

AVENUE

Avenue™ signal integration system

Model 5130 Reclocking Serial DA with Monitor Outputs Data Pack

ENSEMBLE

D E S I G N S

Revision 2.1 SW v1.1.0

This data pack provides detailed installation, configuration and operation information for the **5130 Reclocking Serial Distribution Amplifier (DA) with Monitor Outputs** 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

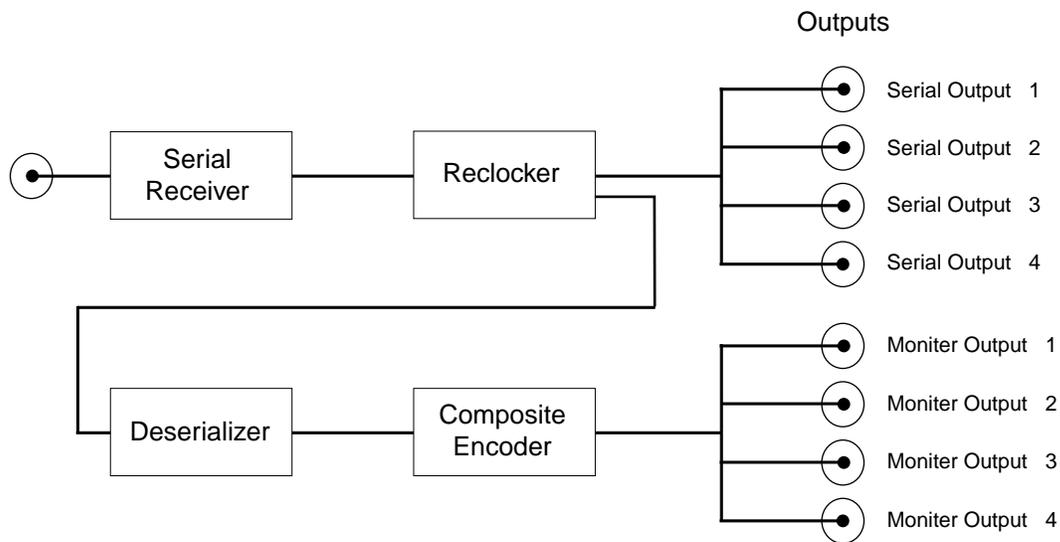
MODULE OVERVIEW

The 5130 module is a digital reclocking distribution amplifier (DA) providing one serial digital input with four serial digital outputs for distributing 270 Mbs serial digital video. Composite encoding provides four 8-bit composite monitor outputs for monitor viewing and distribution. Setup on the monitor output is user selectable with an on-board jumper. Reclocking signal processing performed on the input data stream provides improved jitter performance and cable equalization of up to 300 meters.

As shown in the block diagram below, the serial input signal passes through a serial receiver circuit where cable equalization and input monitoring is done. This output passes to the reclocking circuitry and is then AC coupled to the four serial outputs. The reclocked video is also routed through a deserializer and is then encoded to composite video for feeding the four monitor outputs. The input standard (525/625) is detected automatically.

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 module ID information (slot location, software version and board revision), equalization (cable length), and power status to the optional frame System Control module. This information can be accessed by the user or set to register an alarm if desired using the remote control options available.

