A WORLD OF A/V SOLUTIONS

INTERFACES

IN2118

ELEVATING TABLE MOUNTABLE INSTALLATION INTERFACE WITH MODULAR A/V CONNECTOR FACEPLATES

IN2118

OPERATION MANUAL

High Resolution Video Products • A/V System Integration Tools • Interactive Training Systems

Installation and Safety Instructions

For Models without a Power Switch:

The socket outlet shall be installed near the equipment and shall be accessible.

For all Models:

No serviceable parts inside the unit. Refer service to a qualified technician.

For Models with Internal or External Fuses:

For continued protection against fire hazard, replace only with same type and rating of fuse.

Instructions d'installation et de sécurité

Pour les modèles sans interrupteur de courant:

La prise de courant d'alimentation sera installé près de l'équipement et sera accessible.

Pour tout les modèles:

Pas de composants à entretenir à l'intérieur. Confiez toute réparation à un technicien qualifié.

Pour les modèles équipés de fusibles internes ou externes:

Afin d'éviter tout danger d'incendie, ne remplacer qu'avec le même type et la même valeur de fusible.

Installations- und Sicherheitshinweise

Für Geräte ohne Netzschalter:

Die Netzsteckdose soll in der Nähe des Gerätes installiert und frei zugänglich sein.

Für alle Geräte:

Keine Wartung innerhalb des Gerätes notwendig. Reparaturen nur durch einen Fachmann!

Für Geräte mit interner oder externer Sicherung:

Für dauernden Schutz gegen Feuergefahr darf die Sicherung nur gegen eine andere gleichen Typs und gleicher Nennleistung ausgewechselt werden.

Instalacion E Instrucciones de Seguridad

Modelos Sin Interruptor:

La conexión debe ser instalada cerca del equipo y debe ser accesible.

Para Todos Los Modelos:

Dentro de la unidad , no hay partes para reparar. Llame un tecnico calificado.

Modelos con Fusibles Internos o Externos:

Para prevenir un incendio, reemplace solo con el mismo tipo de fusible.

CE COMPLIANCE

All products exported to Europe by Inline, Inc. after January 1, 1997 have been tested and found to comply with EU Council Directive 89/336/EEC. These devices conform to the following standards:

EN50081-1 (1991), EN55022 (1987)
EN50082-1 (1992 and 1994), EN60950-92

Shielded interconnect cables must be employed with this equipment to ensure compliance with the pertinent Electromagnetic Interference (EMI) and Electromagnetic Compatibility (EMC) standards governing this device.

CE

FCC COMPLIANCE

This device has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide against harmful interference when equipment is operated in a commercial environment. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at their own expense.

Table of Contents

Product Overview

DESCRIPTION

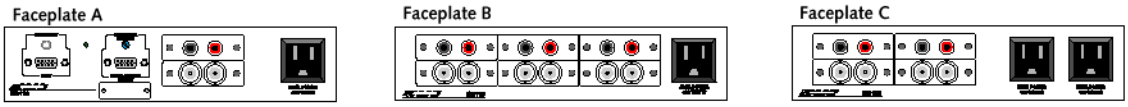
The **IN2118** is a high performance computer video interface for analog video signals including VGA, SVGA, XGA, SXGA, UXGA, Macintosh®, Sun™, SGI™ and other high-resolution workstations. The **IN2118** flush mounts neatly in a conference room / boardroom table or other presentation furniture. The **IN2118** is a two-sided unit that provides easy access to a high-resolution computer video interface, a modular A/V connector faceplate and / or one or two A/C convenience outlets on either side of the table.

- **Disappearing Flush Mount Design -** When the unit is in the lowered position, it sits completely flush with the table surface.
- **Motorized Unit -** can be raised and lowered by pressing down on the top surface, or via contact closure control.
- **Safety Features -** stop the interface from descending if it senses an obstruction such as attached cables or wayward fingers.
- **Installation Flexibility -** The **IN2118** includes several adjustments to help installers position the unit precisely in a conference table / presentation furniture.
- **Front Panel A/C Convenience Outlets -** are provided to power a laptop computer or other A/V equipment that will be located on the table.
- **Modular A/V Connector Plate** - The **IN2118** simplifies the design and installation process since a single unit fills the function of both video interface and A/V connector plate.

Flush mounted in the table and rising into place when needed, the **IN2118** provides easy access for making computer and A/V connections, reducing equipment clutter, and complements the décor of high tech control rooms, civic / legislative chambers and courtroom installations.

EIGHTEEN MODELS AVAILABLE

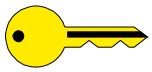
The **IN2118** is available in several different combinations to match the computer video interface, A/V connector and A/C power outlet requirements of each installation.



Faceplate A: 400 MHz Interface, holds (2) A/V Connector Modules & (1) Edison A/C Outlet
Faceplate D: 400 MHz Interface, holds (2) A/V Connector Modules & (1) IEC A/C Outlet
Faceplate G: 400 MHz Interface, holds (2) A/V Connector Modules & (1) Europlug A/C Outlet
Faceplate B: Holds (6) A/V Connector Modules & (1) Edison A/C Outlet
Faceplate E: Holds (6) A/V Connector Modules & (1) IEC A/C Outlet
Faceplate H: Holds (6) A/V Connector Modules & (1) Europlug A/C Outlet
Faceplate C: Holds (4) A/V Connector Modules & (2) Edison A/C Outlets
Faceplate F: Holds (4) A/V Connector Modules & (2) IEC A/C Outlets
Faceplate K: Holds (4) A/V Connector Modules & (2) Europlug A/C Outlets

Each unit can be ordered with any combination of two (2) faceplates. Complete descriptions of all available models can be found on pages 26 & 27 of the INLINE 2001 Product Catalog.
Note: A/V Connector Modules are not included and must be ordered separately (see page 17).

KEY CONCEPT



*The **IN2118** Interface is not a scan converter. The data projector, monitor or other output device must be compatible with the horizontal scan rate, vertical scan rate and resolution output by the computer video card.*

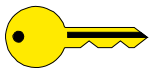
Compatibility

INPUT

The **IN2118** Interface will accept high-resolution video signals from virtually any computer that outputs an analog video signal. The unit will work with signals at virtually any resolution and refresh rate. Compatible computer video signals include VGA, SVGA, XGA, MAC, SUN, SGI and other high-resolution computers outputting an analog video signal. Input signal compatibility parameters are listed below.

Video Signal:	Analog RGB Video
Signal Format:	RGBHV, RGBS, RGsB*****
Horizontal Frequency Range:	30 KHz to 130 KHz
Vertical Refresh Rates:	30 Hz to 120 Hz

KEY CONCEPT

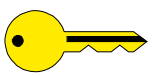


** The **IN2118** Interface will operate with RGsB input signals. However, the unit will not strip sync off of the green. RGsB input signals are always output as RGsB (they cannot be output as RGBS or RGBHV). Also, the horizontal position control will not operate when used with RGsB input signals.*

OUTPUT

The output signal of the **IN2118** Interface is analog RGB video with TTL sync on 3, 4 or 5 female BNC connectors. The output format can be set to RGBHV, RGBS or RGsB using dipswitches. This output signal is compatible with high-resolution data grade monitors and data / graphics projectors.

KEY CONCEPT



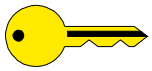
VGA, MAC, SUN, SGI and other high-resolution workstations operate in several video modes encompassing a wide range of resolutions and scan rates. Many of the video signals from the newest models can run as high as 70 KHz or more, with the newest VGA cards offering an output resolution of 1600 x 1200 (some can even go as high as 1000 x 1080). The data projector or monitor connected to the interface output must be compatible with the horizontal scan rate and vertical refresh rate of the computer's video signal. Check the documentation for both the computer graphics card and the data display device to ensure compatibility.

Installation

MOUNTING THE INTERFACE

WARNING: The IN2118 should only be mounted by licensed and bonded installers. Care must be taken to avoid scarring or damaging presentation / conference room furniture.

KEY CONCEPT



*Before installing the **IN2118**, refer to the **Dimensions Diagrams** on pages 22 - 24 and make sure the table / installation furniture will accommodate all the dimensions of the unit.*

In the following example, the **IN2118** is installed in a conference room table with a laminated surface. Depending on the installation, your emplacement may require specialized tools, additional materials, safety equipment, etc.
Hint: *To simplify your installation, **make the lid fit the hole**, not vice versa.*

NECESSARY TOOLS & SUPPLIES:

Power Tools:	**Hand Tools:**	**Miscellaneous:**
Drill	**IN9185** Template	Adhesive
Router	Carpenter's Level	Double sided tape
Saw (Circular or Saber)	(2) C-Clamps	Wood Screws and Washers
	Wood File	1/32" Feeler Gauge (Optional)
	Phillips Screwdriver	

1. Locate the desired mounting location on the tabletop / installation furniture surface and mark the center with a pencil.

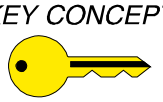
2. Attach the extension arms to the optional **IN9185** Table Routing Template and position it around the center mark. Make sure that the 12 flat head screws are countersunk below the surface of the extension arms. Failure to do so may scar the furniture.

3. Once the Template has been situated properly, use a pair of C-Clamps to secure the extension arms to the edges of the table. Use a pencil to outline the 9 ½" x 8 ½" inside edge of the template (see the **Installation Diagram** on the following page).

