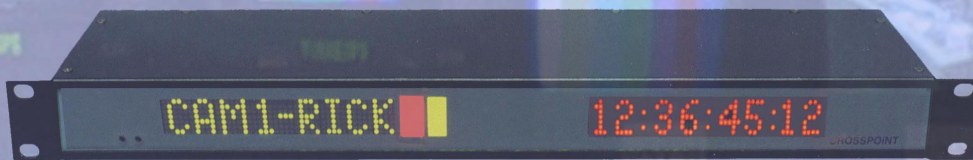


CROSSPOINT

Under Monitor Display Manufacturer

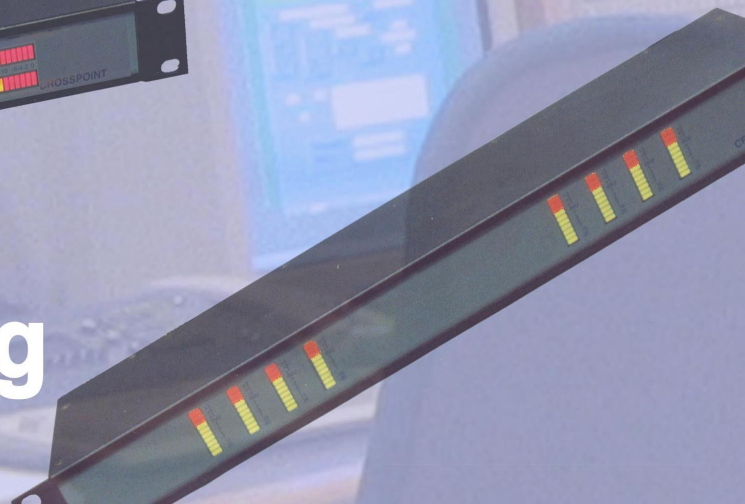


under
monitor
displays

2008-2009



audio
monitoring
displays



CROSSPOiNT

was founded in 1993.

His founder's expertise soon allows the company to start designing equipments to improve the production process in TV Studios. Since then, CROSSPOiNT design, manufactures, market and support a wide range of UNDER MONITOR DISPLAYS (UMD) to precisely signalling of Text, Tally, Audio levels and Time code in TV Broadcast environments. Widely used in all those areas where a clear and bright signalling is a requirement for and easier and more efficient TV rooms operation. CROSSPOiNT sell internationally through a wide Distributor's network that covers most developed countries. And it's all backed by our pre-sales and post-sales services in a continued effort to achieve not only the best but the improvement of the products made by

CROSSPOiNT

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Under Monitor Display Systems

(for Tally Signaling in TV Studios and TV OB Vans)

TUTORIAL

INTRODUCTION

The rapid development of the technological progress we are witnessing in the TV production and broadcasting world, allowing for ever-increasing amounts of information to be handled in spaces progressively smaller, demands the development of Under Monitor Signaling Systems (UMD) with Text and Tally, whenever there is interaction of mixers, switching routers, automation systems, etc. In such cases, it is no longer feasible to divide an installation into small islands, each carrying out simple tasks: instead, flexible and sophisticated controls are required, capable of adapting to needs that may change even within a given program.

Where, no long ago, a simple label taped under each video monitor, indicating the origin (or destination) of the displayed signal was sufficient, now it is preferable to take into account the state of the system as a whole: to be able to change the identification tag shown under each monitor, so that the operators can instantly monitor the state of the system. A flexible installation needs a versatile signaling system, capable of obtaining



information of the state of the mixer or commutation elements, including the selected monitor input, so as to avoid errors, and not only operating errors, but also instances of time-out lapses while locating problems.

The speed at which changes are being introduced in the technology and work philosophy within the audiovisual world, points to **open Under Monitor Display signaling systems, with capability for expansion and interaction with products of different manufacturers**, as the most sensible option.

It is not just a matter of merely exchanging a label taped under a video monitor for a illuminated sign which doesn't offer additional information (only improves the look). It is necessary to give the operator a tool which allows him to know, at a glance, the state of the system and its configuration; so as to enable him to identify precisely the signals being displayed; to locate, without searching for them, the signals "on the air". It should be possible for a text to follow input B of a monitor, even to access such input remotely (with almost no wiring). Likewise, it should be possible to modify texts automatically following a routing switcher which has made a commutation or a salvo, or to store several configurations to non-volatile memory –to be recalled later by an automation system or by pressing a push-button on the Production desk.

Of interest for Continuities, is to be able to have a clock on any of the Displays (synchronized by the station time code), or a simultaneous display of several time zones. Using a double display (two independent messages on one rack unit), it is possible to show other world time-zones, with the left sign displaying the city name **highlighted** within that time-zone and the corresponding time on the right sign.

The present range of **Under Monitor Displays** by CROSSPOINT includes models with a single text window, or else, double or triple; of reduced width; tricolored; folding, and with several sizes of LED matrixes, so as to match perfectly the needs of every individual user. The new COMBO models allows text and audio bar-graph monitoring simultaneously. One more member of UMD's COMBO family allows simultaneous display of text and Time code derived from SDI vertical interval.

Our experience in handling different protocols has made it possible to achieve a versatile product which adapts to other manufacturers, even to those automation systems being currently designed.

ADVANTAGES

There are other characteristics that single out the **Under Monitor Displays System** by CROSSPOINT and make it suitable for TV Broadcast environment:

Installation:

Most of our equipment are powered directly from the 220VAC mains supply. This facilitates the power supply wiring and helps to keep better organized the rear of the rack where they are installed.

For communication between different elements over RS485 serial network, RJ11 connectors are used (connector installation takes less than 10 seconds) and standard telephone cable, which is more economical and adequate for up to 400

meters of data network: sufficient length for this kind of application. Using screened twisted-pair wire, distances of up to 1,200 meters can be bridged.

Interconnection:

The Option to serialize the Tally/GPI is available. Although the Displays admit direct input of Tally and GPI, it is advisable to use option "Tally IN", which allows the main HUB-DSP unit to receive those signals and send them over the RS485 network to the remote UMDs. In this way, each display receives only power supply and data, thus avoiding Tally and GPI signal wiring, which not only requires a great deal of time and money to install, but also turn into a problem any future modification of the installation.

It is also possible to obtain Tally information from routing switchers and mixers of certain manufacturers directly from a serial port, eliminating the added cost of changing from serial to parallel and back to serial.



Each Display within its interconnecting network is identified by a number. Frequently, this number is programmed at factory or using dip-switches located on the rear of unit. Whenever a Display has to be replaced due to malfunction or modification of the system, a great deal of time has to be spent in re-numbering the devices.

With CROSSPOINT's Under Monitor Displays, the change in number is performed with the miniature push-buttons on the unit's front, without removing the device from its place. Once the number has been changed (it takes less than 10 seconds), your monitoring panel can be reconfigured quickly, without de-soldering a single wire or loosening a single screw.

Assigning Tally/GPI in the main unit is mapped by software, so in case of modification there is no need to de-solder any wires. As indicated above, the same Tally input module permits the input of GPI to the HUB-DSP.

Dialogue With Other Equipments:

Like the "Tally IN" option already mentioned, several other options can be installed in the HUB-DSP Controller. Also, "Tally OUT", "additional serial ports" and "SMPTE clock" options can be installed.

Each "Tally OUT" option incorporates 32 relays (extensible to 64) and allows assigning a Tally level to commutation systems without one, or to generate Tallies in systems that go "on the air" through a routing switcher instead of through a Presentation Mixer. This situation is frequent today with Continuities serving multiple channels.

The "SMPTE clock" option incorporates an internal clock in the CPU, synchronized by an external LTC time-code signal, which keeps the count in case of time-code failure. The possibility of conveying the time signal to any display in the network, with several time-zones, is very convenient for via satellite broadcasts and sport events. Also, this option allows control of the COUNTDOWN function.

The "Additional Serial Ports" option makes possible to establish a dialogue with communication systems or routing switchers, obtaining their status, and also with Automation Systems. This allows the texts shown under the monitors to follow external systems, giving the operator a global view of the signals he is working with. This allows working in environments where the monitoring (wholly or partly) passes through a routing switcher, so maintaining both texts and Tallies actualized at all times. Sometimes, using a double Display under the Program monitor, the message on the right is used to indicate the name of the channel, and the left one for the source "on the air".

The dialogue with Automation systems makes it possible to present additional information, the state of VTR machines, malfunctions, countdown, etc.

Some protocols, already incorporated, allow communication with Routing Switchers, Mixers and Automations of most manufacturers, such as **Datatek, Leitch, Louth, Quartz, Thomson-GVG, Network, Omnibus, Pesa, Probel, Sierra Video, Sony, Telecast, Utah, Extron, IsisGroup...**

Remote Control:

CROSSPOINT displays are provided optionally with GPOs (non-isolated output with open collector) which can be controlled remotely over the RS485 network. This allows, for example, controlling output B of a monitor (if that possibility is available). Since the commands travel over the data network, there is no need for any additional wiring, which is very useful when it is necessary to control input B of monitors from a panel and we want to avoid the operator having to abandon his post. The window message will follow the change in video input, so that the operator will always be rightly informed. This application is just an example of the advantages of serializing GPI-type commands.

Security:

CROSSPOINT's experience with control systems within a Broadcast environment makes it possible to offer you a totally reliable product. Each CPU incorporates "Watch Dog" and a power micro-cuts detector which will reset equipment to its initial conditions, before it begins malfunctioning.

Improved Operator Working Conditions:

Besides giving the operator all necessary information, one should try to optimize his working conditions, for the operator must spend many hours in front of a great monitoring panel. CROSSPOINT panels are not restricted to 8 or 16 brightness levels, but allow gradual level adjustment in 1% steps, so as to find the level best adapted to the actual lighting conditions. Whenever a display goes into Tally situation, it will not only show led bars (red or green), but it will also change its brightness to the level determined as "Tally situation brightness" (1 to 100%). Generally, it operates with a low brightness and the sign will over-illuminate when signal is "on the air". In this way, the signal being emitted will be shown clearly even when color of Tally and of text coincide.

CROSSPOINT uses variable-width characters, which makes reading the messages more agreeable and optimizes the use of the leds matrix surface.

As we have already shown, CROSSPOINT's Under Monitor Display System differs from a mere display system in that it has been specially developed for Broadcast environments. It is an open system, which can adapt to the specific needs of the Customer and is in constant development. Our commitment to Quality and Customer Service drives us to continuously improve and update our range of products.

A new line of Displays makes it possible to obtain indication of audio levels (analogical, AES or embedded in digital video), both independently or with audio and text combined on the same unit.

Also available is a Display capable of presenting the Time Code of the vertical interval of a Digital signal, D-VITC. This new double Display uses a window to present Text and another for the Time Code. Its main application is in the new Production Studios and Continuities adapted to SDI digital signals.

At present, there are several thousand CROSSPOINT UMDs installed throughout the world. Please, do not hesitate to contact us in CROSSPOINT if you have any requirement in signaling, regardless of whether it is already covered by traditional systems or not: we are manufacturers.

* * * * *



UNDER MONITOR DISPLAYS

SYSTEM DESCRIPTION

CROSSPOINT manufacture a wide range of **UNDER MONITOR DISPLAYS** to suit most TV Broadcast environments. Our **Static**, **Dynamic**, **Tricolor**, **Slim** and **Combo** models provide a clear and bright information, with text, tallys and audio level bar-graphs for TV Studios, Presentation Rooms and OB Vans.

Static UMD's are cheaper but you can display the Message internally stored and the Tally with 3 levels of brightness. Both, characters and brightness level, can be set by two small pushbuttons located in the front panel. Tally indication can be activated by using the GPI input at the rear. Available with single or dual message window.

More powerful, our **Dynamic** UMD's are able to change the message displayed either following the Routing Switcher cross-points changes or by GPI input, directly to each UMD. The messages can be stored, either on the UMD itself (8 max.) or in our Controller HUB-DSP where we allocate tables with all names needed.

It can be programmed by using two small pushbuttons located in the front of the unit. You can enter names, set two independent brightness levels (for normal operation and for Tallys), adjustables in 99 steps and to assign the device number in case the UMDs are networked. A rear connector for GPI/GPO allows, just by closing circuits, to display any of the 8 messages stored on the UMD internal memory as well as triggering the red or green Tally lights, independently. Models available with **single**, **dual** or **triple** message window. Single message **half rack wide** model are also available. Some models adds internal SDI to PAL/NTSC **DA converters**.