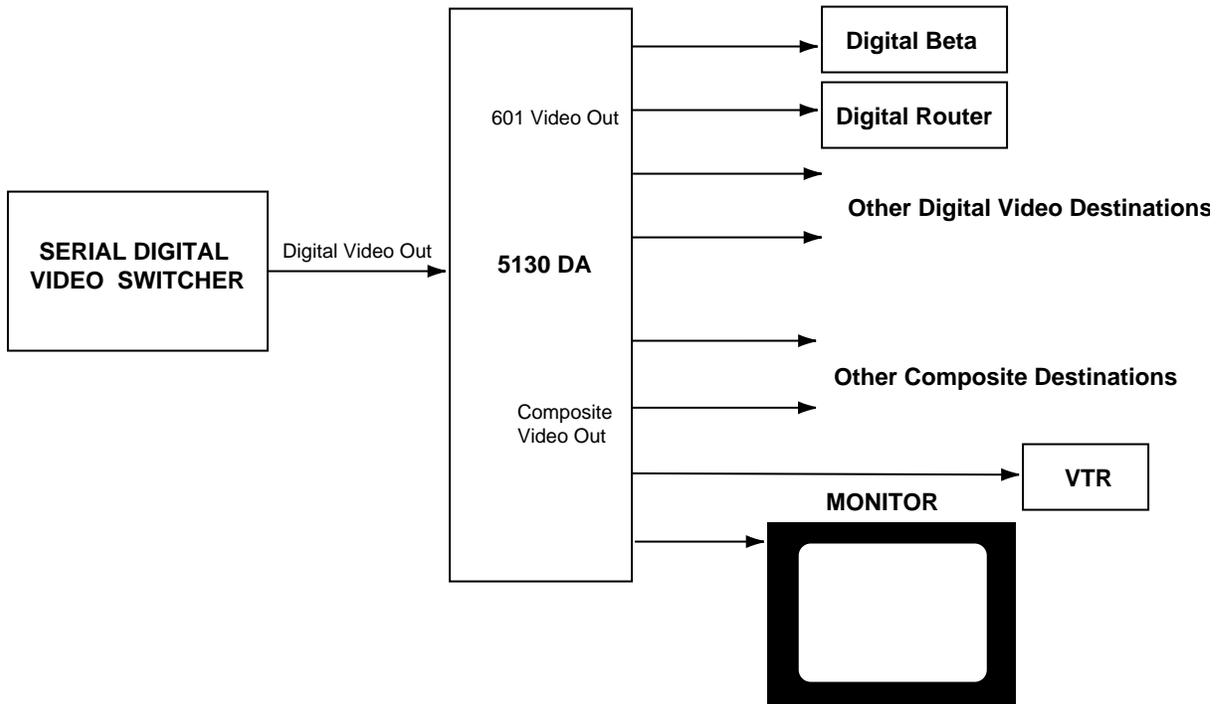


5130 Reclocking DA with Monitor Outputs Block Diagram

APPLICATIONS

Serial DA with Composite Monitor Outputs

The 5130 is ideal for applications requiring both serial distribution and composite monitoring. The application shown in the block diagram below illustrates how the 5130 module can distribute serial digital video to digital destinations while providing composite monitoring of these signals with a single module.



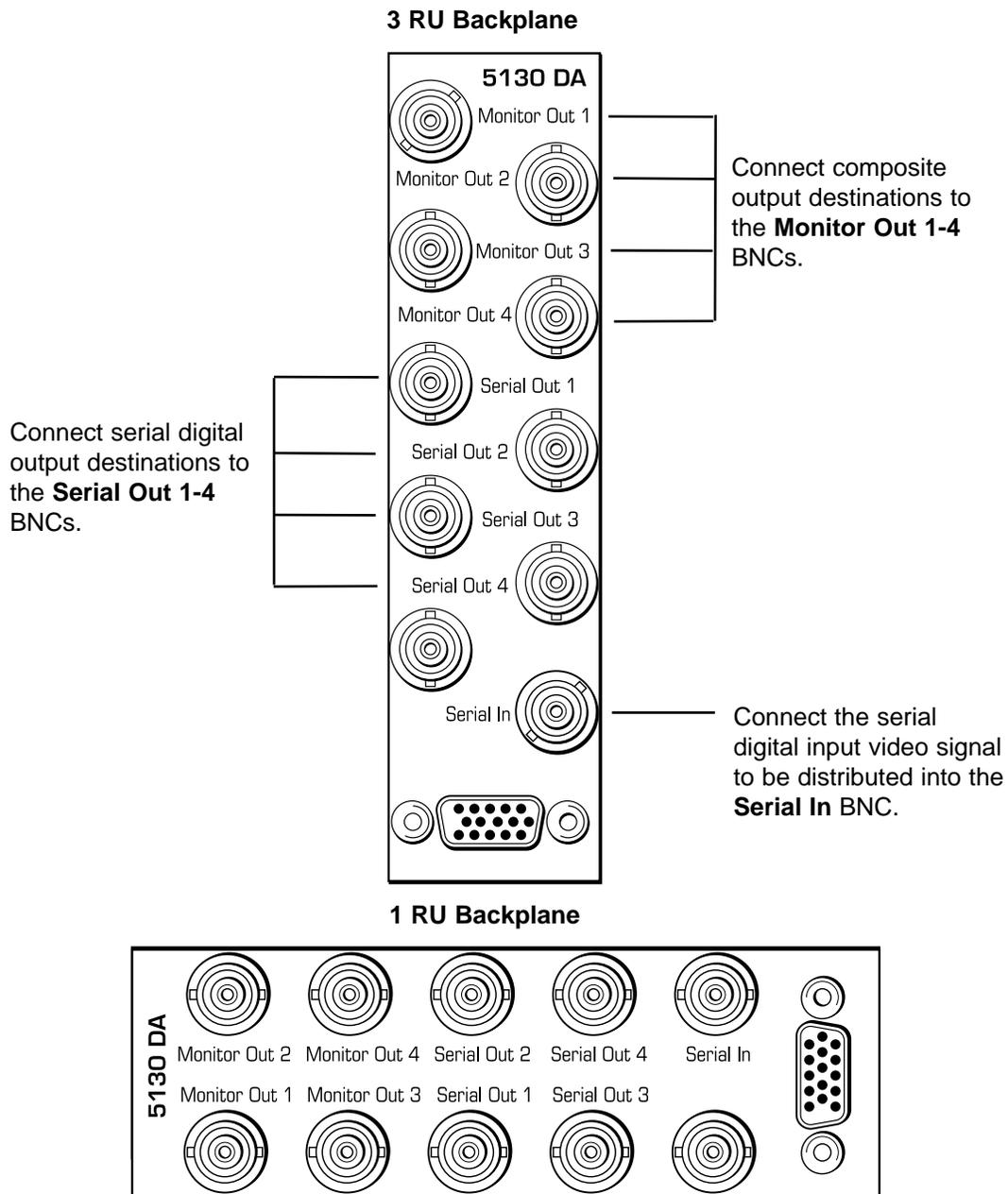
5130 Serial DA with Monitor Outputs Application

