



A WORLD OF A/V SOLUTIONS



DISTRIBUTION AMPLIFIERS

**DAT104**  
1-INPUT, 4-OUTPUT DFP/DVI DISTRIBUTION AMPLIFIER



**DAT104**

**OPERATION MANUAL**



## 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 ausgetauscht 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.**



### 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.

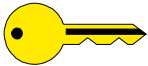
## Product Overview

The **DAT104** is a high-resolution video distribution amplifier designed to split and buffer the digital signals from a single computer graphics card to four flat panel displays, plasma monitors, LCD projectors or other display devices that feature DFP or DVI digital video inputs. The **DAT104** features DFP (Digital Flat Panel) connectors for input and outputs, allowing for direct connection to digital video sources and displays.

### PRODUCT FEATURES

- **Four Individual Outputs** - One digital source can drive up to four digital displays simultaneously.
- **Buffered Outputs** - The **DAT104** provides the necessary circuitry to send digital signals up to 75 feet (when used with **INLINE IN9700 Series** High Performance Digital Video Extension Cables).\*

#### KEY CONCEPT



*\* XGA resolution signals can be sent through 75' of **IN9700 Series** High Performance Digital Video Extension Cable without significant loss of signal integrity. Signals run in SXGA format should not be extended more than 60'.*

- **Compatible With DVI (Digital Visual Interface) Connectors** - when used with **INLINE IN9700 Series** cables, **IN9280 Series** adapters and DFP / DVI Digital Video Patch Cables (see table of available cables on page 6).
- **Direct Digital Connection** - eliminates complicated manual video adjustments and preserves picture integrity.
- **High Bandwidth of 1.1 Gigabits / Second** - supports signals up to 1280 x 1024 resolution (SXGA @ 60 Hz).
- **Output 1 Provides an EDID (Extended Display Identification Data) Link** - enabling the computer's video graphics card to communicate with the local display device and automatically configure itself for the appropriate resolution and refresh rate.
- **Compatible with Single Link T.M.D.S. (Transmission Minimized Differential Signaling) Digital Signals.**
- **Rack Mountable** - Two units can be mounted side-by-side in a 1U rack space.
- **Compact, Durable Metal Enclosure** - offers the perfect solution for all types of audiovisual rental and installation applications.
- **Internal Power Supply.**

## Compatibility

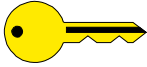
### INPUT

The **DAT104** will accept a single link TMDS signals with at resolutions up to 1280 x 1024 (SXGA). The unit accepts the signal on a 20-pin DFP connector. The **DAT104** will also accept single link TMDS based signals from DVI ports when used with the appropriate video adapter cable (see the list on page 6).

### OUTPUT

Featuring four (4) independently buffered DFP (MDR20) video output ports, the **DAT104** can drive up to four display devices simultaneously. The output signals are compatible with flat panel displays, plasma monitors, LCD projectors and other display devices that accept digital video signals.

#### KEY CONCEPT



*Due to the nature of TMDS signaling, all display devices connected to the DAT104 must have the same native resolution. Output 1 provides an EDID data link between the local display device and the computer's video graphics card. The computer graphics card senses the native or optimal resolution of the data display connected to Output 1 and configures the video signal to the ideal resolution for that display. If the displays connected to Outputs 2, 3 and 4 on the DAT104 have a different native resolution than the display connected to Output 1, they will not operate properly.*

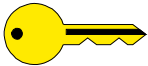
## Installation

This section offers step-by-step instructions for installing the **DAT104** distribution amplifier. An Application Diagram is provided on the following page.