Tricolor dual message model are also **Dynamic** and the Tally information change the message color from green to yellow and/or to red. Most of all our UMD's can work stand alone and fits in 1 RU, with internal power supply for 220VAC(110VAC).

Slim series are also dynamic UMD's, designed specially for OB'vans and allow to install the Display unit (2 cm. deep only) in front off the monitor. A tilt down mechanism allow to access the monitor front knobs. We can provide attachments for almost any TV monitor in the market. This design saves 1 RU unit per Display. The rear unit can be installed in any place at the back of the rack, up to 2m. distance.

Combo series include several models with text, tally, audio level metering or time code display, all dynamic. Audio can be measured from analog, digital AES or SDI embedded audio inputs. Time code is decoded from LTC or DVITC.

Some models adds internal SDI to PAL/NTSC and Embedded SDI Audio to Analog audio **DA converters**.

By utilizing our **Controller HUB-DSP** (in 1RU), up to 255 dynamic UMD's can be networked RS-485. Powerful **TALLY** management with a dual internal 128x128 tally matrix. See the block diagram of the UMD System. By using **GUSYC**, a PC software included, you can easily configure the entire UMD system, store and recall system configurations including Multi-image processors as part of an overall signalling system. An optional **Keyboard** KBD-232 connected to the HUB-DSP allows the operator to configure the entire UMD's wall panel just looking the UMD's prompts.

By connecting the HUB&UMD's system to a Routing Switcher you can achieve a fully dynamic mode of operation where the names on UMD's change, following the cross-point activity of your Routing Switcher. For that purpose you need to add the **PS-MTX option** to the HUB, which include a RS-232/422 Port plus the software for the specific model of the R.S. you may use.

The **64 Tally In** option allows to enter with up to 64 closed contacts (Tally relay outputs) from your Mixer. These Tally commands are sent through the RS-485 network to the UMD's and can be fully mapped (any Tally input to any UMD).

If you need to send Tally indication to your cameras as well, we suggest to use the **64 Tally Output** option, that allows to generate 64 relay closing circuits, also fully mapped (any Tally In to any Tally Out).

With **LPA-GUSYC** option an **Ethernet port** is added to the HUB-DSP for configuration purposes using GUSYC.

LPA-MP option allows to send names and Tally information to one or more Multi-image Display Processors. Configured using GUSYC as part of an hibrid UMD and Tally system.

UNDER MONITOR DISPLAYS

Finally, the **TC-HUB** option allows you to enter LTC (Longitudinal Time Code) to the **Controller** and send the clock information to one or several UMD's in the network, either Local time or any Time zone. It allows Countdown operation as well.

Following is the list of devices and protocols we currently interface:

Routing Switchers:

- THOMSON-GVG with VM3000 controller(Jupiter), ASCII, MPK and ES Switch protocols.
- UTAH with SC2 & SC3 controllers, ASCII protocol.
- SIERRA VIDEO, all models and sizes.
- SONY, Digital Video Series, CART+ protocol.
- DATATEK, D2600/D2800 series.
- QUARTZ, Q1600,3200,6400 series with CI-0001 Computer I/F.
- LEITCH, Pass-Through protocol.
- NETWORK, Interface protocol RS232.
- PESA Switching, CPU link & USP protocol, P1E.
- PROBEL, General remote protocol (SW-P-08).
- TELECAST, Prosan protocol.
- EXTRON, standard protocol.
- ISIS-GROUP, standard protocol.

Automations:

- OMNIBUS, TSL protocol.
- LOUTH, Countdown operation.

Mixers (Tallies received in serial mode):

- SONY MIXER 7000,8000 and 9000 series.
- THOMSON-GVG, DD series, serial Tally protocol.
- SNELL & WILCOX, HD1000 and Golden DaVE series, Kahuma.
- ROSS Synergy series.

Multi-image processors:

- Miranda.
- Evertz.
- Barco.
- Zandar
- Leitch.

If your needs are to install a Router or Mixer not listed above, please let us know. We will do our best to include in it .

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Names of Products and Firms are the property of the companies concerned

UNDER MONITOR DISPLAYS

PRODUCT DESCRIPTION

Valid from June 2008

Model	Description	Page
<u>STATIC DISPLAYS:</u>		
DBM-10PM-E	Under monitor Display, Static, Single 10 characters message. Available in either 17,5 or 30 mm characters height. Red LED TALLY indication and full brightness control. GPI input for Tally control. For 19" rack in 1RU. Internal 100 - 240 VAC Power Supply.	19-20
DBM-D9PM-E	Under monitor Display, Static, Dual 9+9 characters message. Available in 17,5 mm characters height. Two Red LED TALLYS and full brightness control. GPI input for Tally control. For 19" rack in 1RU. Internal 100 - 240 VAC Power Supply.	19-20
<u>DYNAMIC DISPLAYS:</u>		
DBM-10PM	Under monitor Display, Dynamic, Single 10 characters message. Available in either 17,5 or 30mm characters height. Dual Red & Green LED TALLY indication. Full brightness control and blinking. 8 messages internal memory. All functions controlled either by front panel pushbuttons or via RS-485 network. GPI input for Tally control. GPOutput. For 19" rack in 1RU. Internal 100 - 240 VAC Power Supply.	19-20
DBM-10PM-HR	Under monitor Display, Dynamic, Single 10 characters message. Half rack wide for universal mounting. Available in 17,5 mm characters height. Dual Red & Green LED TALLY indication. Full brightness control and blinking. 8 messages internal memory. All functions controlled either by front panel pushbuttons or via RS-485 network. GPI input for Tally control. GPOutput. Dimensions, Width: 212 mm, Height: 42 mm, Depth: 40 mm. To be installed in any monitor wall, not standardized. External 110-240VAC mains adapter supplied.	21-22
DBM-D9PM	Under monitor Display, Dynamic, Dual 9+9 characters message. Available in 17,5 mm characters height. Dual Red & Green LED TALLY indication per message. Full brightness control and blinking. 8+8 messages internal memory. All functions controlled either by front panel pushbuttons or via RS-485 network. GPI input for Tally control. GPOutput. For 19" rack in 1RU. Internal 100 - 240 VAC Power Supply.	19-20
DBM-T8PM	Under monitor Display, Dynamic, Triple 8+8+8 characters message. Available in 7 mm characters height. Dual Red & Green LED TALLY indication per message. Full brightness control and messages blinking. 8+8+8 message internal memory. All functions controlled by either front panel pushbuttons or via RS-485 network. GPI input for Tally and message memory control. For 19" rack in 1RU. Depth: 27 mm. External 110-240VAC mains adapter supplied.	23-24

UNDER MONITOR DISPLAYS

Model	Description	Page
<u>SLIM SERIES: (to fit where no rack space is available):</u>		
DBM-10PM-LP	Front monitor Display, Dynamic, Single 10 characters message. Front unit is 19" wide and 2 cms deep only, with a tilt down mechanism to install where no rack front space is available. With 17,5 mm character height. Dual Red & Green LED TALLY indication. Full brightness control and blinking. 8 messages internal memory. All functions controlled either by front panel pushbuttons or via RS-485 network. GPI input for Tally control. GPOutput. 1RU rear unit with communications interface and 230 VAC Power Supply.	
DBM-D9PM-LP	Front monitor Display, Dynamic, Dual 9+9 characters message. Front unit is 19" wide and 2 cms deep only, with a tilt down mechanism to install where no rack front space is available. With 17,5 mm characters height. Dual Red & Green LED TALLY indication per message. Full brightness control and blinking. 8+8 messages internal memory. All functions controlled either by front panel pushbuttons or via RS-485 network. GPI input for Tally control. GPOutput. 1 RU Rear unit with communications interface and 230 VAC Power Supply.	
<u>TRICOLOR DYNAMIC DISPLAYS:</u>		
DBM-D9T	Under monitor Display TRICOLOR, Dynamic, Dual 9+9 Tricolor characters message. Available in 17,5 mm characters height. Dual TALLY per message indication by color characters change from Green to Yellow or Red. Full brightness control and blinking. 8+8 messages internal memory. All functions controlled either by front panel or via RS-485 network. GPI input for Tally control. GPOutput. For 19" rack in 1RU. Internal 230 VAC Power Supply.	
<u>DYNAMIC DISPLAYS with INTERNAL SDI to PAL VIDEO CONVERTER:</u>		
DBM-10PM-DA	Under monitor Display, Dynamic, Single 10 characters message. Single video SDI to PAL/NTSC converter. Available in either 17,5 or 30mm characters height. Dual Red & Green LED TALLY indication. Full brightness control and blinking. 8 messages internal memory. All functions controlled either by front panel pushbuttons or via RS-485 network. GPI input for Tally control. GPOutput. Internal single converter from SDI to PAL/NTSC. For 19" rack in 1RU. Internal 110 -240 VAC Power Supply.	25-26
DBM-D9PM-DA	Under monitor Display, Dynamic, Dual 9+9 characters message. Single video SDI to PAL/NTSC converter. Available in 17,5 mm characters height. Dual Red & Green LED TALLY indication per message. Full brightness control and blinking. 8+8 messages internal memory. All functions controlled either by front panel pushbuttons or via RS-485 network. GPI input for Tally control. GPOutput. Internal single converter from SDI to PAL/NTSC. For 19" rack in 1RU. Internal 110 -240 VAC Power Supply.	25-26
DBM-D9PM-2DA	Under monitor Display, Dynamic, Dual 9+9 characters message. Dual video SDI to PAL/NTSC converter. Available in 17,5 mm characters height. Dual Red & Green LED TALLY indication per message. Full brightness control and blinking. 8+8 messages internal memory. All functions controlled either by front panel pushbuttons or via RS-485 network. GPI input for Tally control. GPOutput. Internal dual converter from SDI to PAL/NTSC. For 19" rack in 1RU. Internal 110 -240 VAC Power Supply.	25-26

UNDER MONITOR DISPLAYS

Model	Description	Page
<u>Dynamic UMDs & TALLY CONTROLLERS:</u>		
HUB-DSP	Intelligent Controller. Allows to address Messages, Tallies and Brightness commands up to 255 Dynamic Displays, via RS-485 network. With PC port for configuration. Internal memory allows permanent storage of messages and tables for fully mapping of input/output Tallies, Routing Switchers Source/Destinations names and Tie Lines. Dual virtual 128x128 internal TALLY matrix. For 19" rack in 1Ru. Internal 110-240 VAC Power Supply. Includes: GUSYC , graphical UMD system configurator. Optionally , KBD232 keyboard to operate and configure the system, TALLY input and output modules, Serial ports to interface with Routing switchers and Production mixers, Time code input module, Ethernet port and Multi-image processor interface.	27-28
HUB-DSP-NET	Intelligent Controller for Ethernet. Same features and options as the HUB-DSP but including a LPA-GUSYC .	27-28
<u>HUB-DSP Options:</u>		
TC-HUB	Time code (LTC) input module allows to show a clock on one ó several UMDs in the network, with local time or any time zone.	27-28
PS-MTX	Serial port module and software to interface most Routing Switchers and Automations. Also with Production Mixers with Tallies in serial mode. For fully message dynamic operation.	27-28
PS-MTX-DUAL	Dual serial port module and software to interface two Routing Switchers or one Routing Switcher and one Production Mixer. Allows TALLY and / or message full dynamic operation.	27-28
64 TALLY-IN	64 inputs Tally module. Input close circuits allows Tally indication to be send to any display in the network, fully mapped.	27-28
64 TALLY-OUT NEW!!	64 outputs Tally module. Up to 64 Solid state Relay circuits can be closed, following HUB-DSP commands. Also fully mapped.	27-28
KBD-232 (Spare)	Small alpha-numeric keyboard to operate and configure the system. RS-232 port.	27-28
GUSYC	Graphical UMD System Configurator. Configuration software for UMDs/TALLY systems with a HUB-DSP controller with firmware version 1.10 to 2.53. It comes free of charge with HUB-DSP or HUB-DSP-NET with firmware version 2.54 and up.	31
LPA-GUSYC	Ethernet port adapter for HUB-DSP. To configure and control a UMD/TALLY system, via Ethernet, with GUSYC (Option not included. See GUSYC description for pricing). It allows simultaneous operation with KBD 232 keyboard. External 100 - 240 VAC mains adapter supplied.	27-28
LPA-MP	Multi-image display processor interface. Send from the HUB-DSP, names and TALLY information to one or several multi-image display processors with a total of 32 images. Several LPA-MP can be connected to one HUB-DSP. Compatible with Miranda, Evertz, Barco and Zandar multi-image processors. Configured using GUSYC as part as an Integrated UMD and Tally system. External 100 -230 VAC mains adapter supplied.	29-30