INSTALLATION

Plug the 5130 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.



MODULE CONFIGURATION AND CONTROL

There are no configuration parameters necessary to set on the 5130 module. Module status is indicated by front panel LEDs or it can be read from remote control menus.

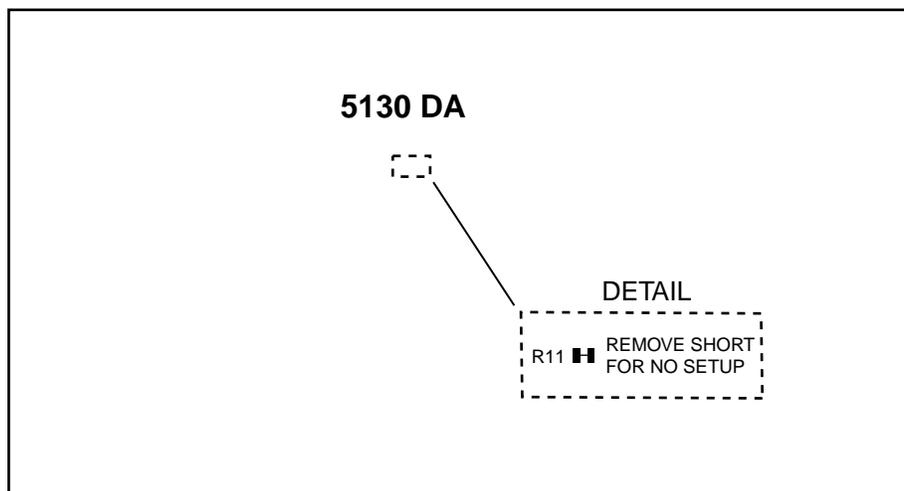
The module indicators are illustrated in the **Front Panel Controls and Indicators** section. Avenue module status parameters can be monitored remotely from one or both of the remote control options, the Avenue Touch Screens or the Avenue PC Application.

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

For monitoring 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.

