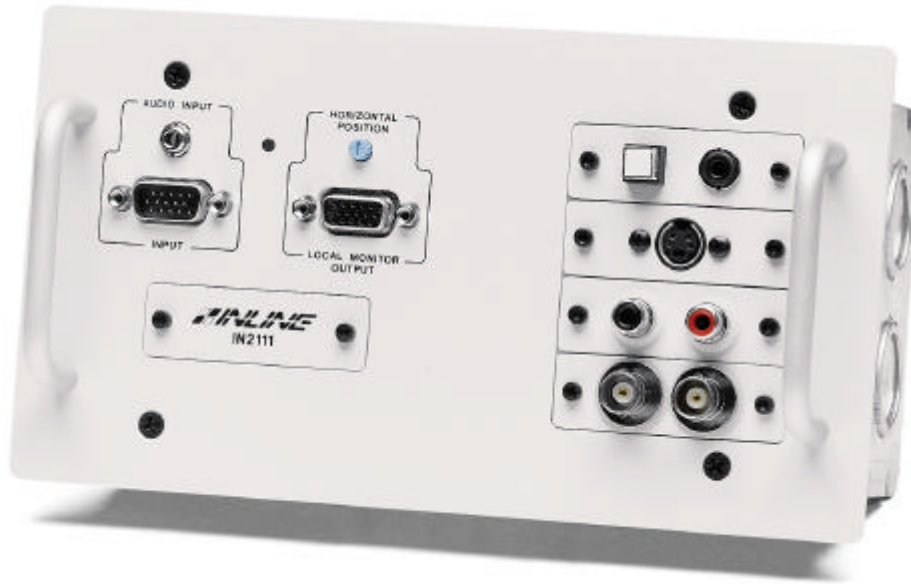


OPERATION MANUAL INSTALLATION INTERFACE SERIES



**IN2111Q High Resolution
Installation Interface**





Installation and Safety Instructions

For Models without a Power Switch:

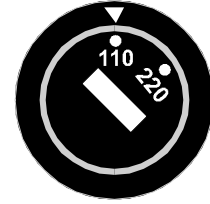
The socket outlet shall be installed near the equipment and shall be accessible.

For Models with 110 / 220V Power Selector:

Caution: Before applying power to this unit, the voltage selector must be set to the appropriate setting to match local A/C line voltage. Improper setting of the voltage selector may cause damage to the unit and create a potential fire hazard.

The voltage selector is a round switch located next to the A/C power input connector which looks like this:

Using a straight slot screwdriver or small coin, rotate the selector to the correct position so that the arrow lines up with 110 or 220 as appropriate for local power line voltage as indicated in the chart below:



Local A/C Voltage	Voltage Selector Setting
110 ~ 120 VAC	110
220 ~ 240 VAC	220

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.

For IN2001 / IN3234 / IN3236 / IN3502 / IN3504 / IN3506 / IN3562 / IN3564 / IN3566 / IN3572 / IN3574 / IN3576:

Caution: Double pole / neutral fusing.

For all Models with Integral Lithium Battery:

Caution: Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instructions.



Instructions d'installation et de sécurité

Pour les modèles sans interrupteur de courant:

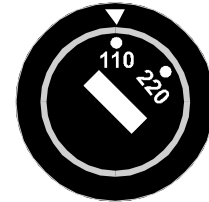
La prise de courant d'alimentation sera installé près de l'équipement et sera accessible.

Pour les modèles avec un sélecteur d'alimentation 110V/220V:

Attention: Avant de connecter l'appareil au circuit d'alimentation, le sélecteur de courant doit être positionné sur la sélection appropriée correspondant au voltage du circuit de courant alternatif local. Une mauvaise sélection peut engendrer des dommages à l'appareil et créer un danger d'incendie.

Le sélecteur d'alimentation est un commutateur rond positionné près du connecteur d'alimentation. Il se représente comme suit:

A l'aide d'un tourne-vis plat ou d'une pièce de monnaie, le sélecteur peut être tourné dans la position adéquate en veillant que la flèche corresponde avec 110 ou 220, en fonction de la valeur du circuit de courant local. (Voir tableau ci-dessous)



Circuit local AC	Position Sélecteur
110 ~ 120 VAC	110
220 ~ 240 VAC	220

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.

Pour IN2001 / IN3234 / IN3236 / IN3502 / IN3504 / IN3506 / IN3562 / IN3564 / IN3566 / IN3572 / IN3574 / IN3576:

Attention: Double pôle / fusible au neutre.

Pour tout les modèles avec une batterie au lithium interne:

Attention: Danger d'explosion si la batterie est incorrectement remplacée. Ne remplacez la batterie qu'avec le même modèle, ou avec un modèle recommandé par le constructeur. Traitez les batteries usagées selon les instructions du fabricant, ou selon les normes écologiques en vigueur.



Installations und Sicherheitshinweise

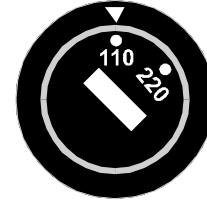
Für Geräte ohne Netzschalter:

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

Für Geräte mit 110 / 220V Spannungswähler:

Achtung: Bevor Sie dem Gerät Spannung zuführen, muß der Spannungswähler entsprechend der Spannung des lokalen Wechselspannungsnetzes eingestellt werden. Die falsche Stellung des Spannungswählers kann eine Beschädigung des Gerätes und möglicherweise ein Feuer verursachen.

Der Spannungswähler ist ein runder Schalter in der Nähe der Netzeingangsbuchse mit folgendem Aussehen:



Drehen Sie den Wähler mit einem normalen Schraubenzieher oder einer kleinen Münze so, daß der Pfeil auf die 110 oder 220 zeigt, entsprechend der Spannung Ihres lokalen Netzes wie hier angezeigt:

Lokale Netzwechselspannung	Stellung des Spannungswählers
110 ~ 120 V	110
220 ~ 240 V	220

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.

Für IN2001 / IN3234 / IN3236 / IN3502 / IN3504 / IN3506 / IN3562 / IN3564 / IN3566 / IN3572 / IN3574 / IN3576:

Achtung: Allpolige Absicherung

Für alle Geräte mit eingebauter Lithium Batterie:

Achtung: Explosionsgefahr bei falschem Batterieeinsatz. Batterie nur ersetzen durch den gleichen oder entsprechenden Typ wie vom Hersteller empfohlen. Entsorgung verbrauchter Batterien nur nach den Anweisungen des Herstellers.



