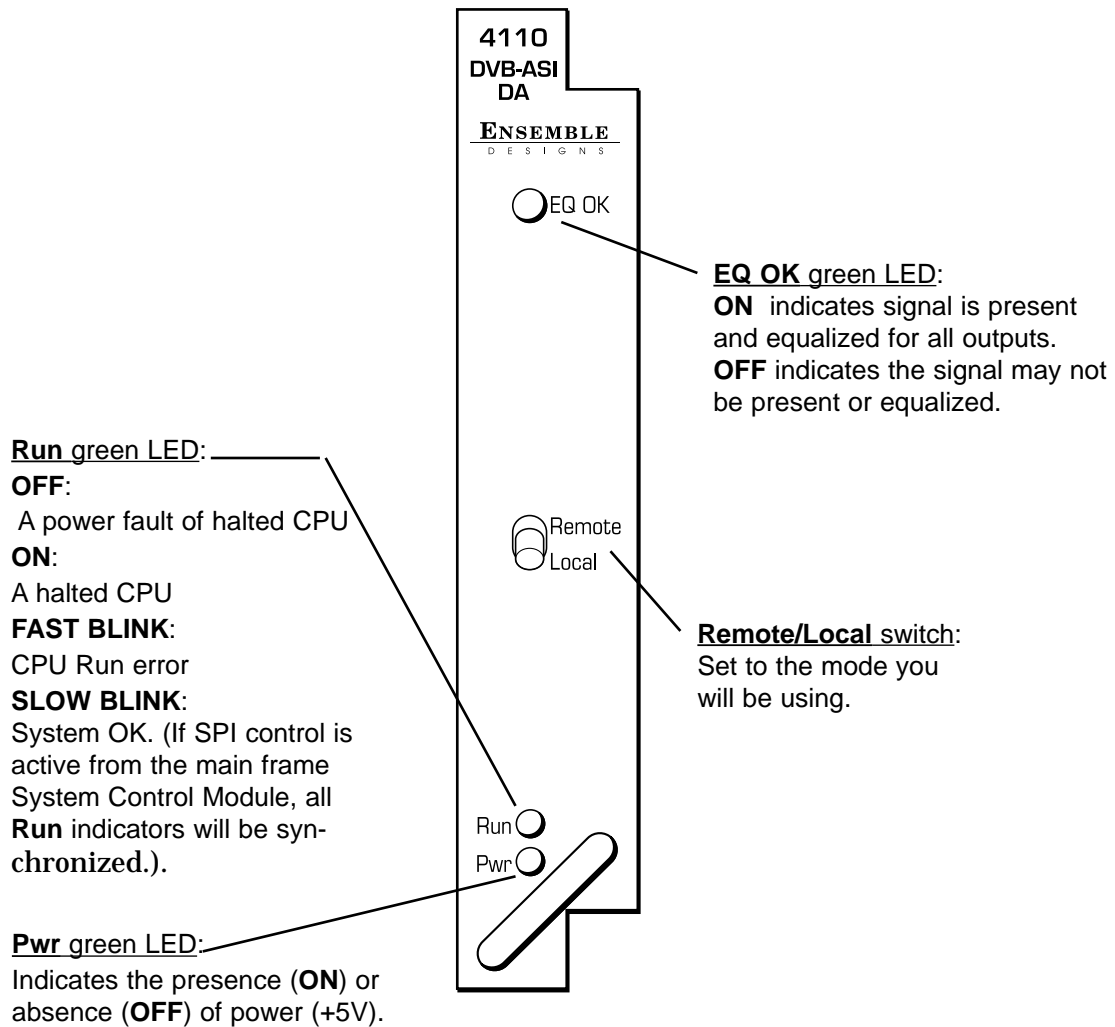
For setting the parameters remotely using the Avenue Touch Screen option, refer to the **Avenue Touch Screen Remote Configuration** section of this data pack following Avenue PC.

4110 Parameter Table

CONTROL	LOCAL	REMOTE	DEFAULT VALUE
Max Cable	300 meters	200-350 meters	300 meters

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 menu for this module is illustrated and explained below. For more information on using Avenue PC, refer to the Avenue PC Control Application Software data pack that came with the option.