UNDER MONITOR DISPLAYS

Model	Description	Page
<u>ANALOG AUDIO MONITORING DISPLAYS:</u>		
IPA-D4CH	Dual 4 Channel Bar-graph analog Audio monitoring Display. 10 LED per bar, 8 VU-meters. Silence alarm out. For 19" rack mount in 1RU with 230 VAC internal Power Supply.	33-34
IPA-T2CH	Triple 2 Channel Bar-graph analog Audio monitoring Display. 10 LED per bar, 6 VU-meters. Silence alarm out. For 19" rack mount in 1RU with 230 VAC internal Power Supply.	33-34
IPA-D1CH-F	2 Channel Bar-graph analog Audio monitoring Display with Correlator. 16 LED per bar, 2 VU or PPM-meters and (Stereo Phase) Correlator. Silence and (-) Correlation alarms out. For 19" rack mount in 1RU with 230 VAC internal Power Supply.	35-36
IPA-D2CH-F	Dual 2 Channel Bar-graph analog Audio monitoring Display with Correlator. 16 LED per bar, 4 VU or PPM-meters and 2 (Stereo Phase) Correlators. Silence and (-)Correlation alarms out. For 19" rack mount in 1RU with 230 VAC internal Power Supply.	35-36

DIGITAL AES/EBU AUDIO MONITORING DISPLAYS:

IPA-D4CH-AES COMING SOON!!	Dual 4 channel Bar-graph AES/EBU Audio monitoring Display. 8 digital AES/EBU PPM meters with 12 tricolor led per bar. Input transformers. Full brightness control via RS-485. Stream failure, Overflow and Silence alarms output. For 19" rack mount in 1RU with 230 VAC internal Power Supply.	
IPA-T2CH-AES COMING SOON!!	Triple 2 channel Bar-graph AES/EBU Audio monitoring Display. 6 digital AES/EBU PPM meters with 12 tricolor led per bar. Input transformers. Full brightness control via RS-485. Stream failure, Overflow and Silence alarms output. For 19" rack mount in 1RU with 230 VAC internal Power Supply.	
IPA-D1CH-F-AES	2 Channel Bar-graph AES/EBU Audio monitoring Display with Correlator. 2 digital AES/EBU PPM meters with 16 LED per bar and Correlator (Stereo phase meter). Input transformers. Full brightness control via RS-485. Stream failure, Silence, Overflow and (-)Correlation alarms output. For 19" rack mount in 1RU with 230 VAC internal Power Supply.	37-38
IPA-D2CH-F-AES	Dual 2 Channel Bar-graph AES/EBU Audio monitoring Display with Correlator. 4 digital AES/EBU PPM meters with 16 LED per bar and 2 Correlators (Stereo phase meter).). Input transformers. Full brightness control via RS-485. Stream failure, Overflow, Silence and (-)Correlation alarms out. For 19" rack mount in 1RU with 230 VAC internal Power Supply.	37-38

UNDER MONITOR DISPLAYS

Model	Description	Page
<u>EMBEDDED DIGITAL AUDIO MONITORING DISPLAYS:</u>		
IPA-D4CH-SDI	Dual 4 Channel Bar-graph digital embedded Audio monitoring Display. 12 Tricolor LED's per bar. 8 Embedded Audio PPM meters with full group, pair and channel selection from 2 SDI inputs . SDI copy outputs regenerated and reclocked. Full brightness control, via RS-485. Stream failure, Overflow and Silence alarms out. For 19" rack mount in 1RU with 230 VAC internal Power Supply.	39-40
IPA-D4CH-SDI-H	Dual 4 Channel Bar-graph digital embedded Audio monitoring Display. 24 Tricolor LED's per horizontal bar. 8 Embedded Audio PPM meters with full group, pair and channel selection from 2 SDI inputs . SDI copy outputs regenerated and reclocked. Full brightness control, via RS-485. Stream failure, Overflow and Silence alarms out. For 19" rack mount in 1RU with 100 -240 VAC internal Power Supply.	39-40
IPA-T4CH-SDI NEW	Triple 4 Channel Bar-graph digital embedded Audio monitoring Display. 12 Tricolor LED's per bar. 12 Embedded Audio PPM meters with full group, pair and channel selection from 3 SDI inputs . SDI copy outputs regenerated and reclocked. Full brightness control, via RS-485. Stream failure, Overflow and Silence alarms out. For 19" rack mount in 1RU with 100 - 240 VAC internal Power Supply.	39-40
IPA-D4CH-SDI-H-DA	Dual 4 Channel Bar-graph digital embedded Audio monitoring Display with 2 video SDI to PAL/NTSC internal converters. 24 Tricolor LED's per horizontal bar. 8 Embedded Audio PPM meters with full group, pair and channel selection from 2 SDI inputs . SDI copy outputs regenerated and reclocked. Dual internal converter from SDI to PAL/NTSC. Full brightness control, via RS-485. Stream failure, Overflow and Silence alarms out. For 19" rack mount in 1RU with 100 -240 VAC internal Power Supply.	39-40
IPA-T4CH-SDI-DA	Triple 4 Channel Bar-graph digital embedded Audio monitoring Display with 3 video SDI to PAL/NTSC internal converters. 12 Tricolor LED's per bar. 12 Embedded Audio PPM meters with full group, pair and channel selection from 3 SDI inputs . SDI copy outputs regenerated and reclocked. Triple internal converter from SDI to PAL/NTSC. Full brightness control, via RS-485. Stream failure, Overflow and Silence alarms out. For 19" rack mount in 1RU with 100 - 240 VAC internal Power Supply.	39-40
IPA-D2CH-F-SDI NEW	Dual 2 Channel Bar-graph digital embedded Audio monitoring display with Correlator. 4 Audio PPM meters and 2 Correlators (Stereo Phase) with 24 LEDs per bar from 2 SDI embedded audio input. Selection of group and pair. SDI copy output fully regenerated and reclocked. Full brightness control, via RS-485. Stream failure, Overflow, Silence and Correlation (-) alarms outputs. For 19" rack mount in 1RU with 100 - 240 VAC internal Power Supply.	41-42
IPA-D2CH-F-SDI-DA NEW	Dual 2 Channel Bar-graph digital embedded Audio monitoring display with Correlator and 2 video SDI to PAL/NTSC internal converters. 4 Audio PPM meters and 2 Correlators (Stereo Phase) with 24 LEDs per bar from 2 SDI embedded audio input. Selection of group and pair. SDI copy output fully regenerated and reclocked. Dual internal converter from SDI to PAL/NTSC. Full brightness control, via RS-485. Stream failure, Overflow, Silence and Correlation (-) alarms outputs. For 19" rack mount in 1RU with 100 - 240 VAC internal Power Supply.	41-42

UNDER MONITOR DISPLAYS

Model	Description	Page
<u>AUDIO ALARM PROCESSOR:</u>		
HUB-ALM	Audio Alarm Concentrator. Process all audio alarms received via RS-485 network from IPA and provide 64 parallel Rele outputs, selected from individual or groups of alarm conditions. For 19" rack in 1Ru. Internal 110-240 VAC Power Supply. Note: To configure please add at least one of the following output options.	43-44
<u>HUB-ALM Options:</u>		
PS-MTX	Serial port module and software to interface with the Alarm Processor HUB-ALM. Allows to send audio alarm messages to the UMDs connected to it, via RS-485. Also to communicate with a user PC or Processor.	44
64 TALLY-IN	64 inputs Tally module. Allows to input manual operator commands.	44
64 TALLY-OUT	64 outputs Tally module. To trigger external alarm devices.	44
E-NET	Ethernet 10BaseT interface module. To interconnect several HUB-ALM in centralized Audio Alarm systems.	44
<u>UNDER MONITOR DISPLAYS WITH ANALOG AUDIO BAR-GRAPH (COMBO):</u>		
DBM-10IPA	Dynamic, Single message, 10 characters message. Combined with 4 channel Bar-graph analog audio monitoring display. Available in 17,5 mm characters height. Dual Red & Green LED TALLY indication. Full brightness control. 8 message internal memory. GPI input for Tally control. 4 analog VU-meters with 12 tricolor LEDs per bar-graph. Audio Silence alarm outputs. All functions controlled by either front panel pushbuttons or via RS-485. For 19" rack mount in 1RU with 230 VAC internal Power Supply.	45-46
DBM-D9IPA COMING SOON!!	Dynamic, Dual message, 9 + 9 characters message. Combined with 4+4 channels Bar-graph analog audio monitoring display. Available in 17,5 mm characters height. Dual Red & Green LED TALLY indication per message. Full brightness control. 8 + 8 message internal memory. GPI input for Tally control. 8 analog VU-meters with 12 tricolor LEDs per bar-graph. Audio Silence alarm outputs. All functions controlled by either front panel pushbuttons or via RS-485. For 19" rack mount in 1RU with 100 - 240 VAC internal Power Supply.	
DBM-10IPA-F	Dynamic, Single message, 10 characters message. Combined with 2 channel Bar graph analog audio monitoring display and Correlator. Available in 17,5 mm characters height. Dual Red & Green LED TALLY indication. Full brightness control. 8 message internal memory. GPI input for Tally control. 2 analog VU-meters and Correlator (Stereo phase meter) with 12 tricolor LEDs per bar-graph. Audio Silence and (-) Correlation alarm outputs. All functions controlled by either front panel pushbuttons or via RS-485. For 19" rack mount in 1RU with 230 VAC internal Power Supply.	45-46
DBM-D9IPA-F	Dynamic, Dual message, 9 + 9 characters message. Combined with 2+2 channels Bar-graph analog audio monitoring display and 2 Correlators. Available in 17,5 mm characters height. Dual Red & Green LED TALLY indication per message. Full brightness control. 8 + 8 message internal memory. GPI input for Tally control. 4 analog VU-meters and 2 Correlators (Stereo phase meter) with 12 tricolor LEDs per bar-graph. Audio Silence and (-) Correlation alarm outputs. All functions controlled by either front panel pushbuttons or via RS-485. For 19" rack mount in 1RU with 230 VAC internal Power Supply.	45-46

UNDER MONITOR DISPLAYS

Model	Description	Page
<u>UNDER MONITOR DISPLAYS WITH AES/EBU AUDIO BAR-GRAPH (COMBO):</u>		
DBM-10IPA-AES	Dynamic, Single message, 10 characters message. Combined with 4 channel Bar graph digital audio AES/EBU monitoring display. Available in 17,5 mm characters height. Dual Red & Green LED TALLY indication. Full brightness control. 8 message internal memory. GPI input for Tally control. 4 PPM meters for Digital AES/EBU with 12 tricolor LEDs per bar-graph. Stream failure, Overflow and Silence alarm outputs. All functions controlled by either front panel pushbuttons or via RS-485. For 19" rack mount in 1RU with 230 VAC internal Power Supply.	47-48
DBM-D9IPA-AES COMING SOON!!	Dynamic, Dual message, 9 + 9 characters message. Combined with 4+4 channels Bar-graph digital audio AES/EBU monitoring display. Available in 17,5 mm characters height. Dual Red & Green LED TALLY indication per message. Full brightness control. 8 + 8 message internal memory. GPI input for Tally control. 8 PPM meters for Digital AES/EBU with 12 tricolor LEDs per bar-graph. Stream failure, Overflow and Silence alarm outputs. All functions controlled by either front panel pushbuttons or via RS-485. For 19" rack mount in 1RU with 230 VAC internal Power Supply.	
DBM-10IPA-F-AES	Dynamic, Single message, 10 characters message. Combined with 2 channel Bar graph digital audio AES/EBU monitoring display and Correlator. Available in 17,5 mm characters height. Dual Red & Green LED TALLY indication. Full brightness control. 8 message internal memory. GPI input for Tally control. 2 PPM meters for Digital AES/EBU and Correlator (Stereo phase meter) with 12 tricolor LEDs per bar-graph. Stream failure, Overflow, Silence and (-) Correlation alarm outputs. All functions controlled by either front panel pushbuttons or via RS-485. For 19" rack mount in 1RU with 230 VAC internal Power Supply.	47-48
DBM-D9IPA-F-AES	Dynamic, Dual message, 9 + 9 characters message. Combined with 2+2 channels Bar-graph digital audio AES/EBU monitoring display and 2 Correlators. Available in 17,5 mm characters height. Dual Red & Green LED TALLY indication per message. Full brightness control. 8 + 8 message internal memory. GPI input for Tally control. 4 PPM meters for Digital AES/EBU and 2 Correlators (Stereo phase meter) with 12 tricolor LEDs per bar-graph. Stream failure, Overflow, Silence and (-) Correlation alarm outputs. All functions controlled by either front panel pushbuttons or via RS-485. For 19" rack mount in 1RU with 230 VAC internal Power Supply.	47-48