Instalacion E Instrucciones de Seguridad

Modelos Sin Interruptor:

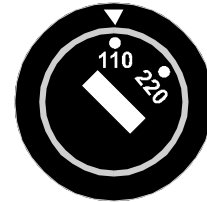
La conexión debe ser instalada cerca del equipo y debe ser accesible.

Modelos con Selector de Voltaje de 110/220V:

Precaución: Antes de operar esta unidad, el selector de voltaje debe instalarse de forma que corresponda a la línea de voltaje local. Instalación inadecuada del selector de voltaje puede causar daño a la unidad y originar un incendio.

El selector de voltaje es un cambio vía redondo localizado cerca de la conexión eléctrica, como se ve en el dibujo:

Use un destornillador común o una moneda pequeña, mueva el selector a la posición correcta, de forma que las flechas indiquen 110 o 220 de acuerdo con el voltaje local, como está indicado a continuación.



Voltaje Local A/C	Selector de Voltaje
110 ~ 120 VAC	110
220 ~ 240 VAC	220

Para Todos Los Modelos:

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

Modelos con Fusibles Internos o Externos:

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

Modelos IN2001 / IN3234 / IN3236 / IN3502 / IN3504 / IN3506 / IN3562 / IN3564 / IN3566 / IN3572 / IN3574 / IN3576:

Precaución: Double Polo / Fusible Neutral.

Modelos con Batería de Lithium Interna:

Precaución: Peligro de explosión si la batería es reemplazada incorrectamente. Reemplace solamente con la misma clase de batería, o una equivalente recomendada por el fabricante. Deseche las baterías usadas de acuerdo con las instrucciones del fabricante.

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.

**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.

DESCRIPTION

The **IN2111Q** is a high performance computer video interface for analog video signals including VGA, SVGA, XGA, MAC, SUN and other high resolution workstations. The **IN2111Q** has a modular faceplate designed to accept A/V connector plates, allowing the unit to also act as a customizable A/V connector plate. Dozens of connector modules are available with audio, video, phone, data, switch, computer and other popular connectors, allowing the unit to be configured to match the requirements for a variety of installations. The **IN2111Q** can also be configured with an optional audio buffer module that converts unbalanced stereo audio signals to balanced stereo audio. The **IN2111Q** mounts in a standard four-gang outlet box (included with the interface). The **IN2111Q** is available in two finishes: **IN2111QB** - Black, or **IN2111QW** - White. Like other Inline interfaces, the **IN2111Q** performs the following functions:

Signal Splitting - allows the simultaneous connection and viewing of both the computer's local monitor and a second output device such as a large screen data projector, monitor, or color printer.

Physical Interfacing - Computers employ many different types of video output connectors, making it difficult to hook up computers directly to data projection devices. The **IN2111Q** simplifies interfacing, routing, and switching tasks by acting as universal adapters. Through the use of removable input cables, the **IN2111Q** can be attached to different computers and will provide a video output signal on five BNC connectors that can easily be connected to an RGB display device. The output signal format may be set to any of the following formats: RGBHV (default), RGBS, and RGsB.

KEY CONCEPT



*The **IN2111Q** is not a scan converter. The data projector, monitor, or other output device must be compatible with the horizontal scan rate output by the computer video card.*

The **IN2111Q** high resolution installation interface offers easy operation and the following features:

- **Installation Design** - unit mounts in a wall, floor box, conference table, podium or other A/V furniture
- **400 MHz Bandwidth** - High performance interface design ensures that video signals will be interfaced with no loss of image detail. The interface provides ample performance for signals at virtually any resolution.
- **VGA Input and Output** - the input and output are directly compatible with VGA, SVGA and XGA graphic cards. Other computer types can be connected via input and output adapters.
- **Stereo Audio Pass-Through** - The **IN2111Q** features a 3.5mm stereo mini jack, allowing the stereo audio signal from a computer sound card or other audio source to be passed through to a 3-pin mini Phoenix connector on the back of the unit.
- **Optional Stereo Audio Buffer Module (IN9370FT)** - This factory installed optional module accepts an unbalanced stereo audio signal, buffers it and converts the signal to balanced audio.
- **Buffered Local Monitor Output** - provides a buffered output for the local computer monitor. This design provides the highest performance amplification and image quality, especially when used with very high frequency video sources.
- **Automatic Power On / Off** - the interface turns on as soon as the input cable is connected and turns off when the input cable is removed. This is ideal for installations where DC power will be connected to the interfaces continuously. Auto power feature can be disabled if desired.
- **Front Panel Dip Switches** - can be accessed by removing the small plate on the interface faceplate.
- **Monitor Emulation Switch** - eliminates the need for a termination plug for applications without a local monitor. This switch emulates a color VGA monitor or a 13/14" Apple RGB monitor.
- **Flexible Output Signal Formats** - RGBHV (default), RGBS, and RGsB
- **Sync Polarity Preservation Switch** - (RGBHV input / RGBHV output only) sets the unit to output RGBHV signals with polarities intact. The interface can also be set to output negative sync polarities if desired.
- **Horizontal Position Control** - allows picture to be centered precisely on the data display screen.
- **Serration Pulse Removal Switch** - enables the user to remove serration pulses from the sync output (RGBS / RGsB output only).
- **Protective Handles** - extend from the faceplate to protect the input / output connectors and attached cables from accidental damage.

INPUT COMPATIBILITY

The **IN2111Q** 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, RGSB, RGSB*
Horizontal Frequency Range:	15 KHz to 135 KHz
Vertical Refresh Rates:	30 Hz to 130 Hz

KEY CONCEPT

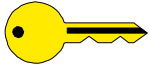


The **IN2111Q** will operate with RGSB input signals. However, the unit will not strip sync off of the green. RGSB input signals are always output as RGSB (they cannot be output as RGSB or RGBHV). Also, the horizontal position control will not operate when used with RGSB input signals.