On-board Configuration

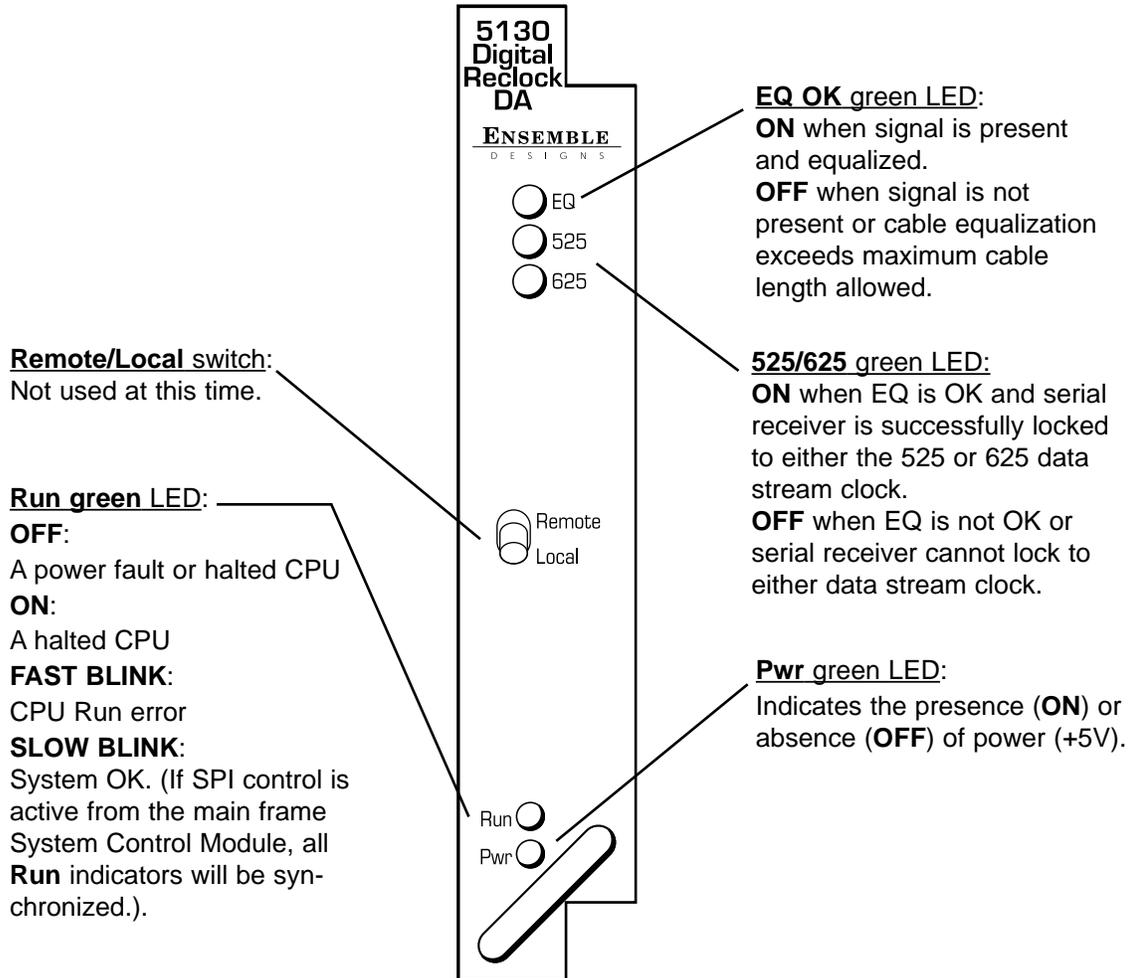
Setup on the monitor outputs when operating in 525 mode can be disabled if desired. To disable setup, remove the shorting jumper on R11 on the component side of the circuit board shown in the illustration below.



Remove Short on R11 for No Setup in 525 Mode

Front Panel Controls and Indicators

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



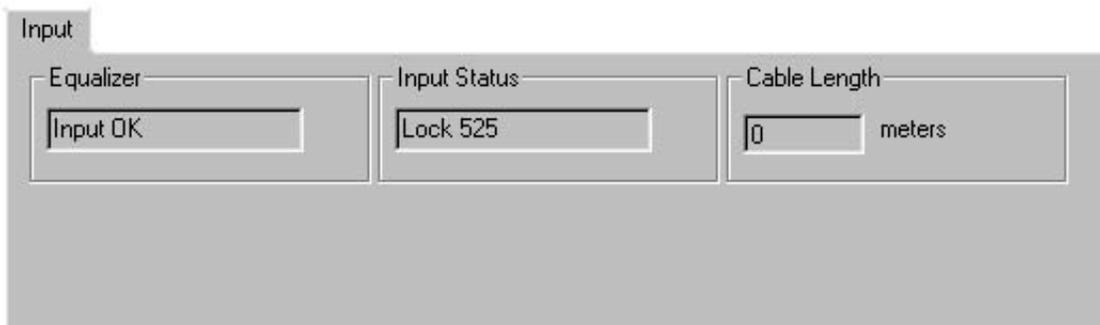
Avenue PC Remote Configuration

The Avenue PC remote control status 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.

