Alpha Eclipse™ 2601
125˚ Viewability

Communicating at the Speed of Light!

Alpha Eclipse 2601 models display:

- messages (using 24 different display modes and multiple fonts)
- time
- temperature, if a Temperature Sensor is ordered.
- animations
- graphics
- day
- date

Alpha Eclipse Features:

- Various **Alpha Eclipse 2601** models display from two to ten rows of 4.2" characters.

- The **Alpha Eclipse 2601** has special LEDs that provide a 125˚ viewing angle.

- Red and amber models are available.

- Each **Alpha Eclipse 2601** model will display a variety of character sizes and fonts. The following character sizes are possible, depending on the total number of rows of pixels.

  - ♦ **3" Characters** - 5 pixels
  - ♦ **4.2" Characters** - 7 pixels
  - ♦ **6" Characters** - 10 pixels
  - ♦ **9" Characters** - 15 pixels
  - ♦ **12" Characters** - 20 pixels
  - ♦ **19.2" Characters** - 32 pixels

  For more information, see pages 5-6 of this document.

- Up to 81 messages can be stored simultaneously. Each message can be individually scheduled by time, day and date.

- **Alpha Eclipse 2601** models have 1MB of RAM.

- **Alpha Eclipse** models ship with **AlphaNet** software. **AlphaNet** software is described on page 6 of this document.

- **Alpha Eclipse** models have five built-in counters that count automatically up or down by minute, hour or day for display applications, such as the number of days to Christmas or the number of days since a lost time accident.

- Battery Backup - In the event of a power loss, backup batteries in the **Alpha Eclipse** provide short term power in order to retain information, such as time settings, stored messages, graphics and schedules.

- Two or more **Alpha Eclipse** signs may be configured to display the same message at he same time. This is called simultaneous messaging and is often used when signs are mounted back-to-back. The signs are connected to each other. One sign is designated as the master sign, the others are designated as slave signs.

Communicating at the Speed of Light!   2/17/05

Connectivity

Alpha Eclipse models have built-in RS232 and RS485 communications for direct cable attachment to a computer. You may order a built-in modem for modem connection to a computer. You may order wireless equipment that will send messages by radio waves up to 6 miles (depending on the wireless equipment ordered and obstructions). Ethernet communication solutions are also available that allow sending messages over an existing Ethernet network. For detailed information, see **Connectivity Options** on page 7.

Installation

The design of the support structure depends on many factors:

- mounting methods
- building codes
- foundation
- sign size
- sign weight
- sign height
- wind loading

Because every installation site is unique, there is no single, approved procedure for mounting an **Alpha Eclipse 2601** sign. Support structure design must be done by a qualified individual, such as a structural engineer. Please consult with a professional sign installer to determine the proper mounting system to comply with all applicable building codes.   We are not responsible for installations or the structural integrity of support structures or connections done by others. If necessary, please contact us for a structural engineering recommendation.

Ventilation:

If the sign is mounted to a solid surface like a wall, nothing should block the space between the top, bottom, and sides of the sign and the solid surface. If there is an obstruction (as in a monument-style installation), then run duct work from the bottom of each fan cover to the side edge of the sign and to the top of the sign to exhaust hot air. The design of the duct work should not allow rain or other material to enter the sign.

Electrical Guidelines:

- Electrical installation should only be attempted by a qualified electrician.
- Electrical connection must comply with all applicable national and local codes.
- All power wiring must be from circuit breaker-protected lines.
- A two-pole disconnect device must be installed in the building wiring for each branch circuit supplying the sign.
- The disconnect device must be installed within sight of the sign.
- The sign must be properly earth grounded.
- Do not run power wires and communication wires in the same conduits.
- All electrical connections must be watertight.
- Use minimum 80˚ C copper wire only.

Alpha Eclipse 2601 models may be ordered with 120VAC or 220VAC power.

- 120 V AC Modules use 2.77 Amps and 60Hz.
- 240 V AC Modules use 1.39 Amps and 60 Hz.

As an outdoor sign, the **Alpha Eclipse 2601** does not ship with power cord, pigtail or plug. Your electrician must provide conduit, connectors and Romex to properly connect and seal the electrical terminals inside the sign's weatherproof power supply enclosure.

We will arrange for turnkey installation upon request.   We'll need to know the installation location, the type of installation – wall mount, pole mount (existing or new), or monument component, and we'll need to know the height of the sign off the ground. Do you want us to provide an electrician to bring power to the sign? If cabling is to be used, will a trench be required, and how far from the computer will the sign be? Will the sign need an identification panel? Will it be lighted?