OUTPUT COMPATIBILITY

The output signal of the **IN2111Q** is analog RGB video with TTL sync on 3, 4 or 5 female BNC connectors. The output format can be set to RGBHV, RGSB, or RGSB using dip switches. 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, and many of the video signals from the newest models may have very high scan rates (70 KHz or more) and very high resolution, with the newest VGA cards offering output resolution of 1600 x 1200 and even 1920 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. Please check the documentation for both the computer graphics card and the data display device to ensure compatibility.

ADAPTER / EXTENSION CABLES FOR INPUT AND LOCAL MONITOR OUTPUT

The **IN2111Q** has 15-Pin HD VGA-type connectors for input and local monitor output. The following input and local monitor output cables are available.

Computer	3'	6'	12'	25'
VGA: 15-Pin HD				
Input Cable	IN8003	IN8006	IN8012	IN8025
Output Cable (optional)	IN8003	IN8006	IN8012	IN8025
MAC: 15-Pin D				
Input Cable		IN9140		IN9144
Output Cable	IN9141			IN9145
SUN: 13W3 (may also be used with SGI with RGSB output)				
Input Cable		IN9142		IN9146
Output Cable	IN9143			IN9147
Workstation: 5 BNC				
Input Cable		IN9048	IN9046	
Output Cable		IN9047	IN9045	

INSTALLATION

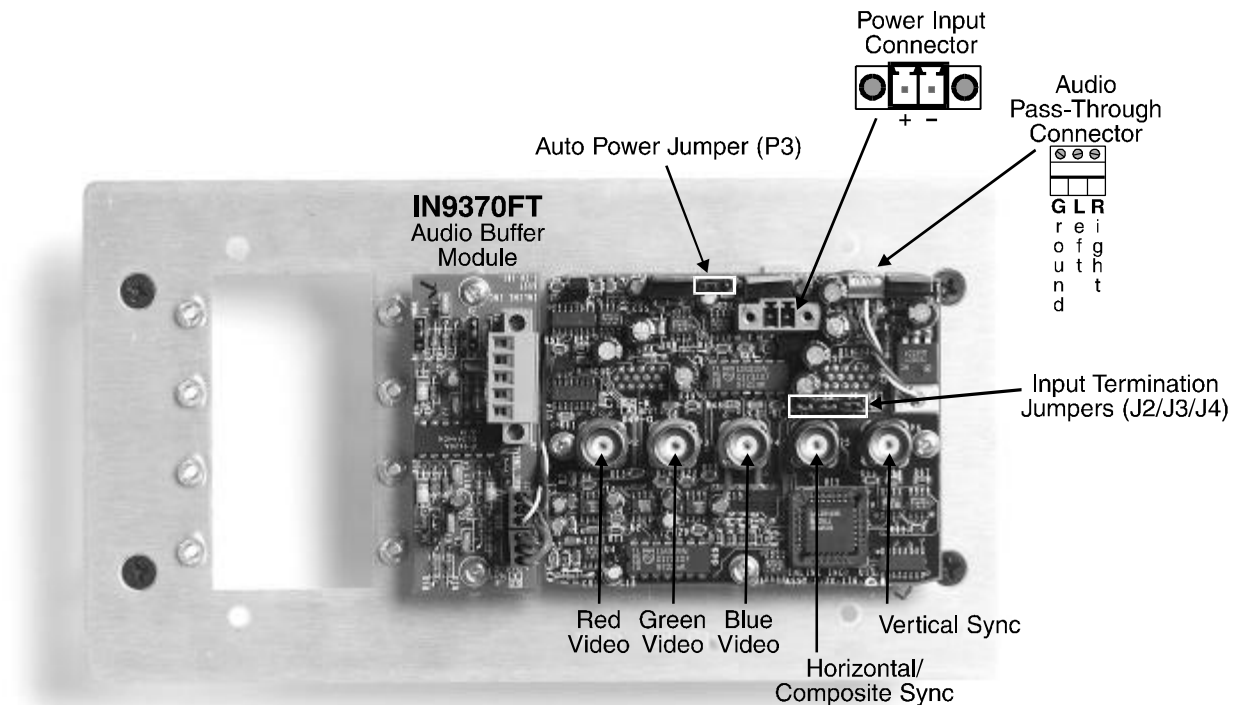
CAUTION: *Installation of the IN2111Q must only be carried out by qualified technicians. Care must be taken to avoid static shock to the internal components.*

This section offers step-by-step instructions for installing the **IN2111Q**. The diagrams on pages 4 and 6 show the location and function of the **IN2111Q** connections and jumpers. An application diagram is located on page 5.