*Note: Read the instructions carefully before initiating the installation procedure. Make sure there is no power connected to the **DAT104** and all power switches are in the OFF position.*

1. **Place / Install the DAT104** - at the desired location. Make sure that the distribution amplifier is seated on a flat surface or is securely installed in a standard 19" equipment rack using an optional **IN9080** rack shelf. *When attaching any **INLINE** unit to an **INLINE** rack mount shelf, the four (4) rubber feet must be removed from the bottom of the unit.* Secure the unit to the rack mount shelf using two (2) #6 - 32 x 1/4" long screws (provided with the rack shelf). Two units can be mounted side-by-side on a single rack shelf, or a single unit may be mounted along with an optional **IN9088B** blank plate. Together, the **DAT104** and the **IN9080** fit snugly in a 1U rack space.
2. **Connect all Display Devices** - to the **DAT104** output connectors using **IN9700 Series** High Performance Digital Video cables or DFP / DVI Patch Cables (available in a variety of lengths - see page 6). Be sure to connect a display to Output 1.

### KEY CONCEPT

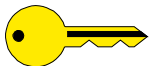


*Unlike analog video signals that degrade gradually over long cable runs, TMDS digital signals work perfectly up to a certain cable length where "random noise" intrusion begins and then quickly dominates the signal. When SXGA TMDS digital signals are run through conventional DFP / DVI patch cables, random noise encroachment can sometimes begin after the first 15 - 20 feet of transmission! To overcome these distance limitations, special differential-pair cables must be used to permit longer cable runs. **INLINE IN9700 Series** DFP / DVI Extension Cables are specifically engineered to carry TMDS digital signals up to 75 feet (XGA resolution) while maintaining signal integrity.*

3. **Connect the Video Source** - to the **DAT104** MDR20 input connector using **IN9700 Series** High Performance Digital Video cables or DFP / DVI Patch Cables (available in a variety of lengths - see page 6).

*Note: All unused outputs are automatically terminated, eliminating the need for termination plugs.*