Training and Support

There is no charge for training or support, and there is no annual fee required to be able to call us anytime for assistance. We are available seven days a week, all year round. When you receive your sign(s), we will assist you with the installation (or we can do the entire job), and we will train your key operators.

Warranty and Maintenance

A limited five-year hardware warranty is provided on **Alpha Eclipse 2601** signs and connectivity items. Defective parts may be returned for repair, and they will be repaired or replaced and returned to you at no cost. After the warranty period there will be a nominal charge for parts repair.

You may purchase an annual maintenance agreement for onsite **Alpha Eclipse** hardware maintenance service. On-site service is quoted on a case by case basis. The cost of the agreement is based on your location. There is no annual maintenance fee for **AlphaNet** software. Our assistance is provided at no charge.

Ordering Information

The prices shown include the **Alpha Eclipse 2601** sign, sign-side mounting brackets, **AlphaNet** software, training, and ongoing support, but not shipping or installation.

Alpha Eclipse units are built to order. Order cancellations are subject to a cancellation charge of 25% of the List Price.

Additional Information and Literature

Visit our web site for the latest **Alpha Eclipse** information, specifications, brochures, and manuals:

http://www.alpha-american.com/p-alpha-eclipse-2601.html

This document describes how LED message centers will improve your existing signage

http://www.alpha-american.com/product-brochures/B-Power-of-LEDs.pdf

This document compares energy-efficient **Alpha Eclipse LED** message centers to the traditional, expensive-to-operate incandescent message centers.

http://www.ams-i.com/Media/cost.pdf

Number of Characters per Line

Various **Alpha Eclipse 2601** models display from two to ten rows of characters.

The maximum number of characters that can be displayed on a line is determined by the formatting instructions that you use in your message. Formatting instructions specify:

- **Font** - Serif (fancy) or San Serif (normal)
- **Character Height** - 5 pixels, 7 pixels, 8 pixels, 10 pixels, 14 pixels, 15 pixels, 16 pixels, 20 pixels, 24 pixels or 32 pixels (depending on model)
- **Proportional or Fixed Width Characters**
- **Width** - Normal, Wide or Double-Wide

The characters displayed in each font at each pixel height have different size characteristics.

TABLE: Number of Characters per Line

The numbers of characters shown in the following table are based on the size of the most typical character width for that font and character height combination. The calculations assume normal width characters and proportional spacing. When narrower characters are used, more characters can be displayed per row.

Font	Height in Pixels	Alpha Eclipse Width in Pixels												
		32	64	80	96	112	128	144	160	176	192	208	224	240
Serif	5	6	12	16	19	22	25	28	32	35	38	41	44	48
San Serif	7 or 8	5	10	13	16	18	21	24	26	29	32	34	37	40
Serif	7 or 8	3	7	8	10	12	14	16	17	19	21	23	24	26
San Serif	10	6	12	16	19	22	25	28	32	35	38	41	44	48
Serif	10	3	7	8	10	12	14	16	17	19	21	23	24	26
San Serif	14	5	10	13	16	18	21	24	26	29	32	34	37	40
Serif	14	3	7	8	10	12	14	16	17	19	21	23	24	26
San Serif	15 or 16	4	8	10	12	14	16	18	20	22	24	26	28	30
Serif	15 or 16	2	5	6	8	9	10	12	13	14	16	17	18	20
Serif	20	3	7	8	10	12	14	16	17	19	21	23	24	26

Communicating at the Speed of Light!

San Serif	24	3	7	8	10	12	14	16	17	19	21	23	24	26
Serif	24	2	4	6	7	8	9	11	12	13	14	16	17	18
San Serif	32	3	7	8	10	12	14	16	17	19	21	23	24	26
Serif	32	2	4	6	7	8	9	11	12	13	14	16	17	18

This document lists the number of characters that each model will display:

http://www.ams-i.com/Media/characters.doc

AlphaNet Software

Alpha Eclipse 2601 models are programmed with **AlphaNet** messaging software and **Paint Shop Pro** animation and graphics software to program the display of text, variables, BMP graphics and animated GIF graphics. **AlphaNet** is included at no extra charge. **AlphaNet** software:

- allows you to compose and save your messages as files.
- allows you to schedule messages by day and time and date.
- supports the counter feature.
- has multiple sites that can be used to store different lists of messages files and their schedules.
- has an emulator that shows exactly how the message will display on any **Alpha Eclipse** sign model.
- allows you to recall a message and format that you have created previously and modify it to create a new message in that same format.
- supports the widest variety of connectivity methods -- direct cable connect using RS232 and RS485 on COM1 to COM4, wireless transceivers on COM1 to COM4, Ethernet adapters using an IP address, or dial up modem on COM1 to COM4.
- allows you to send your own bitmap graphics (.bmp) and animated gifs to your sign.
- comes with graphics and animations programs that allow you to create those graphics and animations.
- has features that allow you to integrate into your messages real-time data from appropriately-configured third party hardware and software applications.