1. Install the junction box in accordance with standards set forth in the National Electrical Code. Secure the junction box with nails (2 places minimum) if mounting to a wooden stud or self-tapping screws when attaching to a metal stud. You may also install the interface in an existing 4-gang junction box. Run the video coax cable, power cable, and any other audio, video, phone, data or control cables (if used) to the junction box.
2. Connect the **IN2111Q** output (5 BNC connectors) to the data display device's RGB input, using three, four, or five high resolution BNC cables or a multi-conductor RGBHV, RGBS, or RGB "snake". The **IN7000 / IN7100 / IN7200 / IN7300 Series** high resolution cables and **IN8800 Series** installation cable are well suited for this purpose. Take care while making connections to ensure that the red output is connected to the red input, green output to the green input, etc. (see diagram on page 4).
3. Connect the left, right and ground conductors on the audio cable to the **IN2111Q** 3-pin mini Phoenix connector. This connector will accept stranded or solid cables from 20 - 26 AWG. For audio output connections using the IN9370FT buffered audio module, see page 8. Connect cables as required to the back side of the IN93XX A/V connector modules.
4. Connect the power cable to the unit. The power connector has a sticker showing the correct polarity. **Be extra careful to connect positive to the (+) connector and negative to the (-) connector. Connecting the power with reversed polarity may permanently damage the unit! If in doubt, measure the power cable with a voltmeter to verify positive and negative.** The **IN9204** 9 VDC 500 mA power supply (included) will power one **IN2111Q**. You may also use the optional **IN9210** rack mounted power supply which will power up to 10 interfaces. The power cable used to connect the power supply to the interface should be 18 gauge to 22 gauge, depending on the length of the cable. Inline offers the **IN8500P-2** power cable, an 18 gauge, 2-conductor, plenum rated cable.
5. The factory default setting is auto power disabled (P3 jumper placed on left pin and center pin) meaning that the interface is powered up as soon as 9VDC power is applied. If you want to use the auto power feature so that the interface automatically powers up when the input cable is attached, move the P3 jumper to cover the center pin and right pin (see diagram on page 4).
6. Carefully attach the **IN2111Q** to the outlet box, making sure no cables are pinched or damaged.
7. Using the 3/32" allen wrench provided (**IN9334**) or the Inline **IN9333** alignment tool, remove the screws on the front access plate to gain access to the dip switches. Set the dipswitches as appropriate for your installation (see page 7 for more details). The **IN2111Q** factory default output format is RGBHV. If your display device, routing system, or cabling require a different format, use the dip switches to change the output signal to RGBS or RGsB as desired. Replace the access plate and tighten the hex screws.
8. Turn the computer and computer monitor off. Disconnect the computer monitor (if present) from the video output port on the computer.
9. Connect the local computer monitor (if present) to the local monitor output of the **IN2111Q**. VGA monitors will attach directly to the local monitor output. For other types of monitors, use the appropriate local monitor output adapter cable (see list on page 2). If no local monitor is used, set the monitor emulation dip switch to emulate a color VGA monitor or a 13/14" MAC RGB monitor.
10. Connect the computer graphics card video output to the **IN2111Q** Input using the appropriate input cable (see list on page 2).
11. Connect the computer sound card output (if present) to the audio input connector using an **IN9106** audio patch cable. For computers with RCA connectors, use the **IN9107** audio adapter cable.
12. Complete the installation by turning the computer and computer monitor on. If required, adjust the horizontal position control to center the image on the data display device.

IN2111Q WITH IN9370FT MODULE

Rear View (PCB) Showing Connectors and Jumpers



Auto Power Jumper

Left Position: Auto Power Disabled - Unit is always on
 Right Position: Auto Power Enabled - Unit turns on / off when a cable is connected or disconnected to the input connector

When the Auto power feature has been enabled (jumper placed on the center pin and right pin), the **IN2111Q** turns on when a cable is connected to the input port and turns off when the cable is removed from the input port. The auto power function is triggered on or off when pin 10 on the 15-Pin HD input connector is grounded or ungrounded. Auto Power On / Off is ideal for installations where the DC power will remain on continuously. This feature keeps heat to a minimum and reduces usage of the interface circuitry since the interface only turns on when an input cable is attached to the input.

When auto power has been disabled (jumper on the left pin and the center pin) the unit remains on as long as DC power is applied. The factory default setting is auto power disabled.

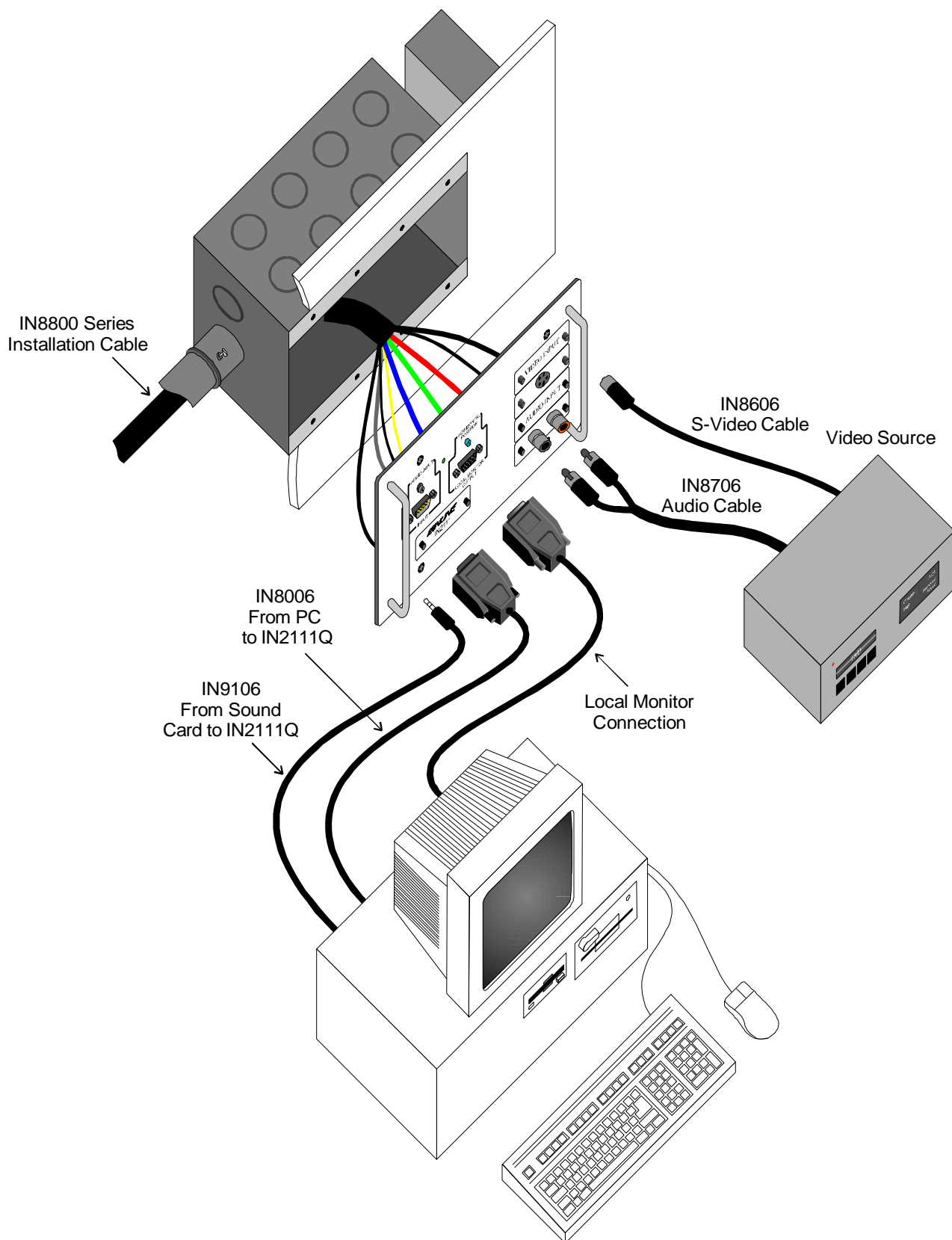
Input Termination Jumpers (RGB)