UNDER MONITOR DISPLAYS

Model	Description	Page
<u>UNDER MONITOR DISPLAYS WITH EMBEDDED AUDIO BAR-GRAPH (COMBO):</u>		
DBM-10IPA-SDI	Dynamic, Single message, 10 characters message. Combined with 4 channel Bar graph digital embedded audio SDI monitoring display. Available in 17,5 mm characters height. Dual Red & Green LED TALLY indication. Full brightness control. 8 message internal memory. GPI input for Tally control. 4 PPM meters for embedded SDI Audio with 12 tricolor LEDs per bar-graph, with Group selection. One SDI input with copy output regenerated and reclocked. Stream failure, Overflow and Silence alarm outputs. All functions controlled by either front panel pushbuttons or via RS-485. For 19" rack mount in 1RU with 230 VAC internal Power Supply.	49-50
DBM-D9IPA-SDI	Dynamic, Dual message, 9 + 9 characters message. Combined with 4+4 channels Bar-graph digital embedded audio SDI monitoring display. Available in 17,5 mm characters height. Dual Red & Green LED TALLY indication per message. Full brightness control. 8 + 8 message internal memory. GPI input for Tally control. 8 PPM meters for Digital AES/EBU with 12 tricolor LEDs per bar-graph, with Group selection. Two SDI inputs with copy outputs regenerated and reclocked. Stream failure, Overflow and Silence alarm outputs. All functions controlled by either front panel pushbuttons or via RS-485. For 19" rack mount in 1RU with 230 VAC internal Power Supply.	49-50
<u>UNDER MONITOR DISPLAYS WITH EMBEDDED AUDIO BAR-GRAPH (COMBO) AND DIGITAL AUDIO/VIDEO TO ANALOG CONVERTER:</u>		
DBM-10IPA-SDI-PAL NEW!!	Dynamic, Single message, 10 characters message. Combined with 4 channel Bar graph digital embedded audio SDI monitoring display. SDI to PAL/NTSC conversion. Available in 17,5 mm characters height. Dual Red & Green LED TALLY indication. Full brightness control. 8 message internal memory. GPI input for Tally control. 4 PPM meters for embedded SDI Audio with 24 tricolor LEDs per horizontal bar-graph, with Group selection. One SDI input with copy output regenerated and reclocked. Stream failure, Overflow and Silence alarm outputs. SDI to PAL/NTSC conversion. All functions controlled by either front panel pushbuttons or via RS-485. For 19" rack mount in 1RU with 110-240 VAC internal Power Supply.	51-52
DBM-10IPA-SDI-PAL/A NEW!!	Dynamic, Single message, 10 characters message. Combined with 4 channel Bar graph digital embedded audio SDI monitoring display. SDI to PAL/NTSC and embedded audio to analog conversion. Available in 17,5 mm characters height. Dual Red & Green LED TALLY indication. Full brightness control. 8 message internal memory. GPI input for Tally control. 4 PPM meters for embedded SDI Audio with 24 tricolor LEDs per horizontal bar-graph, with Group selection. One SDI input with copy output regenerated and reclocked. Stream failure, Overflow and Silence alarm outputs. SDI to PAL/NTSC conversion. Embedded audio to 4 analog audio conversion. All functions controlled by either front panel pushbuttons or via RS-485. For 19" rack mount in 1RU with 110-240 VAC internal Power Supply.	51-52

UNDER MONITOR DISPLAYS

Model	Description	Page
<u>UNDER MONITOR DISPLAYS WITH TIME CODE READER (COMBO):</u>		
DBM-D9PM-DVITC	Dynamic, Single message + DVITC display, 9 + 9 characters. Combine one text with a Digital Vertical Interval Time Code (DVITC) reader & display. Available in 17,5 mm characters height. Dual Red & Green LED TALLY indication. Full brightness control. 8 message internal memory. GPI input for Tally control. One SDI input with copy output regenerated and reclocked. Read and display VITC decoded from a SDI signal. Time code display modes and user bits selection . All functions controlled by either front panel pushbuttons or via RS-485. For 19" rack mount in 1RU with 230 VAC internal Power Supply.	53-54
DBM-D9PM-LTC NEW!!	Dynamic, Single message + LTC display, 9 + 9 characters. Combine one text with longitudinal Time Code (LTC) reader & display. Available in 17,5 mm characters height. Dual Red & Green LED TALLY indication. Full brightness control. 8 message internal memory. GPI input for Tally control. Read and display LTC info decoded from a LTC analog input. Time code display modes and user bits selection . All functions controlled by either front panel pushbuttons or via RS-485. For 19" rack mount in 1RU with 230 VAC internal Power Supply.	55-56
DBM-D9PM-DVITC-LTC COMING SOON!!	Dynamic, Single message + DVITC or LTC display, 9 + 9 characters. Combine one text with a Digital Vertical Interval Time Code (DVITC) or Longitudinal Time Code, reader & display. Available in 17,5 mm characters height. Dual Red & Green LED TALLY indication. Full brightness control. 8 message internal memory. GPI input for Tally control. One SDI input with copy output regenerated and reclocked. Read and display VITC decoded from a SDI signal or LTC from an analog LTC input. Time code display modes and user bits selection . All functions controlled by either front panel pushbuttons or via RS-485. For 19" rack mount in 1RU with 230 VAC internal Power Supply.	

UNDER MONITOR DISPLAYS WITH EMBEDDED AUDIO BAR-GRAPH AND TIME CODE READER (COMBO):

DBM-D9IPA-SDI-DVITC COMING SOON!!	Dynamic, Dual message, 9 + 9 characters message. Combined with 4 channels Bar-graph digital embedded audio SDI monitoring display and a Digital Vertical Interval Time Code (DVITC) reader & display. Available in 17,5 mm characters height. Dual Red & Green LED TALLY indication. Full brightness control. 8 message internal memory. GPI input for Tally control. 4 PPM meters for Digital AES/EBU with 12 tricolor LEDs per bar-graph, with Group selection. One SDI input with copy output regenerated and reclocked. Stream failure, Overflow and Silence alarm outputs. Read and display DVITC decoded from the SDI signal. Time code display modes and user bits selection. All functions controlled by either front panel pushbuttons or via RS-485. For 19" rack mount in 1RU with 230 VAC internal Power Supply.
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AUDIO MONITORING UNIT:

UMA-D4CH-HD NEW	Audio monitoring unit with 8 channel VU/PPM metes and internal stereo loudspeaker system. 2 autosense HD-SD/SDI video inputs with embedded audio. 4 AES/EBU input pairs and 8 analog audio inputs. 8 vertical bar-graphs with 26 tricolor LED's per bar to display Audio VU/PPM meters from analog, AES/EBU, optical SPDIF and embedded audio. Full group, pair and channel selection from 2 HD-SD/SDI inputs. HD-SD/SDI copy output regenerated and reclocked. 8 analog and 4 AES/EBU pairs audio output. Analog line output. Stereo loudspeaker system with 3 drivers. Stream failure, Overflow and Silence alarms output. Full parameters and functions control by front panel display and rotary know. For 19" rack mount in 1RU with 100 -240 VAC internal Power Supply.	57-58
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CROSSPOINT reserves the right to modify
the above specifications without prior notice.

DBM-10xx / DBM-D9xx

UNDER MONITOR DISPLAY, UMD

Static or Dynamic, single or dual text plus TALLY

CROSSPOINT manufactures Under Monitor Displays UMD, to be installed in TV Broadcast environments. Their function is to assist the operator in identifying the source and destination of signals and to have a clear indication of the signal "on air". The two main types are: '**static**' UMDs and '**dynamic**' UMDs. You can choose between single-message UMD and dual-message UMD models.



Static UMD models features :

- Single or Dual text message display
- A red TALLY per text
- TALLY ON by closing circuit
- Front panel puss-buttons for set-up.

Static models do not have a serial port, and so changes in message and brightness must be carried out directly, using push-buttons located on the front of unit. They have only a Tally (red)

which is activated through a connector on the unit rear. It is possible to up-grade the **static** model at the factory and convert it to **dynamic**.



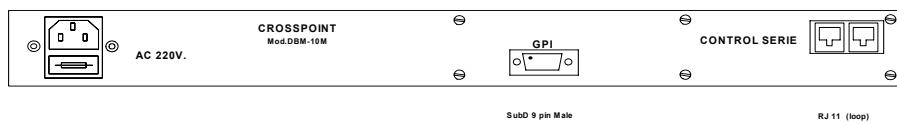
Dynamic UMD models features :

- Single or Dual text message display
- A Dual independent TALLY per text
- TALLY ON by closing circuit or by RS-485
- Set-up by Front panel puss-buttons or by RS-485 .

TEXT & TALLY. Text display is clear and auto-centered. Brightness level is user-programmable from 1 to 100, which allows adapting the brightness level to the actual lighting of the room. The indication of active Tally situation is performed by large LED lamps which not only highlight text brightness to a level – also programmable–, but give a very clear indication of the signal "on the air". This type of Tally indication is so bright that monitors without Tally lights can be used, again reducing expenses, since usually this type of monitor has a markedly lower price. You will also save in cable and connectors, as there is no need to link up each Display to its associated video monitor. Parameters are stored in an internal non-volatile memory, lasting 10 years.

CONTROL. Their functions can be controlled with the push-buttons located on their front panel or via RS485 serial port. Using CROSSPOINT HUB-DSP controller, it is possible to modify texts on the displays quickly –in less than 10 seconds – without the intervention of specially trained operators. It also allows to configure (depending on the options) the remote conveying of Tally to the displays, their mapping from the keyboard, delivering time signal, relay-mapped tally output (for CCU, ...), dynamic following of routing switchers' status, reception of tally in serial format or saving user's set-ups protected by password and easily restored. This unit is power supplied directly from the 100 - 240 VAC mains.

Rear view



SPECIFICATIONS:

Model:	Static, DBM-10xx-E and DBM-D9xx-E (see ordering). Dynamic, DBM-10xx and DBM-D9xx (see ordering).
Display:	DBM-10xx(-E): Single window with 10 matrix of 5x7 LED, 17,5 or 30 mm height. DBM-D9xx(-E): Dual window with 9+9 matrix of 5x7 LED, 17,5 mm height.
Brightness:	Two levels (normal and Tally), adjustable in 99 steps, by front panel puss-button or remotely (Dynamic only).
Memory:	Store 8 messages (Dynamic only) plus internal parameters and user setups in a non-volatile memory, lasting 10 years.
TALLY:	Two TALLY lamps (red and green) in Dynamic model. Single TALLY lamp (red) in Static model, per text window. When tally lights up, text brightness is highlighted.
Control of Tallies:	GPI or RS485 network (Dynamic only).
Communications:	RS485 port for multi-drop serial communication, 9600 baud, 8 bit data, 1 stop bit with no parity. CROSSPOINT protocol. Other protocols available using the CROSSPOINT HUB-DSP controller.
Connectors:	RS-485: 2 x RJ-11 looped. GPI/O: Sub-D 9 pin male. Open collector, 100mA max. per output. Closed circuit to common ground for input.
Power Supply:	100 - 240 VAC, 50 Hz.
Max. Consumption:	20 VA.
Size:	Width, 19". Height, 42 mm (1RU). Depth, 120 mm (without connectors).
Weight:	2,4 Kg.