You may read about **AlphaNet** and see all of the **AlphaNet** screens by visiting our web site at http://www.alpha-american.com/p-alphanet.html.

You may also download **AlphaNet** software for evaluation purposes. The graphics and animation program that comes with the **Alpha Eclipse** is not included with the download. To download **AlphaNet**:

1. Click http://alpha-american.com/p-alphanet.html.

2. Click **AlphaNET V3.0 Full Demo**.

3. Save the *alphanet3.exe* file in a directory on your computer.

4. Click *alphanet3.exe* to install the program and documentation.

5. Setup instructions are provided in the manual, or you may call us for assistance at 800-223-4636, and we'll help you configure the program and teach you to use the program.

The **AlphaNet** manual is included with the evaluation software. You may also download the **AlphaNet** manual by clicking http://www.alpha-american.com/9708-8081.html.

Connectivity Options

There are several connectivity options that may be used for communicating messages between your messaging PC and the **Alpha Eclipse** displays:

1. **RS232** - When you have a single **Alpha Eclipse** display, you may run a six-conductor, silver-satin, modular RS232 cable up to 50 feet from the display to the messaging PC.

2. **RS485** - When you have multiple **Alpha Eclipse** displays or a single **Alpha Eclipse** display that is more than 50 feet from the messaging PC, you may run twisted pair cabling (Belden 8761 or CAT5) up to 4,000 feet from your **Alpha Eclipse** display(s) to the 66- or 110-block in your phone closet and through risers to your phone room to wherever you have the messaging PC located.

3. **Modem** - You may use a modem and phone line to program the **Alpha Eclipse** display remotely from a messaging PC with a modem.

4. **Ethernet** - You may install an Ethernet Adapter in the **Alpha Eclipse** display and send messages over your local area network.

5. **Wireless** - You may order wireless transmission equipment and communicate by radio waves from the messaging PC to the **Alpha Eclipse** display(s).

6. **Message Loader** - You may transmit messages from your messaging PC to an **Serial Message Loader**, and then walk to the **Alpha Eclipse**, connect the Message Loader to the **Alpha Eclipse**, and press *Send* to transfer the messages into the **Alpha Eclipse** display.

RS232 and RS485 Connectivity Items

Alpha Eclipse displays have RS232 and RS485 adapters built in. This means that you may use an RS232 cable to connect the **Alpha Eclipse** display to your messaging PC, or you may use RS485 attachment items to connect the display to your messaging PC.

RS232 will communicate reliably up to a distance of about 50 feet. At distances from 50 to 100 feet, RS232 communication is less reliable. Beyond 100 feet, forget about using an RS232 cable. RS232 connectivity is also point-to-point. If you are using an RS232 cable you may have only one **Alpha Eclipse** display connected at a time.

RS485 communications allows messages to be sent to **Alpha Eclipse** displays that are up to 4,000 feet from the messaging PC. That distance can be doubled using a Repeater Box. Another important RS485 feature is that many **Alpha Eclipse** displays can be connected on the same twisted pair cable. The **Alpha Eclipse** displays can be individually programmed by giving each one a unique Serial Address. The software on the messaging PC sends your messages to the **Alpha Eclipse** display with a specific Serial Address.

RS232 Items Needed

RS232 cabling may be used when you only have one **Alpha Eclipse** display, and the **Alpha Eclipse** display is less than 50 feet away from the messaging PC. We will provide an RS232 cable up to 50 feet long at no charge, if you have only one **Alpha Eclipse** display, and if you don't plan to add any **Alpha Eclipse** displays later.

RS485 Items Needed

RS485 cabling is used to connect multiple **Alpha Eclipse** displays. RS485 cabling is also used for long cable runs. RS485 communications will travel a cable distance of up to 4,000 feet, and even farther, if you use a repeater.

If you choose to use RS485 cabling, you will need:

- one **Type A9 RS232 Cable** (part number 1088-8634).
- one **RS232 to RS485 Converter Box** (part number 1088-1111).
- one **RS485 Modular Cable** (part number 1088-8624) per display.
- one **RS485 Network Adapter** (part number 4331-0602) per display.
- a length of **RS485 Network Cable** (part number 8761-1000 for 1000 feet or 8761-0500 for 500 feet).