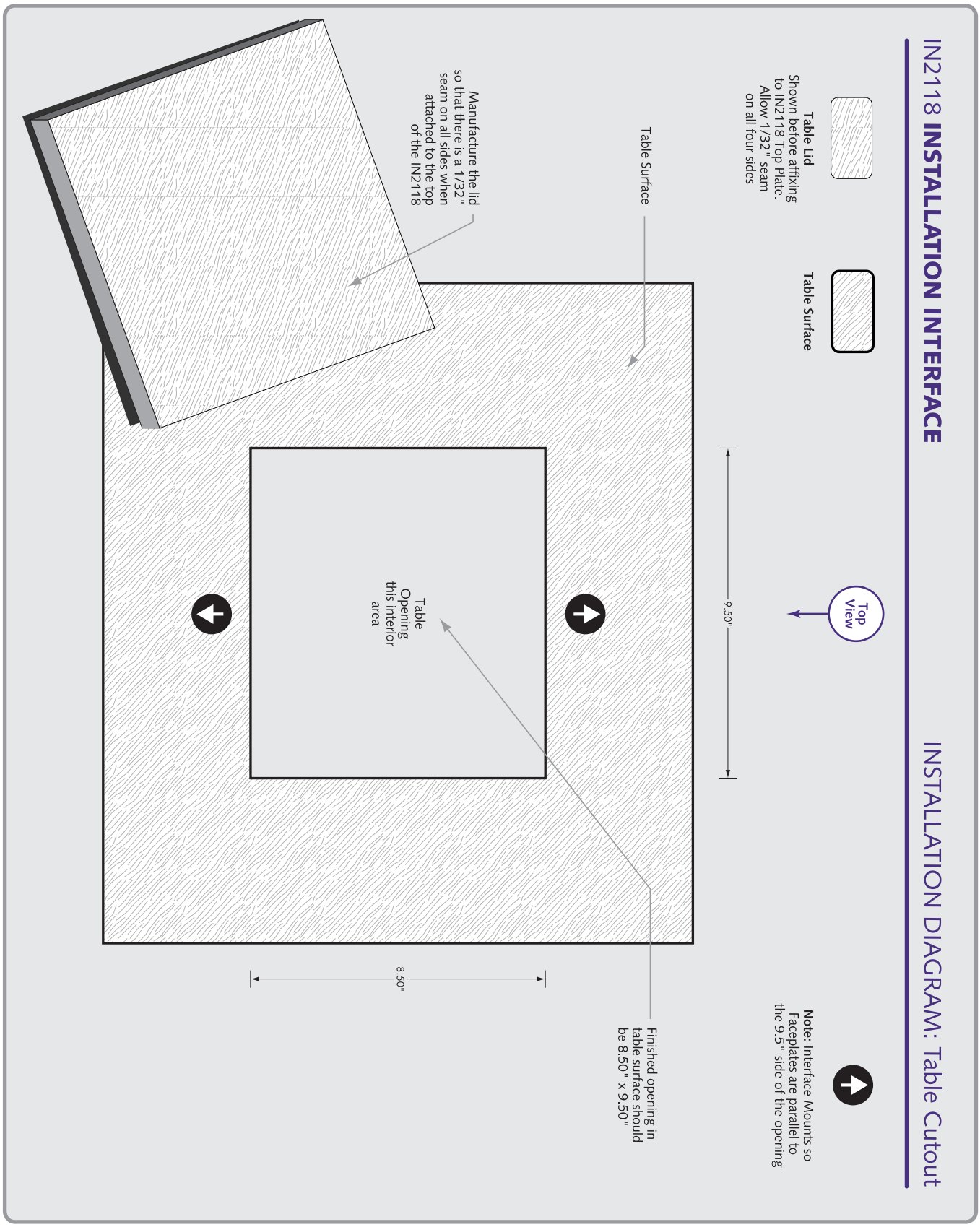
Hint*: Marking the inside edge of the **IN9185** will alert the installer of any accidental template movement that may occur while routing the hole.*

4. Using a router, carefully cut the opening in the table surface (very thick table surfaces may require additional routing). Use a file to square the round edges. Remove the template when finished.

KEY CONCEPT



*When using the **IN9185**, installers must use a router bit template guide (collar) that provides ¼" clearance from the inside edge of the template.*


IN2118 INSTALLATION INTERFACE
INSTALLATION DIAGRAM: Table Cutout
Table Lid
Shown before affixing to IN2118 Top Plate. Allow 1/32" seam on all four sides
Table Surface
Top View
Note: Interface Mounts so Faceplates are parallel to the 9.5" side of the opening
Table Surface
Manufacture the lid so that there is a 1/32" seam on all sides when attached to the top of the IN2118
9.50"
Table Opening this interior area
Finished opening in table surface should be 8.50" x 9.50"
8.50"

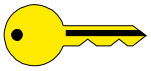
5. Most installations will require fabrication of a new cover surface (lid). Using the **IN9185** template, make another outline on a matching piece of material. Cut out the new lid using a power / saber saw.

Note: Bear in main that the new surface must accommodate a 1/32" gap on all four sides between the lid and the table opening.

6. Finish the top and sides of the lid, and the sides of the opening in the table. Again, there should be a 1/32" seam around all four edges of the lid when it sits flush with the table surface.

Note: If matching lamina is unavailable, installers may have to completely resurface the table / presentation furniture, or consider other installation options.

KEY CONCEPT



Installers may wish to use 1/32" feeler gauges to achieve precise equidistant spacing on all four sides of the lid. ***Hint****: A standard size paper clip (one and one quarter inches long) is almost 1/32" in diameter.*

7. The **IN2118** is secured to a plate base to prevent damage during shipment. Disconnect the four screws and remove the plate.

Note: The ***IN2118*** *is delivered with the top plate in the lowered position. Do not raise the plate until the installation is complete.*

8. Loosen the four (4) upper wing nuts and disconnect the mounting flange from the main housing (see the **Adjustments Diagram** on page 8).

9. Working from the underside of the table, position the mounting flange so that the gap between the inside edges of the flange and the table's opening are roughly equidistant (a precise adjustment will be done later). The flange contains eight (8) mounting holes: four oversized primary holes on the corners and four smaller secondary holes on the sides. The primary holes are used to position the unit, while the secondary holes are used to permanently attach the **IN2118** to the table / installation furniture. Mark the four (4) *primary* holes *only*.

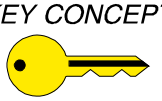
Note: Do not drill the secondary holes or permanently attach the flange until the unit has been positioned properly!

10. Set the flange aside and carefully drill the primary holes. Care must be taken not to penetrate the surface of the table. Drill the holes in the center of the oversized openings to provide maximum centering flexibility.

11. Attach the flange to the underside of the table. Do not fully tighten the screws.

12. Attach the main housing to the mounting flange by securing the four (4) upper wing nuts. Make sure that the top of the housing sits flush with all four sides of the flange before tightening the nuts.

KEY CONCEPT

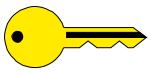


For applications in which a new table / presentation furniture will be fabricated and / or the ***IN2118*** *will be installed at a remote location, the main housing should* ***not*** *be attached to the mounting flange during shipment.*

ADJUSTING THE IN2118

This section offers step-by-step instructions for precisely situating the **IN2118** in the table / presentation furniture. An **Adjustment Diagram** is provided on the following page.

KEY CONCEPT



*Do not permanently attach the cover surface (lid) to the top plate until the **IN2118** has been **fully** installed in the table / presentation furniture.*

1. Center the **IN2118** until a roughly equidistant gap is achieved between all four sides of the top plate and the table's opening (once again, a precise adjustment will be done later). Once the unit has been properly positioned in the table, tighten the four (4) primary screws.

2. Loosen the upper wing nuts and disconnect the main housing. Carefully drill the (4) secondary holes and secure the mounting flange to the table. Once again, care must be taken not to penetrate the surface of the table.

3. Reattach the main housing to the mounting flange. Using the **IN9230** IEC Power Cable (included), apply power to the **IN2118**, turn it on, and press down on the top plate surface to raise the unit.

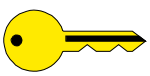
4. With the **IN2118** in the raised position, place a Carpenter's Level across the top of the plate and level the unit by adjusting the upper wing nuts. When the unit has been centered, turn the Level 45º and adjust again. This step may have to be repeated several times until a true level surface is achieved.

*Note: Leveling the unit while in the raised position will ensure that the top plate and the table surface remain parallel (when the **IN2118** is in the raised position), and sits flush when the unit is fully descended.*

5. Before adjusting the height of the interface, use two-sided tape to temporarily attach the cover surface material (lid) to the top plate.

6. To adjust the height of the **IN2118**, press down on the lid and lower the unit. Loosen the four (4) lower wing nuts. Position the lid so that it sits completely flush with the table surface and tighten the wing nuts. Raise and lower the interface to ensure that the unit achieves sufficient clearance when raised, and sits flush when lowered. The **IN2118** should ascend and descend smoothly.