(Specifications subject to change without prior notice)

ORDERING INFORMATION:

Description	Model Code
Static, Single, 30 mm char. height.	DBM-10GM-E-x
Static, Single, 17,5 mm char. height	DBM-10PM-E-x
Static, Double, 17,5 mm char. height	DBM-D9PM-E-xx
Dynamic, Single, 30 mm char. height	DBM-10GM-x
Dynamic, Single, 17,5 mm char. height	DBM-10PM-x
Dynamic, Double, 17,5 mm char. height	DBM-D9PM-xx

Where -x or -xx indicate the color/s for the message/s, as follow:

R, **red**; G, **green**; Y, **yellow**. For instance, if you want to order a double message with **red** on left side and **green** on right side, then end the model code with -RG.

CROSSPOINT

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DBM-10PM-HR**DYNAMIC UNDER MONITOR DISPLAY**

Single Text and dual Tally lights in Half Rack width for Universal installation

CROSSPOINT manufactures several models of Display for installation on TV monitoring panels. **DBM-10PM-HR** is an Under Monitor Display to be mounted in TV Broadcast installations where it is necessary to identify the origin or destination of TV signal and indicate TALLY conditions. It is designed to be installed on non-standard size panels. Its width, only 212 mm, is equivalent to half that of a 19" rack, which allows it to be installed on almost any TV monitoring panel.

The **DBM-10PM-HR** model combine, in a single unit, the following features:

- **Single text message display**
- **Dual independent TALLY lights**
- **RS-485 network remote control capability**
- **Set-up by front panel push-buttons or by RS-485**
- **Universal mount**



TEXT & TALLY. Text display is clear and auto-centered. Brightness level is user-programmable from 1 to 100, which allows adapting the brightness level to the actual lighting of the room. The indication of active Tally situation is performed by large LED lamps which not only highlight text brightness to a level –also programmable–, but give a very clear indication of the signal “on the air”.

This type of Tally indication is so bright that monitors without Tally lights can be used, again reducing expenses, since usually this type of monitor has a markedly lower price. You will also save in cable and connectors, as there is no need to link up each Display to its associated video monitor.

The unit has an internal non-volatile memory capable of storing 8 messages per text window, text brightness, message number,...which allows all relevant parameters to be restored at power up.

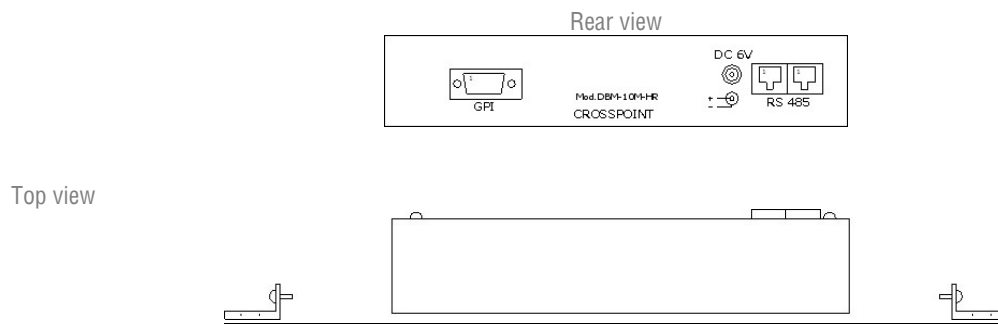
CONTROL. Their functions can be controlled with the push-buttons located on their front panel or via RS485 serial port.

The GPI input on the rear connector (Sub D, 9 pin) allows controlling locally the status of Tally lamps (two per message) when no Controller is available.

Using CROSSPOINT's HUB-DSP controller, it is possible to modify texts on the displays quickly –in less than 10 seconds– without the intervention of specially trained operators. It also allows to configure (depending on the options) the remote conveying of Tally to the displays, their mapping from the keyboard, delivering time signal, relay-mapped tally output (for CCU, ...), dynamic following of routing switchers' status, reception of tally in serial format or saving user's set-ups protected by password and easily restored.

This unit is ready for installation on any panel with at least half the width of a standard 19" rack. It is 40 mm in depth and is powered by a AC universal mains to 6VDC adapter (included) with 100 to 240 VAC input range.

It comes with front fitting brackets. Optionally, 1RU rack mounting adapter can be supplied.



SPECIFICATIONS:

Model:	DBM-10PM-HR (2 brackets included)
Options:	MET.HR1-1RU Single unit 1RU adapter MET.HR2-1RU Dual unit 1RU adapter
Display:	Single text window with 10 matrix of 5x7 LED, 17,5 mm height.
Brightness:	Two levels (normal and Tally), adjustable each in 99 steps, by front panel puss-button or Remotely.
Memory:	Store 8 messages plus internal parameters and user setups in a non-volatile memory, lasting 10 years.
Tally:	Two TALLY lamps (red and green). When tally lights up, text brightness is highlighted.
Control of Tally:	GPI or RS485 network.
Communications:	RS485 port for multi-drop serial communication, 9600 baud, 8 bit data, 1 stop bit with no parity. CROSSPOINT protocol. Other protocols available using the CROSSPOINT HUB-DSP controller.
Connectors:	DC In RS-485: 2 x RJ-11 looped. GPI/O: Sub-D 9 pin male. Open collector, 100mA max. per output. Closed circuit to common ground for input.
Power Supply:	6V DC stabilized. 100-240 mains adaptor included.
Max. Consumption:	10 VA.
Size:	Width, 212 mm (without brackets), 268 mm (with brackets). Height, 42 mm (1RU). Depth, 40 mm(without connectors).
Weight:	290 g. (without AC power adaptor)

(Specifications subject to change without prior notice)

CROSSPOINT

DBM-T8PM**TRIPLE DYNAMIC UNDER MONITOR DISPLAY**

3 independent Text windows with dual Tally lights each

CROSSPOINT manufactures several models of Display for installation on TV monitoring panels. **DBM-T8PM** is an Under Monitor Display to be mounted in TV Broadcast installations where it is necessary to identify the origin or destination of TV signal and indicate TALLY conditions. It is designed to be installed on almost any TV monitoring panel.

The **DBM-T8PM** model combine, in a single unit, the following features:

- **Triple text message display**
- **Dual independent TALLY lights per Text**
- **RS-485 network remote control capability**
- **Set-up by front panel push-buttons or by RS-485**



TEXT & TALLY. The DBM-T8PM presents three text messages, with eight characters each. Character width is fixed and messages are centered. Brightness level is user-programmable in 15 steps, which allows adapting the brightness level to the actual lighting of the room. It provides two independent Tally Lights per text window. The indication of active Tally situation is performed by large LED lamps which not only highlight text brightness to a level –also programmable–, but give a very clear indication of the signal “on the air”.

This type of Tally indication is so bright that monitors without Tally lights can be used, again reducing expenses, since usually this type of monitor has a markedly lower price.

You will also save in cable and connectors, as there is no need to link up each Display to its associated video monitor.

The unit has an internal non-volatile memory capable of storing 8 messages per text window, text brightness, message number,...which allows all relevant parameters to be restored at power up.

CONTROL. Their functions can be set with the push-buttons located on their front panel or via RS485 serial port.

The GPI input on the rear connector (Sub D, 9 pin) allows controlling locally the status of Tally lamps (two per message) when no Controller is available.

Using CROSSPOINT's HUB-DSP controller, it is possible to modify texts on the displays quickly –in less than 10 seconds– without the intervention of specially trained operators. It also allows to configure (depending on the options) the remote conveying of Tally to the displays, their mapping from the keyboard, delivering time signal, relay-mapped tally output (for CCU, ...), dynamic following of routing switchers' status, reception of tally in serial format or saving user's set-ups protected by password and easily restored.

The device comes ready for mounting on standard 19" rack; it is only 27 mm depth. It is powered by a AC universal mains to 6VDC adapter (included) with 100 to 240 VAC input range.

Rear view



SPECIFICATIONS:

Model:	DBM-T8PM
Display:	Three text windows, each one with 8 matrix of 5x7 LEDs, 7 mm height.
Brightness:	Two levels (normal and Tally), adjustable each in 15 steps by front panel puss-buttons or remotely (RS-485).
Memory:	Store 8 messages plus internal parameters and user setups in a non-volatile memory, lasting 10 years.
Tally:	Two TALLY lamps (red and green) per text window. When tally lights up, text brightness is highlighted.
Control of Tally:	GPI or RS485 network.
Communications:	RS485 port for multi-drop serial communication, 9600 baud, 8 bit data, 1 stop bit with no parity. CROSSPOiNT protocol. Other protocols available using the CROSSPOiNT HUB-DSP controller.
Connectors:	DC In RS-485: 2 x RJ-11 looped. GPI/O: Sub-D 9 pin male. Open collector, 100mA max. per output. Closed circuit to common ground for input.
Power Supply:	6V DC stabilized. 100-240 mains adaptor included.
Max. Consumption:	10 VA.
Size:	Width, 19" Height, 42 mm (1RU). Depth, 27 mm (without connectors).
Weight:	350 g. (without power adaptor)

(Specifications subject to change without prior notice)

CROSSPOiNT

**DBM-10PM-DA
DBM-D9PM-DA
DBM-D9PM-2DA**

UNDER MONITOR DISPLAY WITH DA CONVERTER

TEXT, TALLY AND SDI TO PAL/NTSC CONVERSION

SDI digital video version with PAL/NTSC output

CROSSPOINT manufactures several models of Display for installation on TV monitoring panels. These Displays are designed for use in control rooms where different video and audio signals have to be presented and identified in a clear and simple manner. Situations like Tally and audio alarms are also signaled.

These models combine, in a single unit, the following features:

- **Single or dual text message display**
- **Dual independent TALLY lights per text**
- **1 or 2 SDI video to composite PAL/NTSC conversión**
- **RS-485 network remote control capability**



TEXT & TALLY. Text display is clear and auto-centered. Brightness level is user-programmable from 1 to 100, which allows adapting the brightness level to the actual lighting of the room. The indication of active Tally situation is performed by large LED lamps which not only highlight text brightness to a level –also programmable–, but give a very clear indication of the signal “on the air”. Having two colors for Tally it is possible also to indicate audio alarms, etc., very clearly.

This type of Tally indication is so bright that monitors without Tally lights can be used, again reducing expenses, since usually this type of monitor has a markedly lower price. You will also save in cable and connectors, as there is no need to link up each Display to its associated video monitor.

DIGITAL TO ANALOG CONVERSION. The models DBM-10PM-DA and DBM-D9PM-DA have an internal D/A converter providing an analog composite PAL/NTSC video

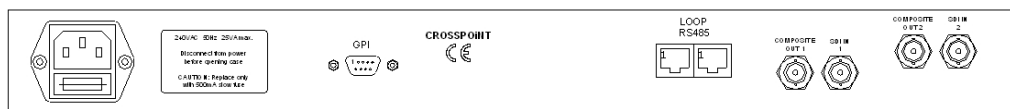
signal from SDI, with automatic detection. The model DBM-D9PM-2DA has two of them. You save money using cheap analog picture monitors instead the expensive ones with SDI input.

CONTROL. Their functions can be controlled with the push-buttons on their front panel or via RS485 serial port.

Using CROSSPOINT's HUB-DSP controller, it is possible to modify texts on the displays quickly –in less than 10 seconds– without the intervention of specially trained operators. It also allows to configure (depending on the options) the remote conveying of Tally to the displays, their mapping from the keyboard, delivering time signal, relay-mapped tally output (for CCU, ...), dynamic following of routing switchers' status, reception of tally in serial format or saving user's set-ups protected by password and easily restored.

This unit is power supplied directly from the 100 – 240 VAC mains.