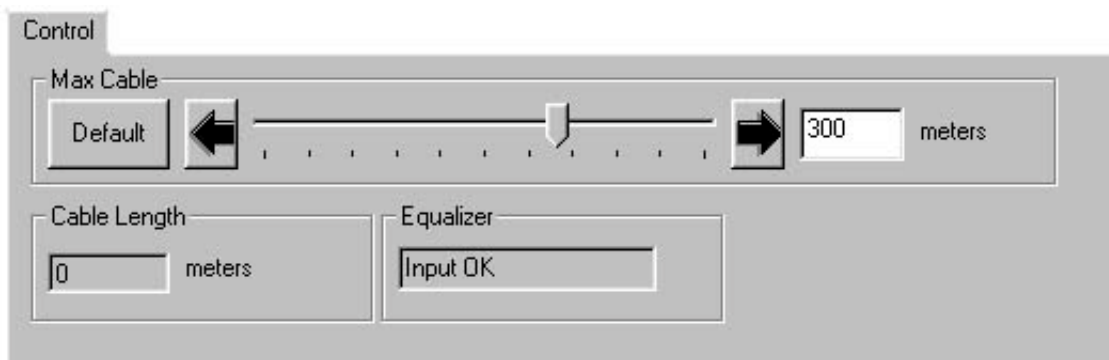
4110 Avenue PC Menus

Set the following parameter from the **Control** menu:

- **Max Cable** – set the maximum cable equalization between 200 to 350 meters.

The following indicators are available from this menu:

- **Cable Length** – displays the amount of cable being equalized
- **Equalizer** – indicates input signal status of **No Input** or **Input OK**.



Avenue Touch Screen Remote Configuration

Avenue Touch Screen remote control menu for this module is illustrated and explained below. For more information on using Avenue Touch Screens, refer to the Avenue Touch Screen section of the Avenue System Overview.

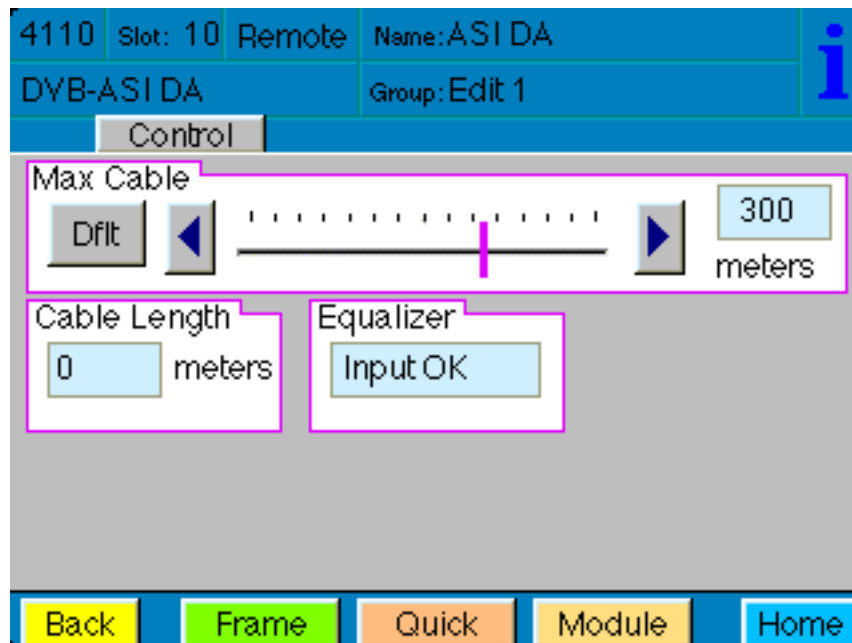
4110 Avenue Touch Screen Menus

Set the following parameter from the **Control** menu:

- **Max Cable** – set the maximum cable equalization between 200 to 350 meters.

The following indicators are available from this menu:

- **Cable Length** – displays the amount of cable being equalized.
- **Equalizer** – indicates input signal status of **No Input** or **Input OK**.



TROUBLESHOOTING

As a troubleshooting aid, the signal equalization 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:

- Equalization (cable length)
- Power status
- Slot ID, Software Version and Board Revision

Refer to the overall troubleshooting tips given below for the 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 module is present. If not, try removing it and plugging it in again.
- System module may not be working properly if installed.

No signal out of module:

- Check status of **EQ OK** green LED. Should be lit. If not, check the input signal for presence and quality.
- Check cabling to input of module.
- Check remote cable equalization by switching the module to **Local** using the front panel switch and see if the **EQ OK** LED comes on.

You may also refer to the technical support section of the Ensemble web site for the latest information on your equipment at the URL below:

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

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 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.

SPECIFICATIONS

4110 DVB-ASI DA

Input Signal Description:

Number: One
Signal Type: DVB-SSI, DVB-ASI @ 270 Mbps or SMPTE 310M
Impedance: 75 Ω
Return Loss: > 15dB DC to 270 MHz
Maximum Cable Length: 300 meters

Output Signal Description

Number: Eight
Signal Type: Serial Digital (SMPTE 259M)
Impedance: 75 Ω
Return Loss: > 15dB Dc to 270 Mbps

General Specifications

Power Consumption: < 2.5 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.