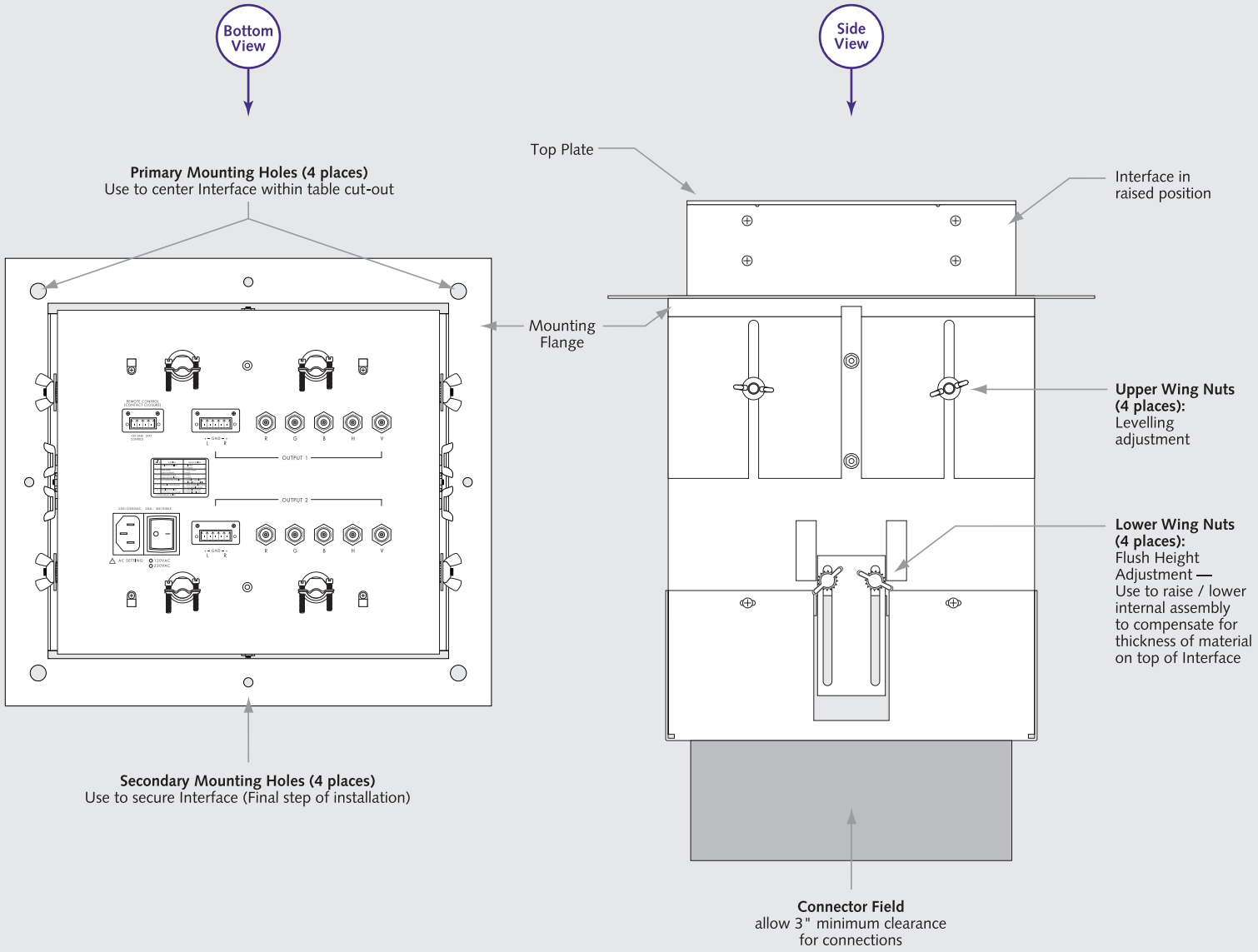
KEY CONCEPT



The lower wing nuts allow installers to adjust for varying tabletop thickness (up to two inches) and provide a precise flush-mount installation

7. Using a strong adhesive, permanently attach the lid to the top plate.

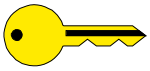
INSTALLATION DIAGRAM: Adjustments



MAXIMUM BEARING LOAD

In applications where the unit will be raised and lowered by hand or through the contact closure control port, the maximum weight of the cover surface material affixed to the top of the interface (the lid) should not exceed 10 pounds / 4.5 kilograms.

KEY CONCEPT



The maximum load bearing on the motor is 30 pounds, but exceeding the 10 pound / 4.5 kilogram load limit will shorten the life of the motor and may compress the activation spring, preventing the unit from operating properly..

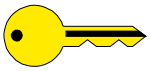
CONNECTING THE INTERFACE

This section offers step-by-step instructions for connecting the **IN2118** Interface. A **Connectors and Controls** Diagram is included on page 12, and an **Application Diagram** is on page 13.

CAUTION: Installation of the IN2118 Interface must only be carried out by qualified technicians. Before making any connections, make sure that there is no power connected to the unit.

1. **Run the video coax cable(s),** power cable, remote cable, and optional accessory cables (audio / video / phone / data / control cables) to the interface.

KEY CONCEPT



***Warning**: All internal cables and connectors are pre-terminated at the factory. Removing the connector plate may damage internal components and will void all warranties. If you have any questions, please call INLINE technical support at (714) 921-4100.*

2. **Terminate any Audio, Video and Control Cables** to the backside of the A/V Connector Modules as required by your installation (a complete list of available modules is provided on pages 17 & 18).

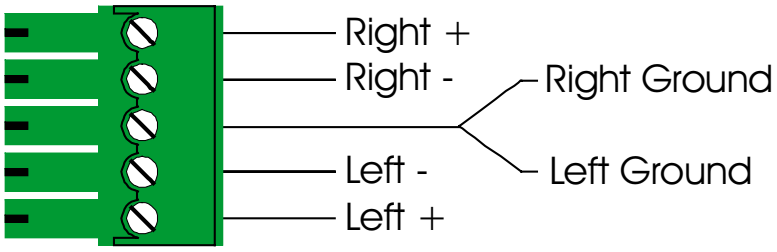
*Note: The **IN2118** provides a Flexible Cable Conduit to ensure that the accessory cables are not pinched or damaged while the unit ascends / descends. Before making any terminations, run all the accessory cables through the bottom of the conduit to the A/V connector plate opening(s).*

3. **Using the IN9334 3/32" Allen Wrench (included)** - attach the modular connector(s) to the **IN2118** faceplate, making sure that none of the cables are pinched or damaged (faceplate diagrams are provided on page 14). Once the connectors are securely installed, tighten the Cable Strain Relief Clamps.

Note: All optional A/C convenience outlet(s) are pre-terminated at the factory.

4. **Connect the Video Coax Cable** to the (5) BNC female connectors using three, four, or five high-resolution BNC cables, or a multi-conductor RGBHV, RGBS or RGB "snake." The **IN7000 / IN7200 / IN7300** and **IN7400P Series** high-resolution cables are well suited for this purpose. Take care while making connections to insure that the red output is connected to the red input, green output to the green input, etc. For dual interface applications, a second set of BNC connectors is provided.

5. **Connect the Left, Right and Ground Conductors** on the audio cables to the 5-pin captive screw terminal. This connector will accept stranded or solid cables from 20 - 26 AWG. The **IN2118** Interface takes an unbalanced stereo audio input, buffers the signal and outputs it as balanced stereo audio. This is desirable for systems where the audio signal will be connected to equipment with balanced audio inputs, and is helpful in preserving signal integrity and minimizing outside signal interference (which often occurs while sending the audio signal over lengthy cable runs).



6. **Access the Dipswitches** by removing the screws on the front plate (the **IN9334** 3/32" Allen Wrench is included). Use the **IN9339** Adjustment Tool to set the switches as appropriate for your installation (a complete description of the dipswitch settings is provided on page 15). The factory default output format is RGBS / RGBHV. If your display device, routing system or cabling requires a different format, use the dipswitches to change the output signal to RGsB. Replace the front plate and tighten the hex screws.

7. **Connect the Remote Device** to the 4-pin captive screw terminal (see the **Remote Control Operation** Section on page 16).

8. **Apply Power** to the **IN2118** using the **IN9230** IEC (USA only) power cable (included).

9. **Complete the Installation** by turning the interface ON (the power switch is located to the right of the A/C connector). The front panel LED (on the Interface) will illuminate.

FOR IN2118-A, D & G INSTALLATIONS:

10. **Connect the Computer Graphics Card** to the **IN2118** 15-pin video input port (a **Connectors and Controls** Diagram is provided on page 14).

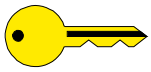
    - **PC / MAC / SGI Computers with 15-pin HD Video Ports -** can be connected via **IN8000M-1 / IN8200M-1 Series** high-resolution coaxial VGA cables.

    - **Older Macintosh (15-pin D) / SUN (13W3) / Workstations (4 or 5 BNC) -** can be connected using the appropriate input / output cables listed in the chart on the following page.

11. **Connect the Computer Sound Card Output** (if applicable) to the **IN2118** 3.5mm female stereo audio input connector using an **IN8200-1 Series** cable (15-pin HD with 3.5mm stereo mini male), or an **IN9106** audio patch cable (3.5mm stereo mini male to 3.5mm stereo mini male). For computers with RCA connectors, use the **IN9107** audio adapter cable [(1) 3.5mm stereo mini male to (2) RCA male].

12. **Connect the Local Computer Monitor** (if applicable) to the local monitor output port of the **IN2118**. Monitors with 15-pin VGA connectors will attach directly to the interface. For other types of monitors, refer to the table below.