Jumpers Closed: 75 ohm termination
 Jumpers Removed: High Z

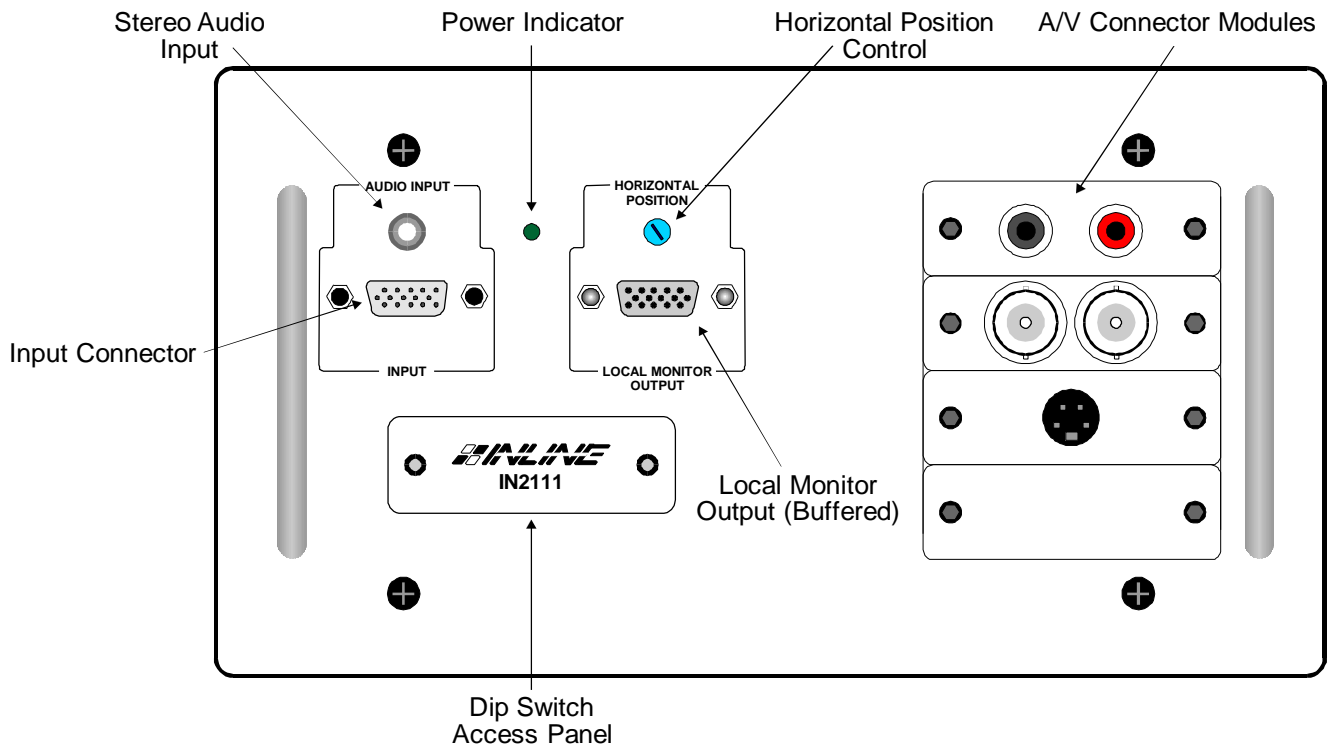
The factory default setting is 75 ohm input termination. This setting is used in the majority of applications and is compatible with **IN8000** series input cables and adapter input cables such as the **IN9140**, **IN9142** and **IN9048**.

Input termination may be set to High Z for special applications employing a custom special loop-through input cable such as the **IN9041**. The loop-through cable provides signal for the local monitor and the monitor provides the necessary 75 ohm termination. In this type of installation, the buffered local monitor output is now available to drive a second display device while a third data display may be connected to the main data display output (5- BNC connectors).

IN2111Q APPLICATION DRAWING



IN2111Q FRONT PANEL CONNECTORS AND CONTROLS



HORIZONTAL POSITION CONTROL

The location of the horizontal position control is indicated in the diagram above. The horizontal position control adjusts the position of the image on the data display device from left to right (it has no effect on the local computer monitor).

Most data projectors and monitors have their own horizontal position control, and the interaction of the display device's horizontal control and the interface's horizontal control may result in a dark image on the data display. The following procedure is suggested to ensure best results:

1. Adjust the **IN2111Q** horizontal position control so a good quality image is displayed. Don't worry about centering the image, just look for the setting which provides the best quality image. The horizontal position control should not be set to an extreme position.
2. Adjust the display device horizontal position control until the image is centered as desired.
3. If the image appears dark or the colors are not properly displayed, fine tune the controls on both the display device and the interface until the picture is centered and a good quality image is attained.

DIP SWITCH SETTINGS

Most installations will not require any changes to the dip switch settings, and the **IN2111Q** will generally be operated with the factory default settings. The Factory Default settings and specialized dipswitch settings are indicated below.

Factory Default Settings



Dip Switches ON:	2 & 4
Signal Format:	RGBHV
Horizontal Position Control:	Enabled
H & V Sync Polarity:	Negative, Negative
Monitor Emulation:	Disabled

The table below lists the functions of the 6 dip switches:

DIP SWITCH	FUNCTION	SETTING
1	Horizontal Position	1 = Disabled 0 = Enabled
2	RGsB Output (Sync on green)	1 = RGSB or RGBHV 0 = RGsB
3	RGSB or RGBHV Output (dip switch 2 must be set to 1)	1 = RGSB 0 = RGBHV
4	RGBHV Output Sync Polarity	1 = Negative, Negative 0 = Mirror Input Polarities
5	Serration Pulse Removal (for RGSB 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

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

The following output sync settings provide maximum sync signal preservation and are recommended for best image quality with LCD, DMD, ILA, 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 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.