Rear view



SPECIFICATIONS:

Models:	DBM-10PM-DA DBM-D9PM-DA DBM-D9PM-2DA
Input video:	1 x SDI Digital video(SMPTE 259M), DBM-10PM-DA, DBM-D9PM-DA. 2 x SDI Digital video(SMPTE 259M), DBM-D9PM-2DA.
Output analog video:	1 x 1 Vpp. PAL(625/50) or NTSC(525/60), autodetect. DBM-10PM-DA, DBM-D9PM-DA. 2 x 1 Vpp. PAL(625/50) or NTSC(525/60), autodetect. DBM-D9PM-2DA.
Text window:	10 matrix with 5x7 LED each, 17 mm height., DBM-10PM-DA 9 + 9 matrix with 5x7 LED each, 17 mm height., DBM-D9PM-DA and DBM-D9PM-2DA
Brightness:	Two levels (normal and Tally), adjustable in 99 steps.
Memory:	Store 8 messages plus internal parameters and user setups.
TALLY:	Two TALLY lamps (red and green) per message window. When tally lights up, text brightness is highlighted.
Control of Tallies:	Over GPI or RS485 network.
Communications:	RS485 port for multi-drop serial communication, 9600 baud, 8 bit data, 1 stop bit with no parity. CROSSPOINT protocol. Other protocols available using the CROSSPOINT HUB-DSP controller.
Connectors:	RS-485: 2 x RJ-11 looped. GPI/O: Sub-D 9 pin male. Open collector, 100mA max. per output. Closed circuit to common ground for input. Video: 2 x BNC, DBM-10PM-DA, DBM-D9PM-DA. 4 x BNC, DBM-D9PM-2DA
Power Supply:	100 - 240 VAC, 47-63 Hz.
Max. Consumption:	25 VA.
Size:	Width, 19". Height, 42 mm (1RU). Depth, 125 mm. (without connectors).
Weight:	2,1 Kg.

(Specifications subject to change without prior notice)

CROSSPOINT

HUB-DSP HUB-DSP-NET

UMD-TALLY SYSTEM CONTROLLER

CROSSPOINT manufactures several models of Display for installation on TV monitoring panels. These Displays are designed for use in control rooms where different video and audio signals have to be presented and identified in a clear and simple manner. Situations like Tally and audio alarms are also signaled. The **HUB-DSP** controller is the heart of the dynamic UMD's system, sending names and TALLY information to all UMD's connected in a RS485 party line. Several options allows integration of Router and Mixer for a fully dynamic TEXT and TALLY display performance.

The **HUB-DSP** and **HUB-DSP-NET** models combine, in a single unit , the following features:

- **RS-485 network remote control capability for UMD's.**
- **Powerful TALLY management.**
- **Input/output serial ports, optional for Router/Mixer interface.**
- **TALLY Parallel Input/output, optional.**
- **GUSYC, PC visual configuration software supplied.**
- **Easy configuration by GUSYC or with an optional keyboard.**

With external modules:

- **Ethernet port, optional. Included on HUB-DSP-NET.**
- **Optional interface with most Multi-image processors.**



By using **Controller HUB-DSP** (in 1RU), up to 255 dynamic UMD's can be networked RS-485. It has a powerful **TALLY** management with a dual internal 128x128 tally matrix. By using **GUSYC**, a PC software included, the user easily configure the entire UMD system, store and recall system configurations. Optionally, an small compact keyboard, **KBD-232**, allows the operator to configure the entire UMD's panel just looking the UMD's prompts.

By connecting the HUB&UMD's system to a Routing Switcher you can achieve a fully dynamic mode of operation where the names on UMD's change, following the cross-point activity of your Routing Switcher. For that purpose you need to add the **PS-MTX option** to the HUB, which include a RS-232/422 Port plus the software for the specific model of the R.S. you may use. List of Routers currently interfaced includes, SONY, THOMSON, PESA, PROBEL and many others. Also Serial TALLY can be received from Mixers like SONY, THOMSON, SNELL&Wilcox and ROSS.

The **64 Tally In** option allows to enter with up to 64 closed contacts (Tally relay outputs) from your Mixer.

These Tally commands are sent through the RS-485 network to the UMD's and can be fully mapped (any Tally input to any UMD).

If you need to send Tally indication to your cameras as well, we suggest to use the **64 Tally Out** option, that allows to generate 64 solid state relay closing circuits, also fully mapped (any Tally In to any Tally Out).

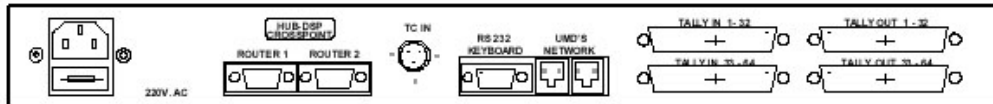
With **LPA-GUSYC** option an **Ethernet port** is added to the HUB-DSP for configuration purposes using GUSYC. It is included in the model HUB-DSP-NET.

LPA-MP option allows to send names and Tally information to one or more Multi-image Display Processors. Configured using GUSYC as part of an hibrid UMD and Tally system.

TC-HUB option allows you to enter LTC (Longitudinal Time Code) to the **Controller** and send the **clock** information to one or several UMD's in the network, either Local time or any Time zone. It allows Countdown operation as well.

This unit is power supplied directly from the 100 - 240 VAC.

Rear view



SPECIFICATIONS:

Models:	HUB-DSP, HUB-DSP-NET
TALLY processing:	Dual internal TALLY matrix, 128x128.
Configuration:	Via RS232 port.
Communications:	Party line for CROSSPOINT dynamic Under Monitor Displays UMD. RS485 port for multi-drop serial communication, 9600 baud, 8 bit data, 1 stop bit with no parity.
Options:	TC-HUB, LTC Time code input module. PS-MTX, Serial Port and software to communicate with a Router or a Mixer. PS-MTX-DUAL, Dual Serial port and software to communicate with Router and Mixer. 64TALLY IN, 64 inputs by closure to GND, non-isolated. 64TALLY OUT, 64 Alarm Outputs by solid state Relés. KBD-232, Compact keyboard. LPA-GUSYC, 10BaseT Ethernet port. Included in HUB-DSP-NET. LPA-MP, Multi-image display processor interface.
Switcher protocols available:	THOMSON-GVG with VM3000 controller(Jupiter), ASCII, MPK and ES Switch protocols. UTAH with SC2 & SC3 controllers, ASCII protocol. SIERRA VIDEO, all models and sizes. SONY, Digital Video Series, CART+ protocol. DATATEK, D2600/D2800 series. QUARTZ, Q1600,3200,6400 series with CI-0001 Computer I/F. LEITCH, Pass-Through protocol. NETWORK, Interface protocol RS232. PESA Switching, CPU link & USP protocol, P1E. PROBEL, General remote protocol (SW-P-08). TELECAST, Prosan protocol.
Mixers, with Serial TALLY	SONY MIXER 7000,8000 and 9000 series. THOMSON-GVG, DD series, serial Tally protocol. SNELL & WILCOX, HD1000 and Golden DaVE series, Kahuma. ROSS Synergy series.
Power Supply:	100 - 240 VAC, 47 to 63Hz.
Max. Consumption:	20 VA.
Size:	Width, 19". Height, 42 mm (1RU). Depth, 210 mm. (without connectors).
Weight:	3,5 Kg.
Operating temperature:	0 to 40°C.

(Specifications subject to change without prior notice)

(Names of Products and Firms are the property of the companies concerned)

CROSSPOINT

LPA-MP

Multi-image display processors Interface

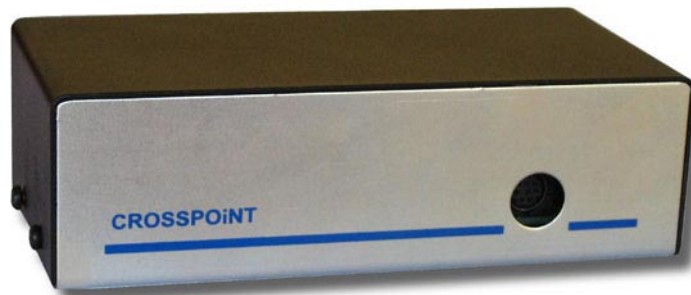
Optional for the HUB-DSP, UMD and Tally system Controller

CROSSPOINT manufactures several models of Display for installation on TV monitoring panels. These Displays are designed for use in control rooms where different video and audio signals have to be presented and identified in a clear and simple manner. Situations like Tally and audio alarms are also signaled. The **HUB-DSP** controller is the heart of the dynamic UMD's system, sending names and TALLY information to all UMD's connected in a RS485 party line.

Now, with the **LPA-MP** option for the HUB-DSP, it is possible to send Names and TALLY info to one or several multi-images processors allowing integration of Router and Mixer in a fully dynamic TEXT and TALLY display performance.

The **LPA-MP** model combine, in a single unit , the following features:

- **Serial port RS-232/422 and protocols to interface with most of Multi-image Processors available.**
- **Easy configuration using GUSYC software through the HUB-DSP controller.**



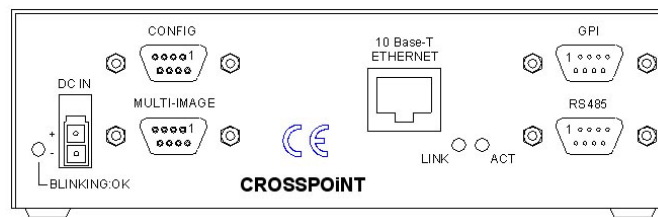
The Level and protocol Adapter **LPA-MP** option for the HUB-DSP, is designed so that one or several Multi-image monitoring processors can be integrated into a **CROSSPOINT** dynamic Under Monitor Display System. Multi-image processors from Miranda, Barco, Zandar and Evertz can be interfaced. All other Multi-image processors having same serial port and protocols can be interfaced as well.

Multi-image UMDs will have the same behaviour as the rest of the physical UMDs that may exist in the system, having full dynamic capabilities for Text and Tally, remote configuration from a unique site, etc.. By using

GUSYC, a PC software included, the user easily configure the entire UMD system, store and recall system configurations, through the **CROSSPOINT** controller HUB-DSP, as part of a hybrid UMD system. The **LPA-MP** module is connected to the same RS-485 line that connect all other physical UMD to The HUB-DSP controller. One serial port RS-232/422 allows communication with one or several Multi-image processors.

This unit needs a supply voltage 7,5 VDC from an external 100 - 240 VAC mains adapter, included.

Rear view



SPECIFICATIONS:

Model:	LPA-MP
Multi-image processors Interfaced:	Miranda, Barco, Zandar, Evertz and other Multi-image processors using the protocols bellow mentioned.
Multi-image protocols:	Andrómeda (9600, 8N1) and TSL (38400, 8E1).
Configuration:	Via RS232 port.
Communications:	One RS485 port for multi-drop serial communication, (9600 baud, 8 bit data, 1 stop bit, no parity) with CROSSPOINT dynamic Under Monitor Displays UMD system (HUB-DSP). One serial port RS232/422, configurable through internal jumpers. One serial port RS232, for configuration.
Supply voltage:	7,5 VDC. 100 - 240 VAC mains adapter supplied.
Max. Consumption:	250 mA.
Size:	Width, 150 mm. Height, 45 mm. Depth, 70 mm. (without connectors).
Weight:	450 g.
Operating temperature:	0 to 40°C.

