AVENUE

Avenue™ signal integration system

Model 5600
Embedder/
Disembedder
Data Pack

ENSEMBLE
D E S I G N S

Revision 6.1   SW v2.2.0

This data pack provides detailed installation, configuration and operation information for the **5600 Embedder/Disembedder** module 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
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MODULE OVERVIEW

The 5600 Embedder/Disembedder module can multiplex or demultiplex AES audio streams to and from a 601 serial video signal. It is four channel with AES inputs and outputs. The module mode can be configured locally or remotely by the user. Channel mixing capability makes this module great for channel shuffling or combining.

Analog audio I/O support is available with optional daughter cards. There are three optional daughter cards available: the 5610 providing 4 Channel Analog Inputs; the 5611 providing 4 Channel Analog Outputs; and the 5612 for 2 Channel Analog Inputs and 2 Channel Analog Outputs. Only one option can be installed on a module.

In general terms, a standard 601 serial digital signal can accommodate up to eight AES audio streams. An AES stream contains two audio channels, left and right, allowing each 601 signal to carry up to 16 channels of audio. This capacity is divided into four groups, with each group capable of carrying two AES streams (four channels). These four groups are arranged one after another during the horizontal intervals of the television picture when there is no active picture content. Audio modes can be selected as audio (embedded stream is standard audio), data (embedded stream is a non-audio signal), or auto (the module will detect the type of signal embedded in the stream, audio or data).

When configured as a multiplexer, the 5600 has one 601 serial digital video input and two AES audio inputs. These two AES streams are embedded into the 601 video stream. The output of the module is a 601 digital stream that contains the original video signal and the two AES audio pairs.

If no audio was present in the incoming signal, the two AES signals will be placed in the Group 1 position. If audio signals were already present in Group 1, the two AES signals will be embedded in the Group 2 position. This allows more complex embedding require-ments to be met by chaining multiple 5600 modules in series. Comprehensive swapping/shuffling of incoming audio channels prior to embedding is provided.

When configured as a demultiplexer, audio signals present in the incoming 601 signal are extracted and delivered as standard AES digital audio streams. As with the multiplexing mode, full channel swaps/shuffles can be made as the four embedded audio channels are delivered to output as two AES streams.

For applications that require audio delay in addition to embedding or disembedding, the 5600 can be used in conjunction with the 6040 Tracking Audio Delay Module.

As shown in the multiplexer and demultiplexer block diagrams on the following page, a 601 serial digital signal is fed to the module for embedding of audio or audio extraction, depending on the mode chosen by the user.

In multiplexer mode, the receiver output is deserialized and fed to circuitry which routes the video data, or substitutes an internally generated black/color bar signal, to the multi-plexer circuit. **Video In** is used as a reference for all multiplexing modes except when it is desired to embed audio in a signal generated internally in the 5600 module. **External** or **Master Frame** reference is used for this configuration.