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

IN9370FT AUDIO BUFFER MODULE

The **IN2111Q** can be ordered with an **IN9370FT** audio buffer module. This factory installed optional module takes unbalanced stereo audio input, buffers the signal and outputs the signal as balanced stereo audio. This is desirable for systems where the **IN2111Q** audio signal will be connected to equipment with balanced audio inputs and is helpful in preserving signal integrity and minimizing outside signal interference with sending the audio signal over lengthy cable runs. The output can also be set for unbalanced stereo audio if desired.

IN9370FT Input Signal Factory Pre-Wiring

In the factory default installation, the **IN9370FT** is pre-wired at the factory to accept unbalanced stereo audio input from the 3.5mm Stereo Mini audio input connector (located on the left end of the interface immediately above the 15-pin HD computer video input connector). The **IN9370FT** can be pre-wired at the factory to accept input signal from audio connectors on one of the A/V connector modules (this special alternative wiring must be requested at time of order).

IN9370FT Jumper Settings

J2 and J3 set the output for either balanced or unbalanced. J4 balances or unbalances the left side audio signal. J5 balances or unbalances the right side audio signal. All four jumpers (J2, J3, J4, J5) need to be set in the same position.

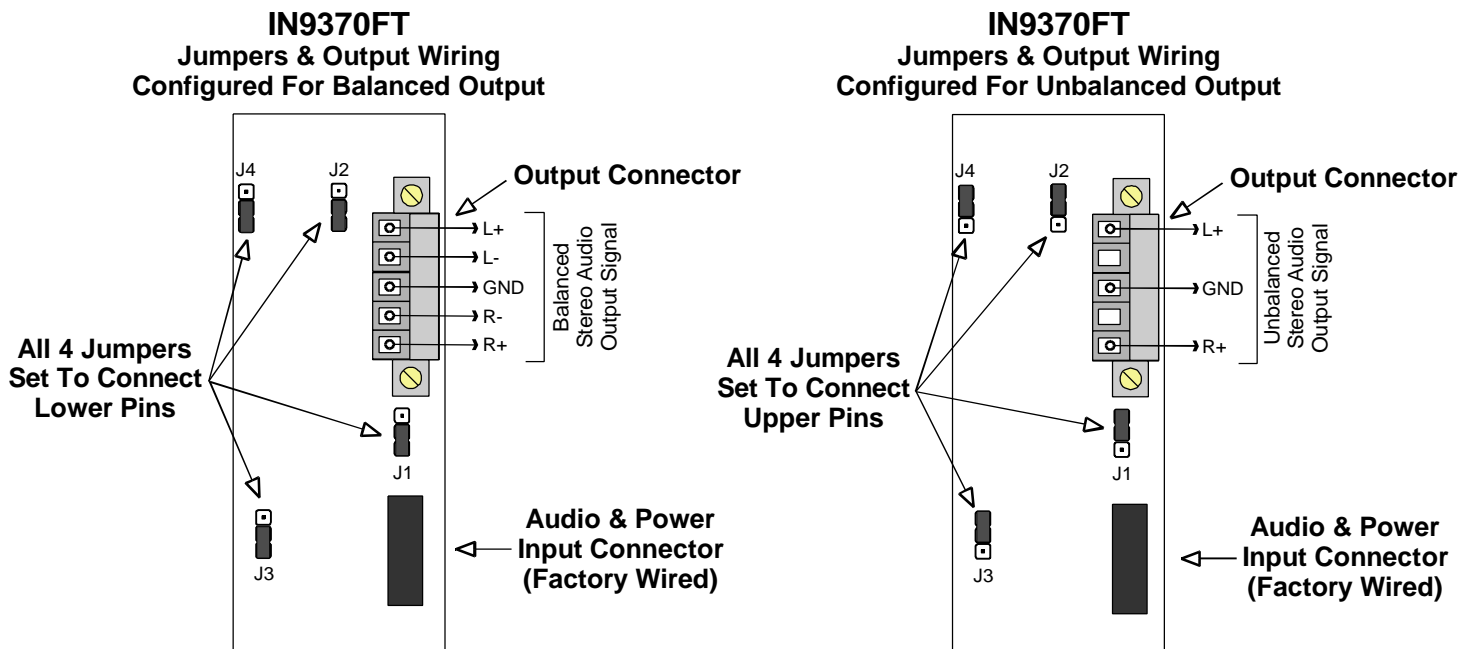
Balanced Output Signal: Set J2 / J3 / J4 / J5 to Connect Bottom 2 Pins

Unbalanced Output Signal: Set J2 / J3 / J4 / J5 to Connect Upper 2 Pins

Note: Connections to J1 and J7 are pre-wired at the factory and may only be modified by trained technicians. J7 is used for power input, and J1 is the audio input.

IN9370FT Output Connector

Balanced or unbalanced stereo audio output signal is provided on a 5-pin captive screw connector. It is important that connections are made as appropriate for balanced or unbalanced output as indicated in the diagram below.



AUDIO / VIDEO / PHONE / DATA / SWITCH / COMPUTER CONNECTOR MODULES

The following connector modules are compatible with the IN2111Q / IN2111FT / IN2111F8 / IN2111R / IN2112F8 / IN2112R / IN2116 / IN3260 / IN9166 / IN9167 / IN9168.