### KEY CONCEPT

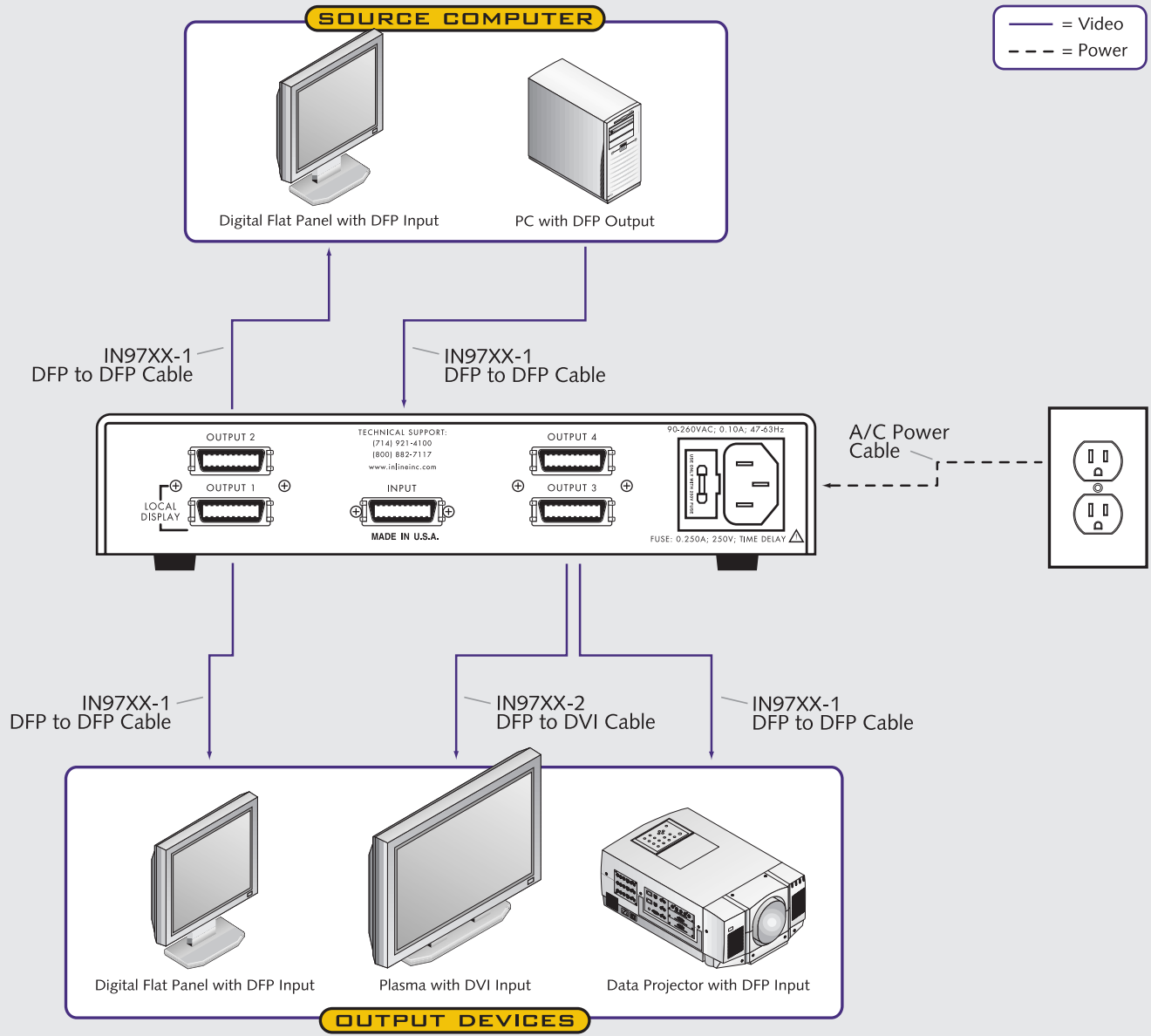


*Regardless of the application, a display device **must** be connected to Output 1 (Local Display). This output port is essential for establishing signal protocol with the computer graphics card.*

4. **Apply Power to the Unit** - using the **IN9230** IEC to Edison Power Cord (U.S. only). The power LED on the front of the unit will illuminate.
5. **Turn On** - the computer, local display and remote monitors.

# DAT104 DFP/DVI DISTRIBUTION AMPLIFIER

# APPLICATION DIAGRAM



## Specifications

DAT 104 Distribution Amplifier	
<b>Input</b>	
Connector Type	(1) MDR20 female connector
Signals	Single link TMDS digital video signals
Compatible Signals	Resolution up to 1280 x 1040
Input Impedance	100 ohms differential
<b>Output</b>	
Buffered Local Display	(1) MDR20 female connector
Main Output	(3) MDR20 female connectors
Output Format	Single link T.M.D.S. digital video signals
EDID Data	Data is passed to output 1
Bandwidth	1.1 Gigabits / second
<b>General</b>	
Power Supply	Internal: 90 - 260VAC; 0.10A; 47 - 63Hz
Dimensions	1.65"H x 8.5"W x 6"D / 4.2cm x 21.6cm x 15.2cm
Product Weight	2 lbs. / 0.9 kg.
Shipping Weight	4 lbs. / 2 kg.
Regulatory Approvals	UL 1950, CAN/CSA-22.2 No. 950, Third Edition FCC class A; CE: EN55022 (1987), EN50081-1 (1991), EN50082-1 (1992 and 1994), EN60950-92

### Parts Included

- (1) **DAT104:** Distribution Amplifier
- (1) **IN9230:** IEC Power Cable, 6' long (USA only)
- (1) **IN9339:** Adjustment Tool with Technician's Blade
- Operation Manual

### Additional Accessories

#### Mounting Hardware

- IN9080 Rack Shelf:** mounts two units side-by-side in a 1U rack space
- IN9088B Blank Plate:** fills the empty space on the rack shelf when mounting only one **DAT104**