KEY CONCEPT



*If a local monitor is required, the monitor emulation dipswitch must be disabled (see the **Dipswitch Settings** Section on page 15 for more details).*

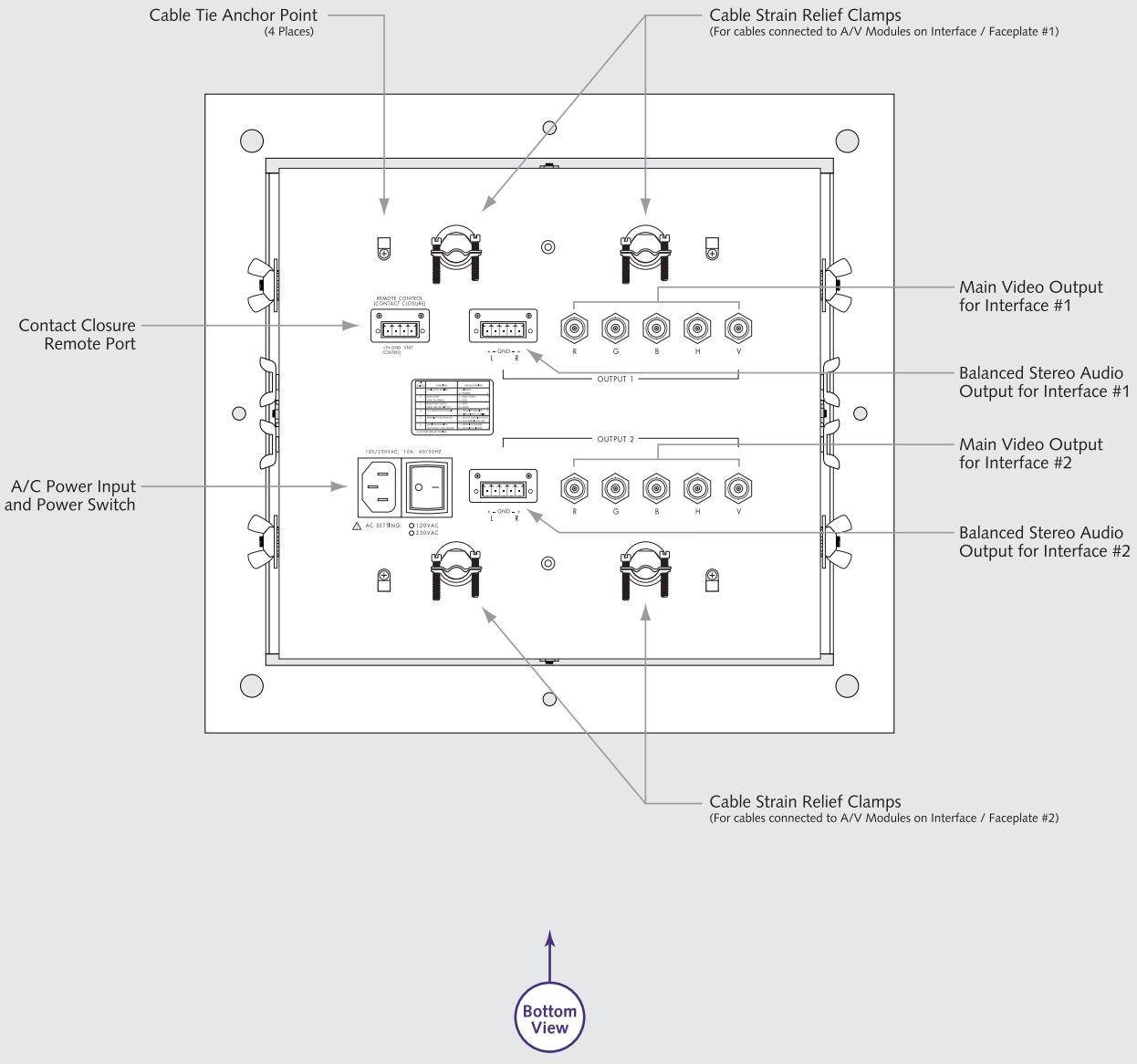
ADAPTER / EXTENSION CABLES FOR INPUT AND LOCAL MONITOR OUTPUT

The **IN2118** Interface has 15-pin HD VGA-type input and local monitor output connector ports. The following cables / adapters are available:

Computer	3’	6’	12’	25’	35’ +
VGA: 15-Pin HD					
Input Cable (M-M)	**IN8003M-1**	**IN8006M-1**	**IN8012M-1**	**IN8025M-1**	**IN80xxM-1**
Output Cable (M-F)		**IN8006-1**	**IN8012-1**	**IN8025-1**	**IN80xx-1**
VGA with Stereo Audio: 15-Pin HD with 3.5mm (M-M) mini DIN					
Input Cable (M-M)	**IN8203M-1**	**IN8206M-1**	**IN8212M-1**	**IN8225M-1**	**IN82xxM-1**
Output Cable (M-F)	**IN8203-1**	**IN8206-1**	**IN8212-1**	**IN8225-1**	**IN82xx-1**
MAC with 15-Pin D:					
Input Cable (M-M)		**IN9140M**		**IN9144M**	
Output Cable (M-F)	**IN9141**			**IN9145**	
MAC G3, G4 and PowerBook with 15-Pin HD*:					
Input Cable (M-M)		**IN8006M-1**	**IN8012M-1**	**IN8025M-1**	**IN80xxM-1**
Output Cable (M-F)		**IN8006-1**	**IN8012-1**	**IN8025-1**	**IN80xx-1**
SUN: 13W3 (may also be used with SGI with RGsB output)					
Input Cable (M-M)		**IN9142M**		**IN9146M**	
Output Cable (M-F)	**IN9143**			**IN9147**	
Workstation: 5 BNC / RGBHV					
Input Cable (M-M)		**IN9045-L6**	**IN9045-L12**	**IN9045-L25**	**IN9045-Lxx**
Output Cable (M-M)		**IN9045-L6**	**IN9045-L12**	**IN9045-L25**	**IN9045-Lxx**
Workstation: 4 BNC / RGBS					
Input Cable (M-F)		**IN9100**			

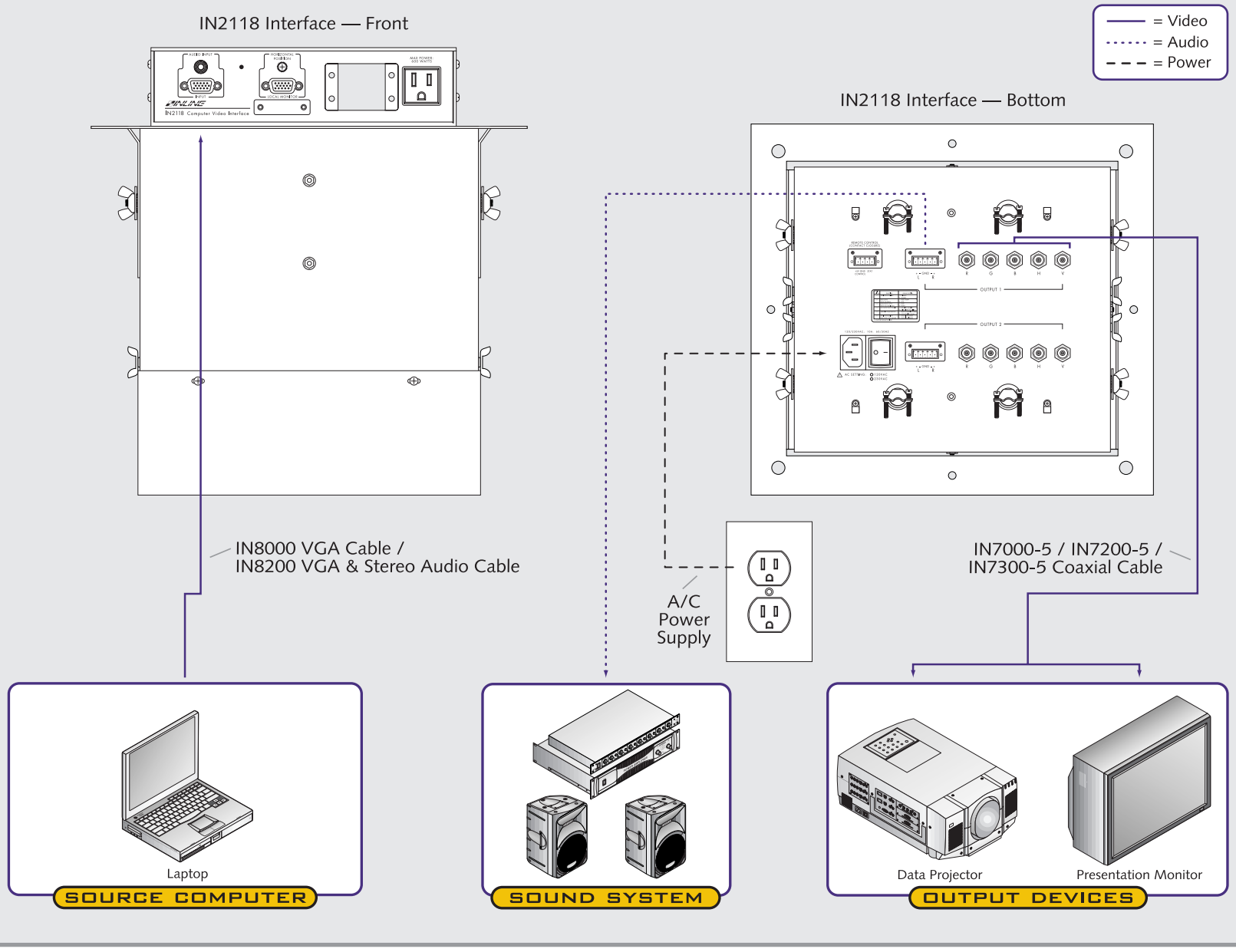
*Newer Mac G3 models (with translucent cases) have 15-Pin HD connectors (pins arranged in 3 rows). Older G3 models (with solid white enclosures) incorporate 15-Pin D connectors (pins arranged in 2 rows).