IN9350B/ IN9350W	Blairt Plate - Single Size	Nbrs	Nbrs	Single
IN9351B/ IN9351W	(2) BNC Barrel	(2) BNC Female	(2) BNC Female	Single
IN9352B/ IN9352W	(1) S-Video	4-Pin Mini DIN Female	4 Barrel Wires	Single
IN9353B/ IN9353W	(2) RCA	(1) RCA Female - Red (1) RCA Female - Black	(2) Solder Lug Terminals (2) Solder Lug Terminals	Single
IN9354B/ IN9354W	(2) 1/4" Stereo Phono	(2) 1/4" Stereo Phono Female	(3) Solder Lug Terminals (3) Solder Lug Terminals	Single
IN9355B/ IN9355W	(2) 3.5mm Mini Stereo	(2) 3.5mm Mini Stereo Female	(3) Solder Lug Terminals (3) Solder Lug Terminals	Single
IN9356B/ IN9356W	(1) 5-Pin Captive Screw Terminal	Phoenix Brand 5-Pin Captive Screw Terminal	(5) Solder Lug Terminals	Single
IN9357B/ IN9357W	(2) F-Connector Barrel	(2) F-Connector Female	(2) F-Connector Female	Single
IN9358DB/ IN9358DW	(1) RJ11	RJ11 Female	6-Pin Patch Block	Double
IN9359DB/ IN9359DW	(1) RJ45	RJ45 Female	8-Pin Patch Block for CAT 5	Double
IN9360B/ IN9360W	(1) Contact Closure Switch with LED & (1) 3.5mm Stereo Mini	Square White Single Pole Switch with Integral LED 3.5mm Stereo Mini Female	(4) Solder Lug Terminals (3) Solder Lug Terminals	Single
IN9361B/ IN9361W	(1) 15-Pin HD	15-Pin HD Female	15-Pin HD Female	Single
IN9362B/ IN9362W	(1) 15-Pin HD	15-Pin HD Male	15-Pin HD Male	Single
IN9363B/ IN9363W	(1) S-Video Barrel & (1) BNC Barrel	4-Pin Mini DIN Female BNC Female	4-Pin Mini DIN Female BNC Female	Single
IN9364DB/ IN9364DW	(1) 4-Pin XLR	4-Pin XLR Female (Neutrik)	(4) Solder Cups	Double
IN9365DB/ IN9365DW	(1) 3-Pin XLR	3-Pin XLR Female (Neutrik)	(3) Solder Cups	Double
IN9366DB/ IN9366DW	(1) 6-Pin XLR	6-Pin XLR Female (Neutrik)	(6) Solder Cups	Double
IN9367DB/ IN9367DW	Blairt Plate - Double	Nbrs	Nbrs	Double
IN9368TB/ IN9368TW	Blairt Plate - Triple	Nbrs	Nbrs	Triple
IN9369Q B/ IN9369Q W	Blairt Plate - Quad	Nbrs	Nbrs	Quad
IN9372DB/ IN9372DW	A/V SuperModule: (2) RCA - Audio & (1) RCA - Video & (1) S-Video	RCA Female - Red RCA Female - Black RCA Female - Yellow 4-Pin Mini DIN Female	(2) Solder Lug Terminals (2) Solder Lug Terminals (2) Solder Lug Terminals 4 Barrel Wires	Double
IN9373B/ IN9373W	(2) RCA Barrel	(2) RCA Female	(2) RCA Female	Single
IN9374B/ IN9374W	(1) 9-Pin D Gender Charger - Female	(1) 9-Pin D Female	(1) 9-Pin D Female	Single
IN9375B/ IN9375W	(2) Keyboard / Mouse Connectors	(2) 6-Pin Mini DIN Female	(2) 6-Pin Mini DIN Female	Single
IN9376B/ IN9376W	A/V SuperModule with Barrel Connectors: (2) RCA - Audio & (1) RCA - Video & (1) S-Video	RCA Female - Red RCA Female - Black RCA Female - Yellow 4-Pin Mini DIN Female	RCA Female RCA Female RCA Female 4-Pin Mini DIN Female	Double
IN9377DB/ IN9377DW	(2) RCA - Audio & (1) RCA - Video	RCA Female - Red RCA Female - Black RCA Female - Yellow	(2) Solder Lug Terminals (2) Solder Lug Terminals (2) Solder Lug Terminals	Double
IN9378B/ IN9378W	(1) 9-Pin D Gender Charger	(1) 9-Pin D Male	(1) 9-Pin D Male	Single
IN9381B/ IN9381W	(1) BNC Barrel	(1) BNC Female	(1) BNC Female	Single
IN9382B/ IN9382W	(1) F-Connector Barrel	(1) F-Connector Female	(1) F-Connector Female	Single
IN9383B/ IN9383W	(1) RCA Barrel	(1) RCA Female	(1) RCA Female	Single
IN9384B/ IN9384W	(1) 1/4" Stereo Phono	(1) 1/4" Stereo Phono Female	(3) Solder Lug Terminals	Single
IN9385B/ IN9385W	(1) 3.5mm Mini Stereo	(1) 3.5mm Mini Stereo Female	(3) Solder Lug Terminals	Single
IN9386B/ IN9386W	(1) BNC Barrel & (1) 3.5mm Stereo Mini	BNC Female 3.5mm Mini Stereo	BNC Female (3) Solder Lug Terminals	Single
IN9387B/ IN9387W	(1) S-Video & (1) 3.5mm Stereo Mini	4-Pin Mini DIN Female 3.5mm Mini Stereo	4 Barrel Wires (3) Solder Lug Terminals	Single
IN9388B/ IN9388W	(1) RCA for Video & (1) 3.5mm Stereo Mini	Yellow RCA Female	(2) Solder Lug Terminals	Single
IN9389B/ IN9389W	(1) 6-Pin Mini DIN Barrel (PS/2 Keyboard / Mouse)	(1) 6-Pin Mini DIN Female	(1) 6-Pin Mini DIN Female	Single