(Specifications subject to change without prior notice)
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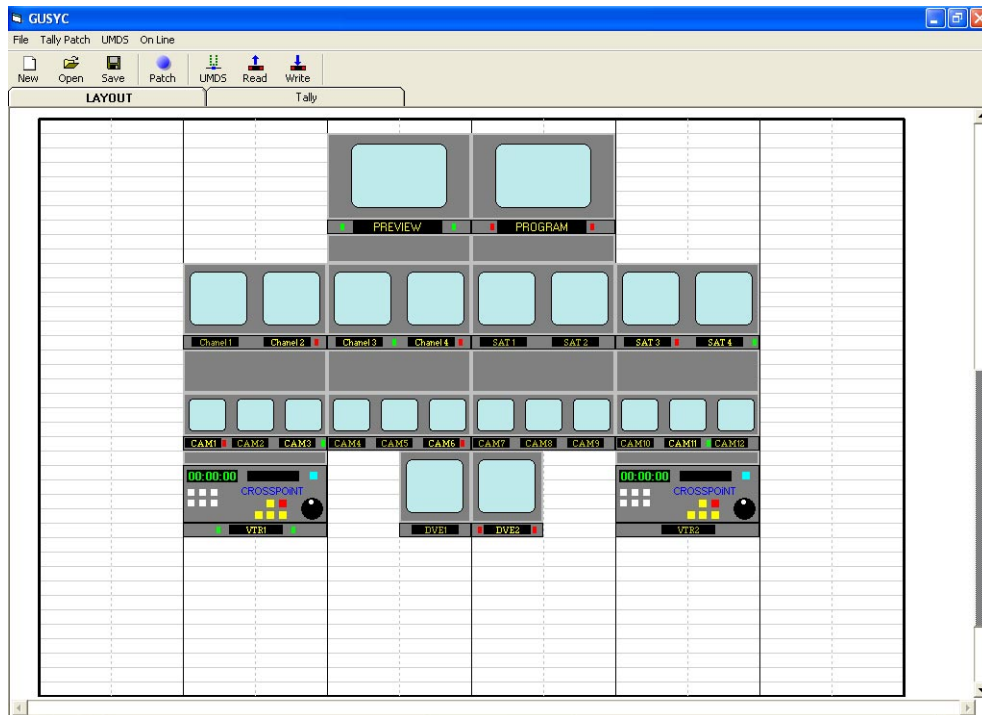
GUSYC

GRAPHICAL UMD SYSTEM CONFIGURATOR

Configuration software for CROSSPOINT UMD/TALLY System with a HUB-DSP Controller

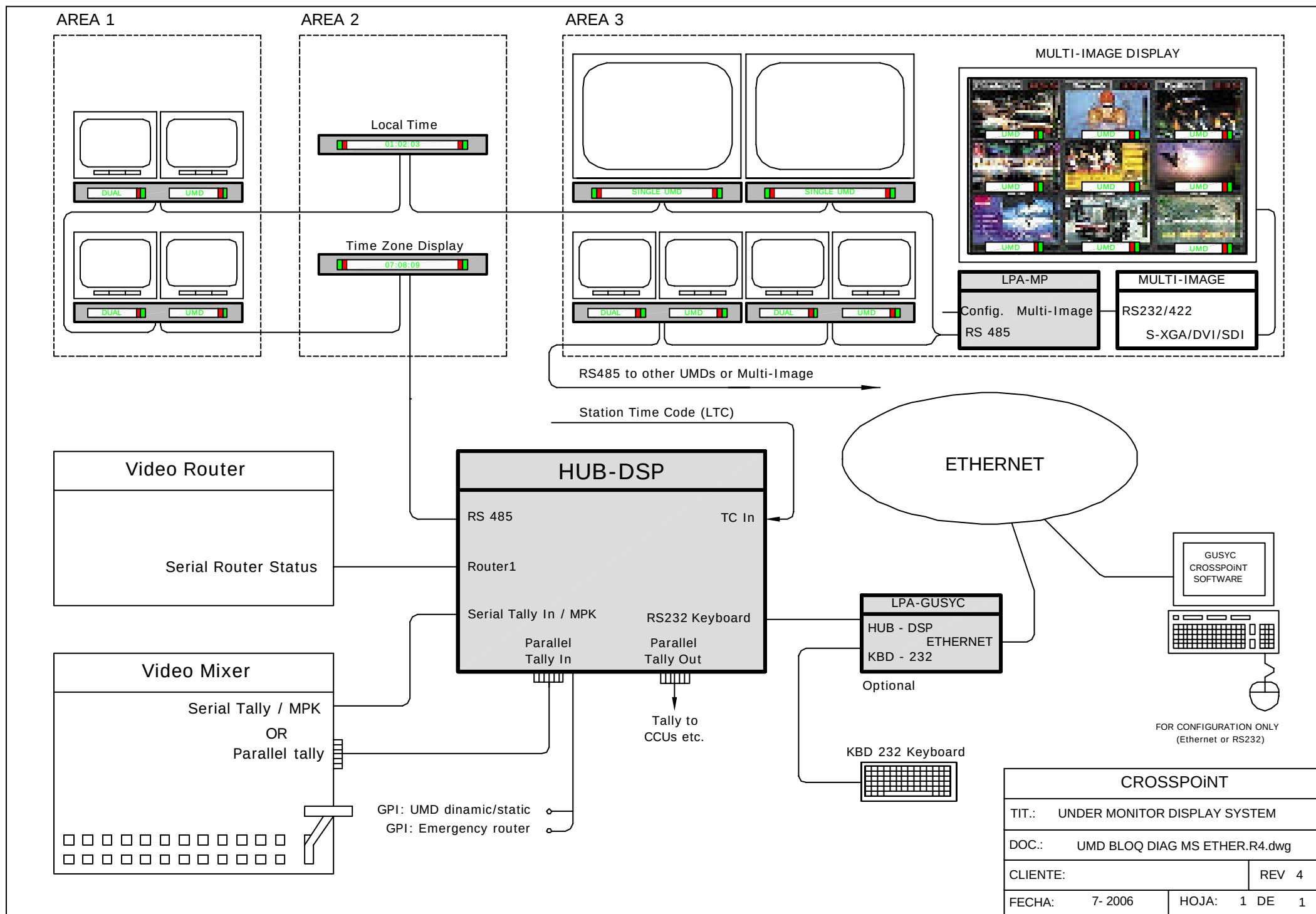
CROSSPOINT manufactures several models of Display for installation on TV monitoring panels. These Displays are designed for use in control rooms where different video and audio signals have to be presented and identified in a clear and simple manner. Situations like Tally and audio alarms are also signaled.

GUSYC is a Windows 95...XP software program running in a User's PC that provide the ability to configure graphically a **CROSSPOINT** UMD /TALLY System. It includes the following features:



- On-screen configuration of UMDs and HUB-DSP functions.
- Select and drop on the blank monitor grid, different TV monitor sizes, UMD types, VTRs and blank panels.
- Up to 9 monitor walls can be defined for a single **CROSSPOINT** HUB-DSP Controller.
- On line editing of text, brightness, blinking and clock modes for each UMD on the wall.
- Edit HUB-DSP dual TALLY matrix configuration for Red and Green TALLY levels.
- Define individual UMDs as Static (fixed text) or Dynamic text following input and/or output Router status.
- Edit output TALLY relay assignments.
- On-screen monitoring of TALLYs and Routing Switcher status.
- TALLY assignment by pinch-panel or by list.
- Works off-line and on-line connected to the HUB-DSP controller by a RS232 port.
- Overall system configuration saving and retrieval.
- GUSYC is only needed for configuration, not for normal operation.
- It comes with HUB-DSP controllers with firmware version 2.54 and up.
- Almost all previous versions can be upgraded at a very reasonable price.

CROSSPOINT



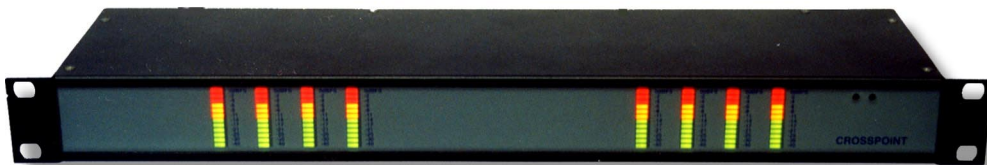
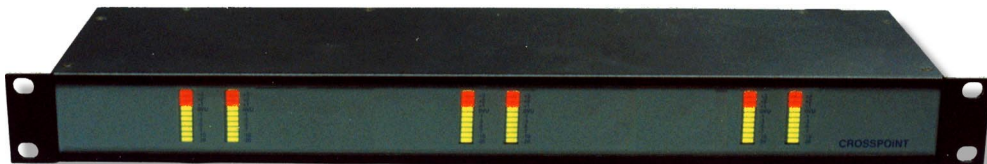
**IPA-D4CH
IPA-T2CH****BAR-GRAPH AUDIO MONITORING DISPLAYS****8 & 6 CHANNEL AUDIO LEVEL METERS**

Analog audio version

CROSSPOINT manufactures several models of Display for installation on TV monitoring panels. These Displays are designed for use in control rooms where different video and audio signals have to be presented and identified in a clear and simple manner. Situations like Tally and audio alarms are also signaled.

The **IPA-D4CH** and **IPA-T2CH** models combine, in a single unit, the following features:

- **8 or 6 channel analog audio VU-metering**
- **Audio alarm signaling**
- **Cost effective**

**IPA –D4CH****IPA –T2CH**

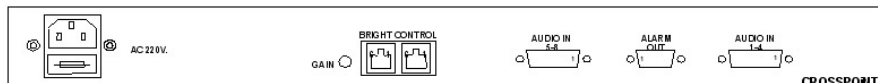
AUDIO METERING. Both models receive analog balanced audio, 8 channels for IPA-D4CH and 6 channels for IPA-T2CH. It performs VU-metering on 8 (or 6) vertical bar-graphs with 10 LED each, 7 green LEDs indicating –20 VU to 0VU range and 3 red LEDs indicating +1, +2, +3 VU. The LEDs brightness level can be adjusted in 16 levels, by doing the appropriated jumpers on rear connector RJ11.

Both models makes easy to identify the associated audio and its level with the picture shown in the video monitor. They are ideal for Studio Control rooms where the operator is in charge of a huge number of Audio and Video signals, instead of the systems showing audio level superimpose on video monitors.

ALARM OUT. It delivers 8 (or 6), one for each channel, open collector type alarm outputs. It is possible to parallel two or more alarm outputs. For instance, you can connect it to a CROSSPOINT message UMD to activate a Tally light, and /or to show a message (one of the eight internally stored messages) and to control the message brightness or blinking as well. Those devices, connected to an automation system, gives you a very powerful alarm monitoring system.

The unit fits in a 19" rack, 1 RU and is power supplied directly from the 230VAC mains.(110 VAC optionally).

Rear view



SPECIFICATIONS:

Models:	IPA-D4CH IPA-T2CH
Input audio:	Analog audio balanced, 8 channels (IPA-D4CH) or 6 channels (IPA-T2CH).
Input impedance:	10 Kohms.
Audio Measurement:	VU-meter type.
Scale:	-20 VU to +3 VU.
Reference level:	Factory adjusted 0VU= +4 dbm.
LED bar-graphs:	8 with 10 LEDs each, IPA-D4CH. 6 with 10 LEDs each, IPA-T2CH.
Brightness:	16 levels, binary selected.
Alarm ON:	Silence longer than 12 seconds.
Alarm output:	One per input. Open collector, 100mA max. per output.
Connectors:	Alarms: GPI/O: Sub-D 9 pin male. Audio inputs: 2 x Sub-D 15 pin female.
Power Supply:	230 VAC, 47-63 Hz. (optionally 110 VAC)
Max. Consumption:	20 VA.
Size:	Width, 19". Height, 1RU (42 mm). Depth, 200 mm. (without connectors).
Weight:	2,4 Kg.

(Specifications subject to change without prior notice)

CROSSPOINT

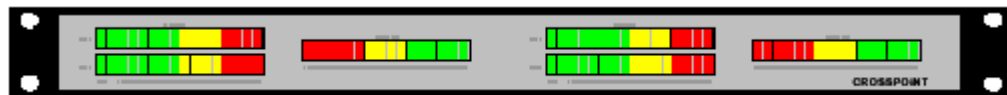
**IPA-D1CH-F
IPA-D2CH-F****BAR-GRAPHS AUDIO MONITORING DISPLAYS
WITH CORRELATION AND ALARMS**

Analog audio version

CROSSPOINT manufactures several models of Display for installation on TV monitoring panels. These Displays are designed for use in control rooms where different video and audio signals have to be presented and identified in a clear and simple manner. Situations like Tally and audio alarms are also signaled.

The **IPA-D1CH-F** and **IPA-D2CH-F** models combine, in a single unit , the following features:

- **2 - 4 channel Analog audio metering**
- **Single or dual Phase meter**
- **Audio alarms output**
- **RS-485 network remote control capability**

**IPA-D1CH-F****IPA-D2CH-F**

AUDIO METERING. Model **IPA-D1CH-F** receives two analog audio signals and displays two VU-meter type indications plus the Stereo Phase meter. Model **IPA-D2CH-F** receives four analog audio signals and displays four VU-meter type indications plus two Stereo Phase meters. Audio levels are presented over 3/6 horizontal bars, LED-type, with 16 steps, graded from -20 to +4 VU for the VU-meter type indicators and from -1 to +1 on Phase-meters.