IN2118 **INSTALLATION INTERFACE** BOTTOM CONNECTORS & CONTROLS

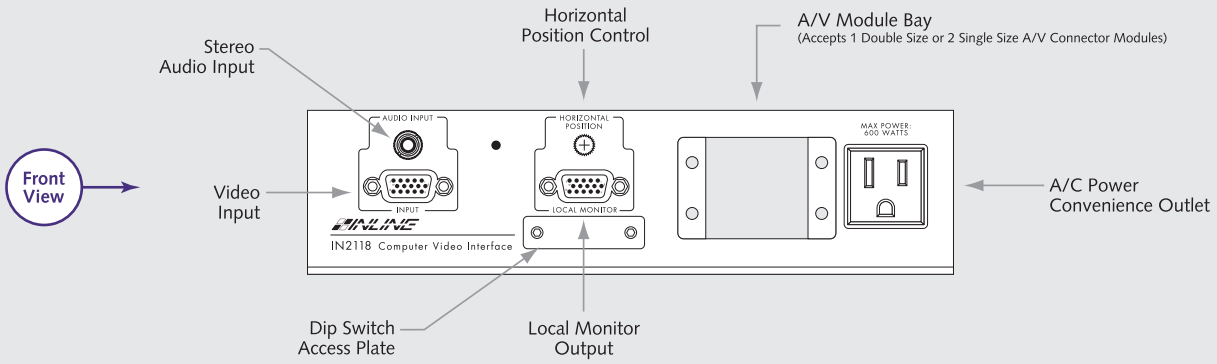


IN2118 **INSTALLATION INTERFACE**

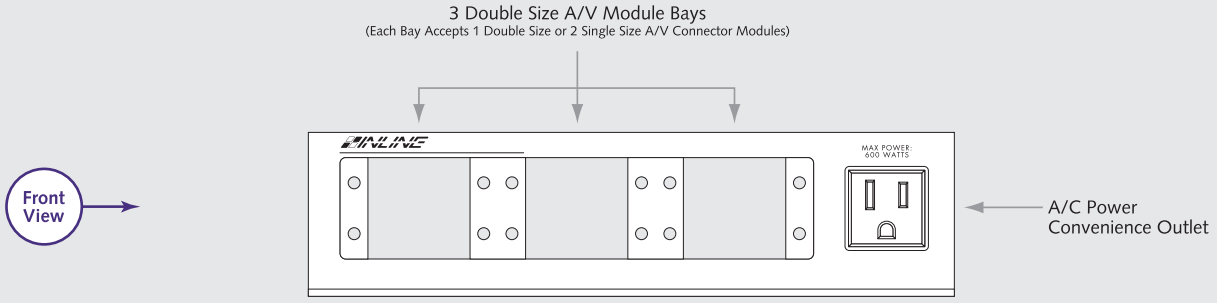
APPLICATION DIAGRAM



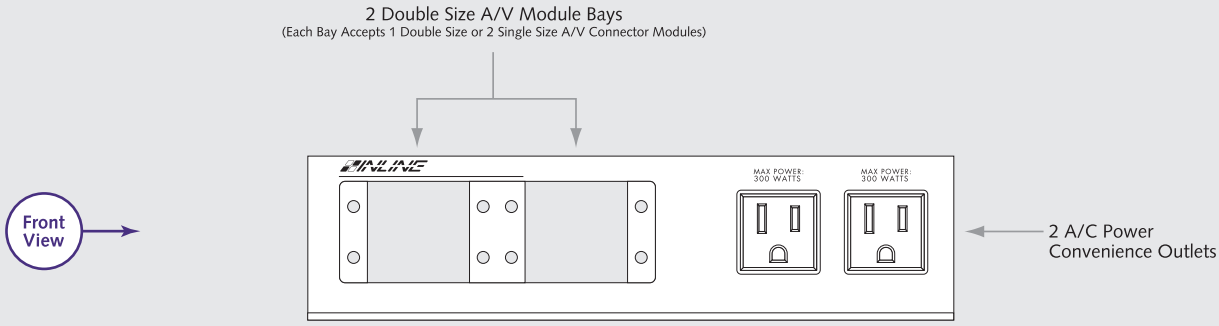
IN2118 **INSTALLATION INTERFACE** FACEPLATE A CONNECTORS & CONTROLS



IN2118 **INSTALLATION INTERFACE** FACEPLATE B CONNECTORS & CONTROLS



IN2118 **INSTALLATION INTERFACE** FACEPLATE C CONNECTORS & CONTROLS



Operation

HORIZONTAL POSITION CONTROL

The location of the horizontal position control is shown in the **Faceplate A Connectors and Controls** Diagram on the previous page. This control adjusts the position of the image on the data display device. The horizontal position control has no effect on the local computer monitor.

If the horizontal position adjustment is set to an extreme position on either the display device or the **IN2118** Interface, the output image may appear dark and / or the colors may be displayed improperly. To position the video image and achieve optimum picture quality:

1. Set the display device's horizontal position control to the center of its adjustment range.
2. Adjust the horizontal position control on the **IN2118** Interface until the picture is centered properly on the display device.

Note: The horizontal position control does not work with RGsB input signals.

DIPSWITCH SETTINGS

Most installations will not require any changes to the dipswitch settings. The factory default and specialized dipswitch settings are indicated below.
Note: The switches are located under the Dipswitch access plate (see the diagram on the previous page).

Factory Default Settings:

Dipswitches ON: 2 & 4
Signal Format: Red / Green / Blue / Horizontal and Vertical Sync
Horizontal Position Control: Enabled
H & V Sync Polarity: Negative, Negative
Monitor Emulation: Disabled

The following table lists the functions of the 6 dipswitches:

DIPSWITCH	FUNCTION	SETTING
1	Horizontal Position	1 = Disabled 0 = Enabled
2	RGsB Output (sync on green)	1 = RGBS or RGBHV 0 = RGsB
3	RGBS or RGBHV Output (dip switch 2 must be set to 1)	1 = RGBS 0 = RGBHV
4	RGBHV Output Sync Polarity	1 = Negative, Negative 0 = Mirror Input Polarities
5	Serration Pulse Removal (for RGBS or RGsB output)	1 = Remove Serration Pulses 0 = Pass Serration Pulses
6	Monitor Emulation (VGA color / MAC* 640 x 480)	1 = Emulation Disabled 0 = Emulation Enabled

*If monitor emulation is desired when using a MAC G3 (with 15-pin HD connector) or G4, dipswitch #6 must be set to 1.

OPTIMAL SETTINGS FOR LCD / DLP / D-ILA / PLASMA DISPLAYS

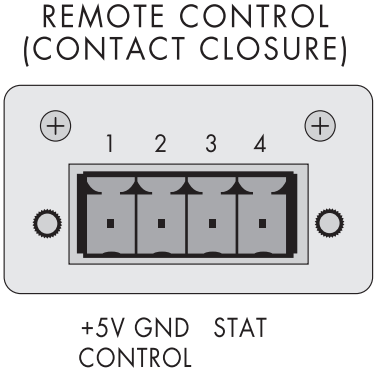
The following output sync settings provide maximum signal preservation and are recommended for the best image quality with LCD, DLP, D-ILA and Plasma Display devices. Depending on the design of the display device's sync processing circuitry, you may be able to set the horizontal position control (dipswitch #1) to the enabled position. However, experimentation with your display device is the best way to determine whether you can achieve a stable image with the horizontal position enabled. Many LCD displays include a fine phase control, which can be adjusted to optimize picture quality.

Dipswitches ON: 1 & 2
Signal Format: Red / Green / Blue / Horizontal and Vertical Sync
Horizontal Position Control: Disabled
H & V Sync Polarity: Mirror Input Polarities

REMOTE CONTROL OPERATION

The **IN2118** can be raised and lowered by pressing down on the top surface, or via remote control. The remote port is a 4-pin captive screw terminal on the connector plate that allows the interface to be controlled by any device that is capable of providing a latching contact closure, or by an RS-232 control device (when used with an optional **IN6901 / IN6902** RS-232 to contact closure converter).

Contact Closure Control: The interface can be raised or lowered via the remote port by providing a latching contact closure between pin 1 and pin 2 on the remote jack. Opening / closing the contact closure causes the unit to ascend / descend. The manual control (pressing down on the top surface) and the contact closure switch work independently. Therefore, an open or closed status between pins 1 & 2 on the remote port could select either the raising or lowering of the interface, depending on the current position of the unit.



Status: The remote connector status pins (3 & 4) can be used to provide feedback to a control system to indicate whether the **IN2118** is in the raised or lowered position. The status pin will be open or closed depending on the current position:

Closed: Unit is in the raised position
Open: Unit is in the lowered position

CONTACT CLOSURE DEVICES

Any device capable of providing a latching contact closure may be used to control the **IN2118**. Several contact closure type devices are available:

- **IN6901 / IN6902 RS-232 to Contact Closure Converter -** allows the **IN2118** and other INLINE devices with contact closure control ports to be regulated by RS-232 sources.
- **Control System** - many control systems are capable of providing contact closures.