SPECIFICATIONS

Input	
Connector type	15 Pin HD male
RGB Video Signals	Analog, 0.7 Vp-p Nominal
Input Impedance	75 Ohms
Sync Signals	TTL compatible
Horizontal Scan Range	15.0 KHz - 135.0 KHz
Vertical Scan Range	30 Hz - 130 Hz
Stereo Audio Input (passive)	Connector: 3.5mm Stereo Mini Female Signal: Mic Level, Line Level or Speaker Level - 4A / 50V max.
Output	
Buffered Local Monitor	15-Pin HD female - standard VGA pin-outs
Stereo Audio Output (passive)	3-pin Mini Phoenix Captive Screw Terminal
Stereo Audio Output with IN9370FT Installed (Buffered)	5-pin Phoenix Captive Screw Terminal
Main Output	5 BNC Female connectors
Output Signal Formats	RGBHV - Negative Sync Polarities (Default), RGBHV - Mirror Input Sync Polarities, RGSB or RGSB
RGB Signals	Analog Video, 75 ohm impedance
Bandwidth	400 MHz @ -3 dB with .7 volt input signal
Rise and Fall Times	0.875 nano seconds
Gain	1.0 ± 5% (Unity)
Sync Signal	H, V and S: 4V unterminated; 2V when 75 ohm terminated Gs: 0.3V when 75 Ohm terminated
Horizontal Pulse Width	Horizontal Position Enabled: approximately 1.5 μsec Horizontal Position Disabled: Approximately the same as the input signal
Vertical Pulse Width	Approximately the same as the input signal
Controls	
External	Horizontal Position Control Dip Switches (Behind Dip Switch Access Panel)
Internal	75 ohm / High Z Termination for Red, Green and Blue (3 jumpers) Auto Power Enabled / Disabled (jumper)
Dimensions	
Size (including junction box)	4.5" H x 8.2" W x 3" D / 11.4cm x 20.8cm x 7.6cm
Shipping Weight	4 lbs. / 2 Kg
Power	
Power Supply	IN9204: External AC to DC Power Transformer, 9V 500 mA terminated with IN9318 2-Pin Phoenix Connector
Power Connector	2-Pin Phoenix Captive Screw Terminal
Optional Power Equipment	IN9210: Rack Mountable Power Supply, Powers up to 10 units IN8500P-2: 2-Conductor, 18 gauge, plenum rated power cable
Regulatory Compliance	
Safety	UL 1950, 3 rd Ed.; CE: EN60950-92; CAN/CSA-22.2 No. 950 3 rd Ed.
EMI	FCC class A; CE: EN50081-1, EN55022, EN50082-1

Parts Included

- (1) **IN2111QB** or **IN2111QW** Installation Interface
- (1) **IN9204**: External Power Supply, 9V; 500 mA with IN9318 2-Pin Phoenix Connector
- (1) **IN9153**: 2-Gang Junction Box, 2.5" deep
- (1) **IN9155**: 3/4" Romex Connector, Cable Strain Relief
- (1) **IN9333**: Adjustment Tool
- (1) **IN9334**: 3/32" Allen Wrench for IN2111Q Hex Screws
- (1) Operation Manual

Required Accessories (ordered separately)

Input & Local Monitor Output Adapter and Extension Cables

- VGA: **IN8000 Series** 15-Pin HD Male to 15-Pin HD Female, Various Lengths from 3' to 100'
- For other Computers: See list on page 2
- IN93XX A/V Connector Modules** - See list on page 9

Optional Accessories

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

Output Cables

- IN7000-5 Series RGBHV Cable**: Standard 5 - BNC Cable available in a variety of lengths from 6' to 250'
- IN7100-5 Series RGBHV Cable**: High Resolution 5 - BNC Cable, available in lengths from 6' to 250'
- IN7200-5 Series RGBHV Cable**: Ultra High Resolution 5 - BNC Cable, available in lengths from 6' to 250'
- IN7300-5 Series RGBHV Cable**: Super High Resolution 5 - BNC Cable, available in lengths from 6' to 250'

Mounting Hardware / Tools

- IN9157**: 2-Gang Junction Box, 3.5" deep
- IN9154**: 3/4" EMT Conduit Coupler, Set-Screw Type - Connects IN9153 / IN9157 to 3/4" Conduit
- IN9155**: 3/4" Romex Connector, Cable Strain Relief - For IN9153 / IN9157

TROUBLESHOOTING

The display device connected to the IN2111Q output has a bad/scrambled image.

Solution 1: Verify that the correct input cable is being used (see list on page 2).

Solution 2: The display device connected to the output of the interface may not be compatible with the computer output. Standard 640 x 480 VGA runs at 31.5 KHz, but SVGA can be as high as 48 - 58 KHz depending on the vertical refresh rate. PC, MAC, Sun and other high resolution workstations have new 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 dip switch settings to make sure the unit is putting out a sync format that the display device can use. For most applications the default dip switch settings (see page 7) will work best. For LCD / DMD displays, you may have to disable the horizontal position control.

Solution 4: The RGSB or RGBHV cable may have a bad sync line. Try running the sync through another cable.

The output image is very dark.

Solution: The horizontal position control may be set off to an extreme position or may be interacting poorly with the horizontal position control on the display device. Follow the horizontal position adjustment procedure listed on page 6.

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 displays work best when the sync signal has minimum sync processing. Set the interface dip switches as indicated in the section **OPTIMAL SETTINGS FOR LCD / DMD DISPLAYS** on page 7. Setting the interface to RGBHV output and 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.

The output image is missing a color.

Solution: Possibly the output RGSB 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 green is displayed or not.)

The output image is very bright and overdriven looking with poor contrast.

Solution 1: The signal may be unterminated. Check the internal termination jumpers (page 4) to ensure they are set for 75 Ohm termination.

Solution 2: Check the contrast and brightness settings on the display device. Many CRT type display devices look best with the contrast set toward the upper end of the adjustment range (75 - 95%) and the brightness set towards the middle of the adjustment range (40 - 60%).

The output image is too green.

Solution: The dip switches may be set for Sync on Green output and the display device doesn't like that format. Try changing the dip switches to output an RGSB or RGBHV signal.

The horizontal position control is not working.

Solution 1: Check the dip switch settings (page 7) to see if the horizontal position control has been disabled.

Solution 2: The input signal may be RGSB (sync on green). The horizontal position control does not work with RGSB input signals.

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 (800) 882-7117 for further assistance.

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.**

The information in this manual has been carefully checked and is believed to be accurate. However, Inline, Inc. assumes no responsibility for any inaccuracies that may be contained in this manual. In no event will Inline, Inc. be liable for direct, indirect, special, incidental, or consequential damages resulting from any defect or omission in this manual, even if advised of the possibility of such damages. The technical information contained herein regarding IN2111Q features and specifications is subject to change without notice.

IBM is a registered trademark of International Business Machines. Apple, MAC, Quadra and Centris, are registered trademarks of Apple Computers, Inc. Iris Indigo is a registered trademark of Silicon Graphics. Sun Sparc Station is a registered trademark of Sun Microsystems, Inc. All other trademarks and registered trademarks are the property of their respective companies.

All Rights Reserved © Copyright 1998

© INLINE, INC. " 22860 SAVI RANCH PARKWAY " YORBA LINDA, CA 92887
 (800) 882-7117 " (714) 921-4100 " FAX (714) 921-4160 " www.inlineinc.com