Modem

Alpha Eclipse displays may be programmed by modem. You may order a modem to be installed in the **Alpha Eclipse**. Messages are sent from the messaging PC via modem and phone line to the **Alpha Eclipse**. **AlphaNet** makes the connection automatically, transmits the message, verifies that the message was sent and received correctly, and disconnects when the transmission is complete.

Ethernet Adapters

Alpha Eclipse displays may also be adapted to TCP/IP using one of several Ethernet Adapters and Serial Servers that are available.

- The **Alpha Ethernet Adapter Kit** is a 10/100 Base T device, and it gets its power from the **Alpha Eclipse**.
- The **MSS100** kit is a 100 Base-T device, and it has its own power supply.
- The **MSS485** is a 10 Base-T device, and it has its own power supply.

For additional information on these devices, click http://www.alpha-american.com/9708-8101.html.

Wireless Solutions

There are several wireless communications solutions offered for the **Alpha Eclipse 2601 Series**:

1. **Alpha Eclipse 2601** displays can be set up as wireless devices on your local area network, similar to a wireless printer on your local area network. This solution requires the **Alpha**

Ethernet Adapter Kit (see above), an inexpensive **802.11 Wireless Access Point**, and an appropriate antenna.

2. Radio solutions are also available. Our newest connectivity solution is the **Alpha RF900 Wireless Kit** ($838 List). The kit includes two wireless 902MHz transceivers that communicate with each other by radio waves. One RF900 transceiver connects to the Serial port of your computer. The second RF900 transceiver connects to the **Alpha Eclipse**. If there is a second **Alpha Eclipse** (Slave), the second unit connects to the first unit (Master). The typical range of communications is 500 feet indoors and 3500 feet outdoors in line-of-sight between antennas installations. To download the **Alpha RF900 Wireless Kit** brochure, click http://alpha-american.com/product-brochures/B-Alpha-RF900.pdf. To download the **Alpha RF900 Instruction Manual**, click http://www.alpha-american.com/alpha-manuals/M-Alpha-RF900-Instructions-Outdoor.pdf.

3. You may order a Wireless Transmitter for your messaging PC and a Wireless Receiver for your **Alpha Eclipse** display(s). The Wireless Transmitter connects to the Serial port of your messaging PC, and one Wireless Receiver is installed inside each **Alpha Eclipse** master display. Any **Alpha Eclipse** slave display(s) connect to the master display and do not require an additional Wireless Transceiver. With these items you can send messages to your signs by radio waves without cabling. Depending on obstructions, and building walls, messages may be broadcast to **Alpha Eclipse** displays up to six away with this solution. This wireless solution is available as a 2 watt system, a 5 watt system or a 25 watt system. With the 5 watt system, you must purchase an FCC site license for $150. With the 25 watt system, you must purchase an FCC site license for $400. The FCC site license for a 2 watt system is free. For many users, the 2 watt system is adequate.

Serial Message Loader

The **Serial Message Loader** is an option to consider if you want to avoid pulling cabling or using a phone line, Modems, Wireless equipment, or Ethernet adapters. Here is the procedure:

1. Use your messaging PC, **AlphaNet** and its Emulator to compose and debug your messages.

2. Connect the **Serial Message Loader** to the messaging PC using a special RS232 cable.

3. Transmit your list of messages from the messaging PC into the **Serial Message Loader**.

4. Walk to the **Alpha Eclipse**, connect the **Serial Message Loader** to the **Alpha Eclipse** with a special Serial cable, and press the *Send* button to transfer the messages into the **Alpha Eclipse**.

The **Serial/Infrared Message Loader** brochure and installation document may be downloaded by clicking:

http://www.alpha-american.com/product-brochures/B-Alpha-Message-Loader-Serial-Infrared.pdf

http://www.alpha-american.com/9707-1004.html

To read more about **Alpha Eclipse** connectivity options, you may download the **Networking Alpha Signs** manual by clicking http://www.alpha-american.com/9700-0112.html.

- RS232 information is on pages 8, 10, 17, 23, 32, 35, 37, 42, 45, 46, 53, 54, and 78.
- RS485 information is on pages 6. 8-11, 14, 18, 22, 30, 33, 34, 36, 40, and 61.
- Modem information is on pages 6, 16-19, 39, and 50.
- Ethernet information is provided on pages 4, 12-14, and 25-27.

Viewing Documents

The literature referenced in this document may be displayed using the latest version of the Adobe Acrobat Reader. If you don't have the Acrobat Reader program, you may download it and install it on your computer at no charge. Start by clicking here:

http://adobe.com/products/acrobat/alternate.html/

Disclaimer

Due to continuing product innovations, all specifications and prices are subject to change without notice.