A/V CONNECTOR MODULES

Connector Module Black / White	Description	Type	Size
Video Modules			
IN9351B / IN9351W	(2) BNC Female	Barrel	Single
IN9352B / IN9352W	(1) 4-Pin Mini DIN Female (S-Video)	Installation	Single
IN9357B / IN9357W	(2) F-Connector Female	Barrel	Single
IN9363B / IN9363W	(1) 4-Pin Mini DIN Female (S-Video) (1) BNC Female Barrel	Barrel	Single
IN9381B / IN9381W	(1) BNC Female	Barrel	Single
IN9382B / IN9382W	(1) F-Connector Female	Barrel	Single
IN9383B / IN9383W	(1) RCA Female - White	Barrel	Single
IN9390B / IN9390W	4-Pin Mini DIN Female (S-Video)	Barrel	Single
IN9468B / IN9468W	(2) 4-Pin Mini DIN Female Barrel (S-Video)	Barrel	Single
Audio Modules			
IN9353B / IN9353W	(2) RCA Female - Red / White	Installation	Single
IN9354B / IN9354W	(2) ¼" Stereo Phono Female	Installation	Single
IN9355B / IN9355W	(2) 3.5mm Mini Stereo Female	Installation	Single
IN9360B / IN9360W	(1) Contact Closure Switch (Single Pole) with Internal LED (1) 3.5mm Stereo Mini Female	Installation	Single
IN9365DB / IN9365DW	(1) XLR 3-Pin Female (Neutrik)	Installation	Double
IN9373B / IN9373W	(2) RCA Female - Red / White	Barrel	Single
IN9384B / IN9384W	(1) ¼" Stereo Phono Female	Installation	Single
IN9385B / IN9385W	(1) 3.5mm Mini Stereo Female	Installation	Single
IN9395DB / IN9395DW	(1) XLR 3-Pin Female (Switchcraft)	Installation	Double
IN9398DB / IN9398DW	(1) XLR 3-Pin Male (Cannon)	Installation	Double
IN9450B / IN9450W	(1) Mini XLR 3-Pin Male (Switchcraft)	Installation	Single
IN9451B / IN9451W	(2) Mini XLR 3-Pin Male (Switchcraft)	Installation	Single
IN9456B / IN9456W	(2) RCA Female - Red / White	Quick Connect	Single
IN9457B / IN9457W	(2) 3.5mm Mini Stereo Female	Quick Connect	Single
IN9458B / IN9458W	(1) 3.5mm Mini Stereo Female	Quick Connect	Single
IN9459B / IN9459W	(1) ¼" Stereo Phono Female	Quick Connect	Single
IN9460B / IN9460W	(1) Contact Closure Switch (Single Pole) with External LED (1) 3.5mm Mini Stereo Female	Quick Connect	Single
IN9463B / IN9463W	(1) Mini XLR 3-Pin Male (Switchcraft)	Quick Connect	Single
IN9473DB / IN9473DW	(1) 4-Pole Speakon Male (Neutrik)	Installation	Double
Audio / Video Modules			
IN9372DB / IN9372DW	A/V Super Module: (2) RCA Female - Audio: Red / White (1) RCA Female - Video: Yellow (1) 4-Pin Mini DIN Female - S-Video	Installation	Double
IN9376DB / IN9376DW	A/V Super Module: (2) RCA Female - Audio: Red / White (1) RCA Female - Video: Yellow (1) 4-Pin Mini DIN Female - S-Video	Barrel	Double
IN9377DB / IN9377DW	(2) RCA Female - Audio: Red / White (1) RCA Female - Video: Yellow	Installation	Double
IN9386B / IN9386W	(1) BNC Male (2) 3.5mm Stereo Mini Female	BNC: Barrel 3.5mm Mini: Installation	Single
IN9387B / IN9387W	(1) 4-Pin Mini DIN Female - S-Video (1) 3.5mm Stereo Mini Female	Installation	Single
IN9388B / IN9388W	(1) RCA Female - Video: Yellow (1) 3.5mm Stereo Mini Female	Installation	Single
IN9461DB / IN9461DW	A/V Super Module: (2) RCA Female - Audio: Red / White (1) RCA Female - Video: Yellow (1) 4-Pin Mini DIN Female - S-Video	Quick Connect	Double
IN9462DB / IN9462DW	(2) RCA Female - Audio: Red / White (1) RCA Female - Video: Yellow	Quick Connect	Double
IN9469B / IN9469W	(2) RCA Female - Audio: Red / White (1) RCA Female - Video: Yellow	Installation	Single

Connector Module Black / White	Description	Type	Size
Control / Computer Modules			
IN9356B / IN9356W	(1) 5-Pin Captive Screw Terminal	Installation	Single
IN9360B / IN9360W	(1) Contact Closure Switch (Momentary - Single Pole with LED) (1) 3.5mm Stereo Mini Female	Installation	Single
IN9361B / IN9361W	(1) 15-Pin HD Female	Barrel	Single
IN9362B / IN9362W	(1) 15-Pin HD Male	Barrel	Single
IN9364DB / IN9364DW	(1) XLR 4-Pin Female (Neutrik)	Installation	Double
IN9366DB / IN9366DW	(1) XLR 6-Pin Female (Neutrik)	Installation	Double
IN9374B / IN9374W	(1) 9-Pin D Female	Barrel	Single
IN9375B / IN9375W	(2) 6-Pin Mini DIN Female - Keyboard / Mouse	Barrel	Single
IN9378B / IN9378W	(1) 9-Pin D Male	Barrel	Single
IN9379B / IN9379W	(1) 6-Pin Mini DIN Female - Keyboard / Mouse	Installation	Single
IN9389B / IN9389W	(1) 6-Pin Mini DIN Female - Keyboard / Mouse	Barrel	Single
IN9391DB / IN9391DW	(1) XLR 5-Pin Female (Neutrik)	Installation	Double
IN9394DB / IN9394DW	(1) XLR 4-Pin Female (Switchcraft)	Installation	Double
IN9396DB / IN9396DW	(1) XLR 6-Pin Female (Switchcraft)	Installation	Double
IN9397DB / IN9397DW	(1) XLR 7-Pin Female (Switchcraft)	Installation	Double
IN9399B / IN9399W	(1) Mini XLR 6-Pin Male (Switchcraft)	Installation	Single
IN9452B / IN9452W	(1) Mini XLR 4-Pin Male (Switchcraft)	Installation	Single
IN9460B / IN9460W	(1) Contact Closure Switch (Momentary - Single Pole with LED) (1) 3.5mm Stereo Mini Female	Quick Connect	Single
IN9464B / IN9464W	(1) Mini XLR 4-Pin Male (Switchcraft)	Quick Connect	Single
IN9465B / IN9465W	(1) Rocker Switch (Latching - Single Pole), Max Voltage: 10A / 125VAC, 6A / 250VAC Approvals: UL / CSA	Installation	Single
IN9466B / IN9466W	(2) 6-Pin Mini DIN Female - Keyboard / Mouse	Installation	Single
IN9467B / IN9467W	(1) USB Connector	Quick Connect	Single
IN9470B / IN9470W	(1) Switch with Integral LED (Latching, Single Pole, Single Throw) Max. Voltage: 5A / 125VAC, 3A / 250VAC Approvals: CSA	Installation	Single
IN9471B / IN9471W	(1) Switch (Latching, Single Pole, Double Throw) Max. Voltage: 15A / 125VAC, 10A / 250VAC, 10A / 28VDC Approvals: CSA	Installation	Single
IN9472DB / IN9472DW	(1) Switch (Latching, Double Pole, Double Throw) Max. Voltage: 15A / 125VAC, 10A / 250VAC, 10A / 28VDC Approvals: CSA	Installation	Double
Data / Phone Modules			
IN9358B / IN9358W	(1) RJ11 Female - Phone	Installation	Single
IN9358DB / IN9358DW	(1) RJ11 Female - Phone	Installation	Double
IN9359B / IN9359W	(1) RJ45 Female - Data	Installation	Single
IN9359DB / IN9359DW	(1) RJ45 Female - Data	Installation	Double
IN9453B / IN9453W	(1) RJ11 Female - Phone	Barrel	Single
IN9453DB / IN9453DW	(1) RJ11 Female - Phone	Barrel	Double
IN9454B / IN9454W	(1) RJ45 Female - Data	Barrel	Single
IN9454DB / IN9454DW	(1) RJ45 Female - Data	Barrel	Double
Blank Plate			
IN9350B / IN9350W	Blank Plate - Single		Single
IN9367DB / IN9367DW	Blank Plate - Double		Double
IN9368TB / IN9368TW	Blank Plate - Triple		Triple
IN9369QB / IN9369QW	Blank Plate - Quad		Quad
IN9474QB / IN9474QW	(1) Grommet - 1” ID		Quad

Note: When ordering INLINE equipment, please specify the necessary A/V Connector modules.