5130 Avenue PC Menu

The **Input** menu screen shown below gives the following status information about the module:

- **Equalizer** – shows if signal is present and equalized for all outputs.
- **Input Status** – indicates what line standard the module is locking to.
- **Cable Length** – indicates current cable length being equalized.



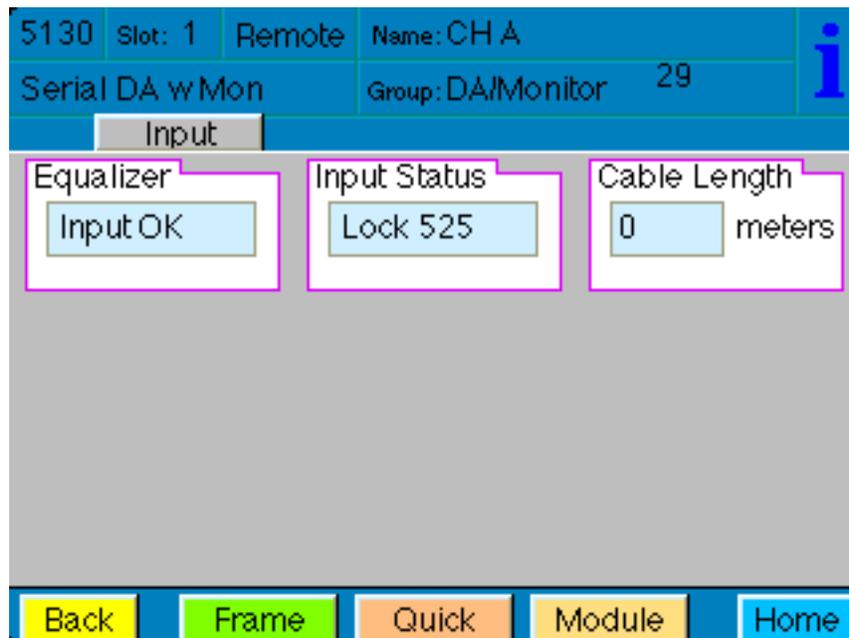
Avenue Touch Screen Remote Configuration

The Avenue Touch Screen remote control status menu for this module is illustrated and explained below. For more information on using Avenue Touch Screen, refer to the Avenue Touch Screen data pack that came with the option.

5130 Avenue Touch Screen Menus

The **Input** menu screen shown below gives the following status information about the module:

- **Equalizer** – shows if signal is present and equalized for all outputs.
- **Input Status** – indicates what line standard the module is locking to.
- **Cable Length** – indicates current cable length being equalized.



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.

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 **5130** 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** green LED. Should be lit. If not, check the input signal for presence and quality.
- Check cabling to input of module.

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

5130 Video Reclocking DA

Input Signal Description:

Number: One
Signal Type: Serial Digital (SMPTE 259M)
Impedance: 75 ohm
Return Loss: 270 Mbs >15 dB
Maximum Cable: 270 Mbs 300 meters of Belden 8281

Output Signal Description:

Number: Four
Signal Type: Serial Digital (SMPTE 259M)
Impedance: 75 ohm
Return Loss: 270 Mbs >15 dB
Output DC: None (AC coupled)

Composite Monitor Output

Number: Four
Signal Type: NTSC/PAL
Impedance: 75 ohm
Return Loss: > 40dB
Output DC: < +/- 200mV
Response: +/- 0.25 dB
10 KHz to 5.0 MHz
KFactors: <1.5%
Quantization: 9 bits
Setup: User Selectable

General Specifications

Power Consumption: < 5.0 Watts
Temperature Range: 0 to 40 degrees C ambient
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.