## INLINE Digital Video Cables and Adapters

### Accessories for DAT104

#### IN9700 High Performance Digital Video Cables - Use for Cable Runs from 25' to 75'

**IN9725-1:** DFP Male to DFP Male, 25'  
**IN9735-1:** DFP Male to DFP Male, 35'  
**IN9750-1:** DFP Male to DFP Male, 50'  
**IN9775-1:** DFP Male to DFP Male, 75'

**IN9725-2:** DFP Male to DVI Male, 25'  
**IN9735-2:** DFP Male to DVI Male, 35'  
**IN9750-2:** DFP Male to DVI Male, 50'  
**IN9775-2:** DFP Male to DVI Male, 75'

**IN9725-3:** DVI Male to DVI Male, 25'  
**IN9735-3:** DVI Male to DVI Male, 35'  
**IN9750-3:** DVI Male to DVI Male, 50'  
**IN9775-3:** DVI Male to DVI Male, 75'

#### DFP / DVI Digital Video Patch Cables - Use for Cable Runs up to 15'

**DFPM-DFPM-3:** DFP Digital Video Cable, MDR20 Male to Male, 3'  
**DFPM-DFPM-6:** DFP Digital Video Cable, MDR20 Male to Male, 6'  
**DFPM-DFPM-15:** DFP Digital Video Cable, MDR20 Male to Male, 15'

**DFPM-DVIM-3:** DFP / DVI Digital Video Adapter Cable, MDR20 Male to DVI Male, 3'  
**DFPM-DVIM-6:** DFP / DVI Digital Video Adapter Cable, MDR20 Male to DVI Male, 6'  
**DFPM-DVIM-15:** DFP / DVI Digital Video Adapter Cable, MDR20 Male to DVI Male, 15'

**DVIM-DVIM-3:** DVI Digital Video Cable, DVI Male to Male, 3'  
**DVIM-DVIM-6:** DVI Digital Video Cable, DVI Male to Male, 6'  
**DVIM-DVIM-15:** DVI Digital Video Cable, DVI Male to Male, 15'

#### DFP / DVI Adapters

**IN9280:** Digital Video Adapter, MDR20 Female to DVI Male



## Troubleshooting

**Problem:** There is no image on any of the display devices.

**Solution 1:** Make sure that the **IN9230** IEC power cable is securely plugged into the **DAT104** and the A/C source.

**Solution 2:** Make sure the A/C source is live.

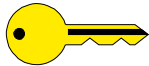
**Solution 3:** Verify that the power switch is turned on for the video source and all display devices.

**Solution 4:** Verify the connections to all the output display devices.

**Solution 5:** Verify that OUTPUT 1 (local display) is connected to a display device.

**Solution 6:** Verify that all data projectors, monitors or other output devices are compatible with the resolution and refresh rate output by the computer's video graphics card.

### KEY CONCEPT



*For optimal compatibility and image quality, all display devices connected to the **DAT104** should have the same native resolution as the display connected to Output 1.*

**Problem:** One of the display devices has no image.

**Solution 1:** Verify that the device's power switch is turned on and that the power cable is securely plugged into the A/C source.

**Solution 2:** Make sure the A/C source is live.

**Solution 3:** Verify the connection to the display device.

**Solution 4:** Verify that the output device is compatible with the resolution and refresh rate output by the computer's video graphics card.

**Problem:** The power switch is turned on, but the front panel POWER LED is dark.

**Solution 1:** Make sure that the **IN9230** IEC power cable is securely plugged into the unit and the A/C source.

**Solution 2:** Make sure the A/C source is live.

**Solution 3:** The **DAT104** contains a 0.250A / 250V time delay fuse. To change the fuse, remove power from the unit, slide out the fuse holder (located on the rear panel to the left of the IEC cable receptacle) using the **INLINE** alignment tool.

**Problem:** One of the display device connected to the **DAT104** output has a bad / scrambled image.

**Solution:** All display devices connected to the **DAT104** *must* be compatible with computer's video card's output signal resolution. Make sure that all displays connected to the **DAT104** have the same native resolution as the display connected to Output 1.

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

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