Specifications

IN2118 Installation Video Interface	
Input (IN2118-A, D & G only)	
Connector Type	(1) 15-pin HD female
RGB Video Signals	Analog, 1.5 Vp-p max.
Sync Signals	TTL compatible
Horizontal Scan Rate	30 KHz - 130 KHz
Vertical Sync Range	30 Hz - 120 Hz
Stereo Audio Connector	(1) 3.5mm stereo mini female
Stereo Audio Signal	Unbalanced Stereo Audio - Impedance: 10 KΩ
Output (IN2118-A, D & G only)	
Local Monitor (Buffered)	(1) 15-pin HD female
Main Outputs	1 or 2 sets of 5 female BNC - Located on Bottom of Unit
Output Sync Format	RGBHV, RGBS or RGsB format
Bandwidth	400 MHz @ -3 dB with 0.7 volt input signal
Balanced Audio Outputs	(2) 5-pin Captive Screw Connectors, Impedance: 50Ω
Controls (IN2118-A, D & G only)	
External	Horizontal Position Control
Internal	10 Dip Switches
Dimensions	
Overall Including Flange	14” x 12.15” x 11.15” / 35.6 cm. x 30.9 cm. x 28.3 cm. (see the **Dimensions Diagrams** on pages 22-24)
Interface Top Plate	8.15” x 9.15” / 20.7 cm. x 23.2 cm.
Interface Elevation	Rises approximately 3.4” / 8.64 cm. above top of table
Shipping Weight	20 lbs. / 9 Kg.
Product Weight	15 lbs. / 6.8 Kg.
Power	
Power Supply	Internal Switch Mode: 90 to 260 VAC; 47 - 63 Hz
General	
Paint Finish	Black
Front Panel A/C Outlets	1 or 2 Edison / IEC / Europlug Female - 800 Watts Max.
Remote Control	4-pin Captive Screw - Contact Closure Type
Regulatory Compliance	
EMI & Safety	UL 1950, CAN/CSA-22.2 No. 950 3rd Ed. FCC class A; CE: EN50022 (1987), EN50081-1 (1991), EN50082-1 (1992 & 1994), EN60950-92

Parts Included
(1) IN2118 Installation Unit
(1) IN9230 IEC Power Cable, 6’ long (USA only)
(1) IN9334 3/32” Allen Wrench
(1) IN9339 Adjustment Tool with Technician’s Blade
(1) Operation Manual

Required Accessories (Ordered Separately)
Input and Local Monitor Adapter and Extension Cables: **VGA: IN8000 Series** 15-pin HD female to 15-pin HD female, various lengths from 3' to 100' **For Other Computers:** Refer to the table on page 11

Optional Accessories
Table Routing Template **IN9185:** Provides a guide to make a precision cut when mounting the **IN2118** in a table / presentation furniture
Remote Equipment: **IN6901 / IN6902:** RS-232 to contact closure converter **IN9465:** Rocker Switch Module
Audio Input Cables: **IN9106:** 3.5mm stereo mini male to 3.5mm stereo mini male, 6' long **IN9107:** (1) 3.5mm stereo mini male to (2) RCA male, 6' long
Installation Cables: **IN7000P-5 Series RGBHV Cable:** Standard Resolution, Plenum Cable available in bulk lengths **IN7000P-5K Series RGBHV Cable:** Standard Resolution, Plenum Cable available in 1000' bulk length **IN8800:** 18 Conductor Super High-Resolution Cable: (3) Super High-Resolution Coax., (3) Mini Coax., (5) 26 Gauge Twisted Pairs, (1) Gauge Pair
Connectors and Tools: **IN9301:** BNC Connectors **IN9320:** Crimp Tool Frame **IN9321:** Die (**IN9320** and **IN9321** are used to terminate bulk cables)

RGB Installation Cables			
Coaxial Cables	**3-Conductor**	**4-Conductor**	**5-Conductor**
Standard Resolution		**IN7000-4**	**IN7000-5**
Standard Resolution, Plenum		**IN7000P-4**	**IN7000P-5**
Super High Resolution	**IN7300-3**	**IN7300-4**	**IN7300-5**
Super High Resolution, Plenum			**IN7400P-5**
Ultra High Resolution	**IN7200-3**	**IN7200-5**	**IN7200-6**

All cable grades are available in lengths from 3' to 250' pre-terminated with high quality BNC connectors or as bulk cable.

Troubleshooting (IN2118-A, D & G)

Problem: The display device connected to the IN2118 output has a bad / scrambled image.

- **Solution 1:** Verify that the correct input cable is being used.
- **Solution 2:** The display device connected to the output of the interface may not be compatible with the computer output. PC, MAC, SUN and other high-resolution workstations have new and ultra high-resolution modes such as 1600 x 1200 and 1800 x 1440, and can output a video signal with a horizontal scan rate of over 100 KHz! Many

data monitors and data projectors are not compatible with these resolutions and frequencies.

- **Solution 3:** Check the dipswitch settings to make sure the unit is putting out a sync format that the display device can use. For most applications, the default dipswitch settings (see page 15) will work best.
- **Solution 4:** The RGBS or RGBHV cable may have a bad sync line. Try running the sync through another cable.

Problem: The output image is very dark.

- **Solution:** The horizontal position control may be set off to an extreme setting or may be interacting poorly with the horizontal position control on the display device. Follow the horizontal position adjustment procedure on page 15.

Problem: The local monitor looks fine but the image on the LCD projector is wavy or has vertical bars in the picture.

- **Solution 1:** LCD / DMD / D-ILA / Plasma Display devices work best when the sync signal has minimum sync processing. Set the interface dipswitches to the factory default positions (see page 15). In some cases, disabling the horizontal position control *may* alleviate this problem.
- **Solution 2:** LCD / DMD displays often have an adjustment called Phase Adjust or Fine Phase Control. This control should be adjusted to provide the best image.

Problem: The output image is missing a color.

- **Solution:** Possibly the RGBS or RGBHV cable is bad. Try switching connections on the output to verify that the bad color's cable is OK (***Example:*** If there is no red, try running the green output through the red cable and see if the green is displayed or not).

Problem: The output image is too green.

- **Solution:** The dipswitch settings may be set for sync on green output and the display device doesn't like that format. Try changing the dipswitches to output an RGBS or RGBHV signal (see Dipswitch Settings Section on page 15).

Problem: The horizontal position control is not working.

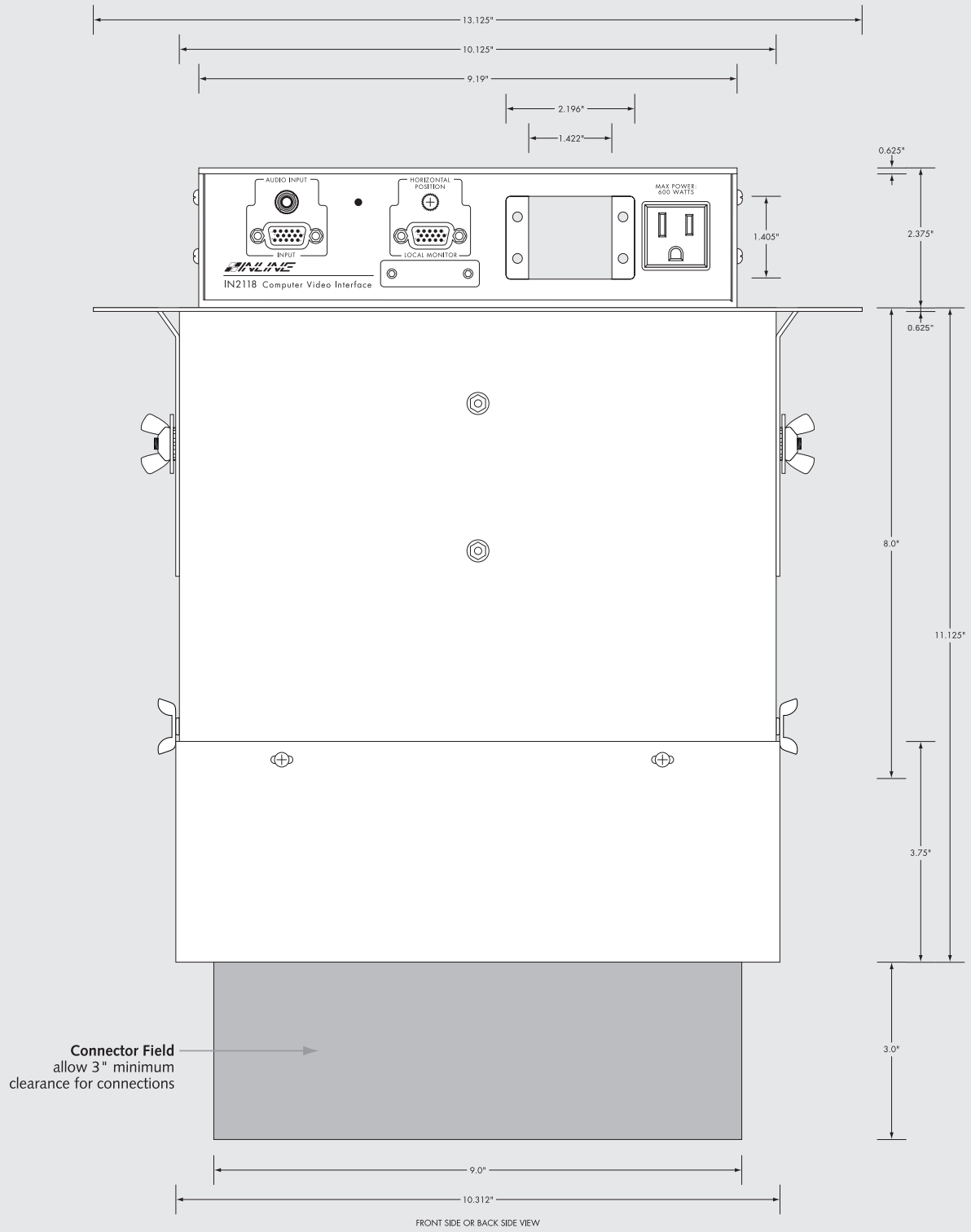
- **Solution 1:** Check the dipswitch settings to see if the horizontal position control has been disabled.
- **Solution 2:** The input setting may be RGsB (sync on green). The horizontal position control does not work with RGsB input signals.

Problem: The output image is doubled, with two images displayed side-by-side.

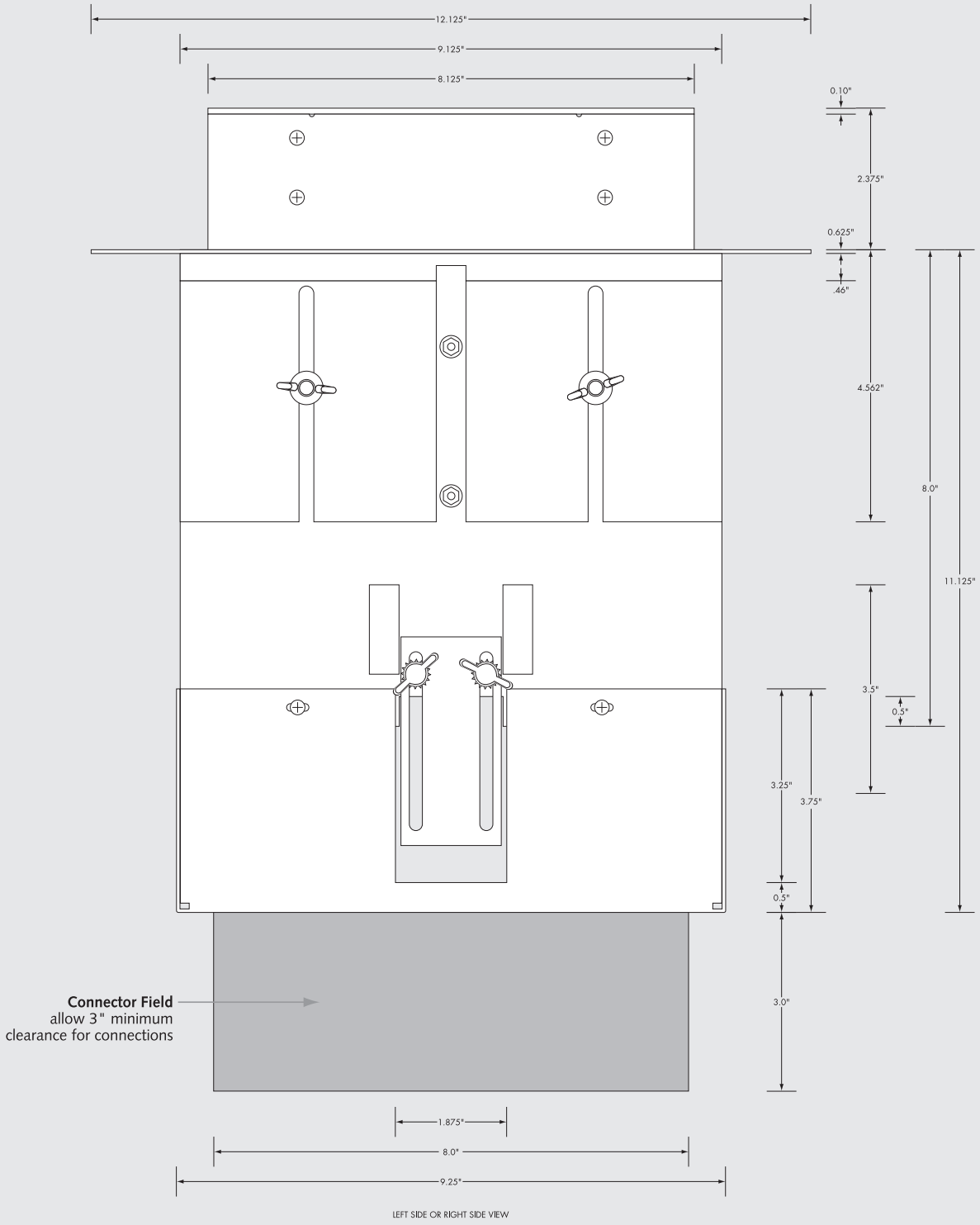
- **Solution:** The display device may not be compatible with the horizontal scan rate of the computer. This problem often occurs when a 31.5 KHz VGA signal is sent into an RGB monitor that is only compatible with signals at 15.75 KHz.

If problems persist, call INLINE Technical Services at (714) 921-4100 for further assistance.

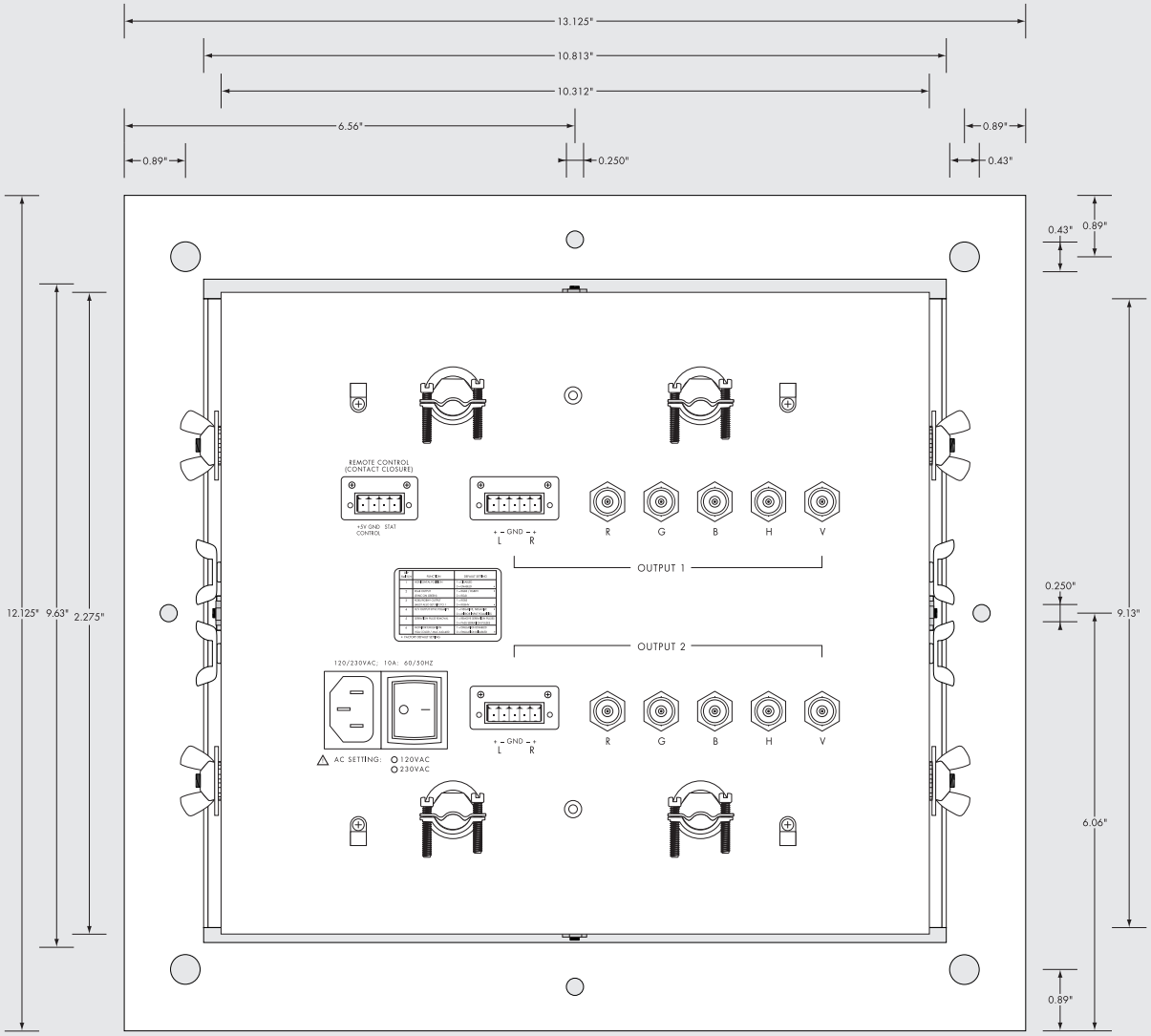
IN2118 **INSTALLATION INTERFACE** FRONT OR BACK SIDE DIMENSIONS



IN2118 **INSTALLATION INTERFACE** LEFT OR RIGHT SIDE DIMENSIONS



IN2118 **INSTALLATION INTERFACE** BOTTOM DIMENSIONS



BOTTOM VIEW

Warranty

- INLINE warrants the equipment it manufactures to be free from defects in materials and workmanship.
- If equipment fails because of such defects and INLINE is notified within two (2) years from the date of shipment, INLINE will, at its option, repair or replace the equipment at its plant, provided that the equipment has not been subjected to mechanical, electrical or other abuse or modifications.
- Equipment that fails under conditions other than those covered will be repaired at the current price of parts and labor in effect at the time of repair. Such repairs are warranted for ninety (90) days from the day of re-shipment to the Buyer.
- This warranty is in lieu of all other warranties expressed or implied, including without limitation, any implied warranty or merchantability or fitness for any particular purpose, all of which are expressly disclaimed.

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