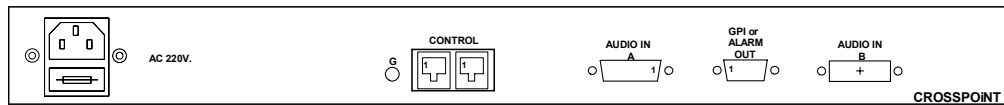
ALARMS. Audio channels are continuously analyzed to generate alarms when malfunction occurs. Silence and inverted phase are the detected conditions. These alarms are available on the rear of unit in the form of circuit closure and over the multi-point RS485 link.

Alarm outputs can be centralized both in parallel format (relay closure) and in serial format in a custom-designed controller. Having alarms centralized in serial format allows a connection to automatic "login" systems, remote sending to other control rooms, etc.

CONTROL. Brightness level and all other functions can be controlled with the push-buttons on their front panel or via RS485 serial port.

These units fits in a standard 19" rack using 1RU. It is power supplied directly from the 230VAC mains.(110 VAC optionally).

Rear view



SPECIFICATIONS:

Models:	IPA-D1CH-F IPA-D2CH-F
Input audio:	Two analog audio channels, IPA-D1CH-F Four analog audio channels, IPA-D2CH-F
Input impedance:	>10 KOHms.
Metering:	Vumeter/Peak meter and Correlation (Stereo phase)
Level measurement:	-20 to +4 VU.
Reference level:	0VU= +4dBm
Phase Measurement:	Correlation (Stereo Phase): -1 to +1.
LED bar-graphs:	3 with 16 tricolor LEDs each, IPA-D1CH-F . 6 with 16 tricolor LEDs each, IPA-D2CH-F.
Detected alarms:	Silence: Audio level below -20dBm for more than 10 secs., programmable. Inverted Phase: Inverted phase (negative Correlation) for more than 10 secs.
Brightness control:	From 1 to 100 in 99 steps, using front panel push-buttons or serial port.
Communications:	RS485 port for multi-drop serial communication, 9600 baud, 8 bit data, 1 stop bit with no parity.
Connectors:	RS-485: 2 x RJ-11 looped. GPI/O: Sub-D 9 pin male. Open collector, 100mA max. per output. Closed circuit to common ground for input. Audio: 2 x Sub-D 15 pin.
Power Supply:	230 VAC, 47-63 Hz. (optionally 110 VAC)
Max. Consumption:	20 VA.
Size:	Width, 19". Height, 1RU (42 mm). Depth, 125 mm. (without connectors).
Weight:	2,4 Kg.

(Specifications subject to change without prior notice)

CROSSPOINT

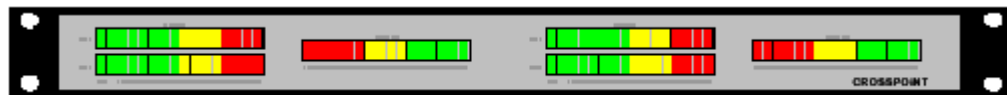
**IPA-D1CH-F-AES
IPA-D2CH-F-AES****BAR-GRAPHS AUDIO MONITORING DISPLAYS****WITH CORRELATION AND ALARMS**

AES/EBU digital audio version

CROSSPOINT manufactures several models of Display for installation on TV monitoring panels. These Displays are designed for use in control rooms where different video and audio signals have to be presented and identified in a clear and simple manner. Situations like Tally and audio alarms are also signaled.

The **IPA-D1CH-F-AES** and **IPA-D2CH-F-AES** models combine, in a single unit, the following features:

- **2 - 4 channel digital audio metering**
- **Single or dual Phase meter**
- **Audio alarms output**
- **RS-485 network remote control capability**

**IPA-D1CH-F-AES****IPA-D2CH-F-AES**

AUDIO METERING. Model **IPA-D1CH-F-AES** receives one AES pair digital audio signals and displays two PPM-meter type indications plus the Stereo Phase meter. Model **IPA-D2CH-F-AES** receives two AES pairs digital audio signals and displays four PPM-meter type indications plus two Stereo Phase meters. Audio levels are presented over 3/6 horizontal bars, LED-type, with 16 steps, graded from 0 dBFS to -40 dBFS for the PPM-meter type indicators and from -1 to +1 on Phase-meters.

ALARMS. The audio AES streams are continuously analyzed to monitor selected audios and generate alarms when malfunction occurs. Digital Stream failure, Overflow, Silence and inverted phase are the detected conditions.

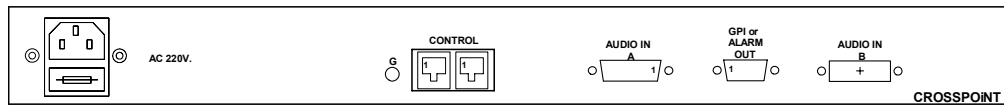
These alarms are available on the rear of unit in the form of circuit closure and over the multi-point RS485 link.

Alarm outputs can be centralized both in parallel format (relay closure) and in serial format in a custom-designed controller. Having alarms centralized in serial format allows a connection to automatic "login" systems, remote sending to other control rooms, etc.

CONTROL. Brightness level and all other functions can be controlled with the push-buttons on their front panel or via RS485 serial port.

These units fits in a standard 19" rack using 1RU. It is power supplied directly from the 230VAC mains.(110 VAC optionally).

Rear view



SPECIFICATIONS:

Models:	IPA-D1CH-F-AES IPA-D2CH-F-AES
Input audio:	One digital AES/EBU pair, IPA-D1CH-F-AES Two digital AES/EBU pair, IPA-D2CH-F-AES
Input impedance:	110 Ohms, transformer isolated.
Metering:	Peak meter and Correlation (Stereo phase)
Level measurement:	From 0 dBFS to -40 dBFS.
Rise / Decay time::	Instantaneous / -20db/sec.
Phase Measurement:	Correlation (Stereo Phase): -1 to +1.
LED bar-graphs:	3 with 16 tricolor LEDs each, IPA-D1CH-F-AES . 6 with 16 tricolor LEDs each, IPA-D2CH-F-AES.
Detected alarms:	Absence of digital data, parity or validity. Overflow Silence: Audio level below -20dBm for more than 10 secs., programmable. Inverted Phase: Inverted phase (negative Correlation) for more than 10 secs.
Brightness control:	From 1 to 100 in 99 steps, using front panel push-buttons or serial port.
Communications:	RS485 port for multi-drop serial communication, 9600 baud, 8 bit data, 1 stop bit with no parity.
Connectors:	RS-485: 2 x RJ-11 looped. GPI/O: Sub-D 9 pin male. Open collector, 100mA max. per output. Closed circuit to common ground for input. Audio: 2 x Sub-D 15 pin.
Power Supply:	230 VAC, 47-63 Hz. (optionally 110 VAC)
Max. Consumption:	20 VA.
Size:	Width, 19". Height, 1RU (42 mm). Depth, 125 mm. (without connectors).
Weight:	2,4 Kg.

(Specifications subject to change without prior notice)

CROSSPOINT

**IPA-D4CH-SDI
IPA-T4CH-SDI, IPA-T4CH-SDI-DA
IPA-D4CH-SDI-H, IPA-D4CH-SDI-DA**

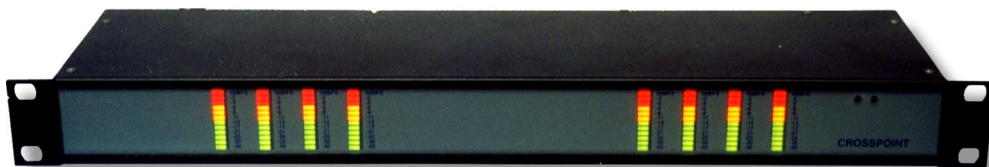
BAR-GRAPH AUDIO MONITORING DISPLAYS

8 or 12 CHANNEL AUDIO LEVEL METERS
SDI embedded digital audio version

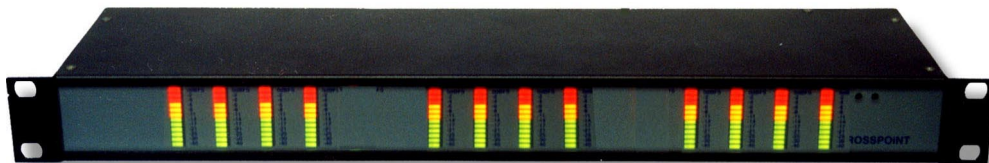
CROSSPOINT manufactures several models of Display for installation on TV monitoring panels. These Displays are designed for use in control rooms where different video and audio signals have to be presented and identified in a clear and simple manner. IPA models are designed to display the level of audio channels that, depending on models, can be either analog, AES/EBU or embedded audio in SDI. Versions with Video digital to analog internal converters also available.

The **IPA-D4CH-SDI**, **IPA-T4CH-SDI** and **IPA-D4CH-SDI-H** models combine, in a single 1 RU unit, the following features:

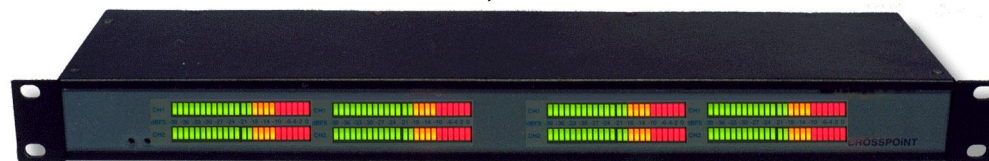
- **2 or 3 SDI video inputs with embedded audio**
- **8 or 12 channel digital embedded audio metering**
- **Audio alarm signaling**
- **RS-485 network remote control capability**



IPA-D4CH-SDI



IPA-T4CH-SDI, IPA-T4CH-SDI-DA



IPA-D4CH-SDI-H, IPA-D4CH-SDI-H-DA

AUDIO METERING. These models receives 2 or 3 x SDI digital signal (SMPTE 259M), and can process 8 or 12 groups of embedded digital Audio (SMPT 272M). Level of selected audio channels are displayed over 8 (IPA-D4CH-SDI) or 12 (IPA-T4CH-SDI) vertical bar-graphs of tricolored LED type with 12 steps, graded from 0dBFS to -40dBFS, or over 8 horizontal bar-graphs of tricolored LED type, with 24 steps, graded from 0dBFS to -40dBFS (IPA-D4CH-SDI-H). All models has an active loop output from each SDI input, with equalization and clock regeneration. The audio signal is taken directly from a SDI signal, and it is possible to select the audio group and channel to be displayed on each bar.

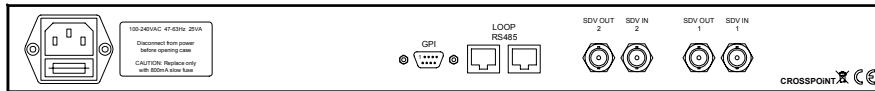
DIGITAL TO ANALOG CONVERSION. Models IPA-D4CH-SDI-H-DA and IPA-T4CH-SDI-DA has internal D/A converters providing analog composite PAL/NTSC video signals, with automatic detection. You save money using cheap analog picture monitors instead the expensive ones with SDI input.

ALARMS. The SDI stream is continuously analyzed to monitor selected audios and generate alarms when malfunction occurs. Absence of digital data, Overflow and silence are the detected conditions. Alarms are indicated using the color change ability of the bars. These alarms also are available on the rear of unit in the form of circuit closure and over the multi-point RS485 link.

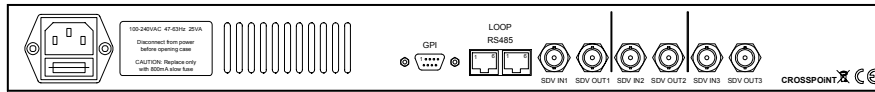
They can be centralized both in parallel format (relay closure) and in serial format in a custom-designed controller. Having alarms centralized in serial format allows a connection to automatic "login" systems, remote sending to other control rooms, etc.

CONTROL. Their functions can be controlled with the push-buttons on their front panel or via RS485 serial port. These units fits in a standard 19" rack using 1RU. It is power supplied directly from the 100-240 VAC mains. Except IPA-D4CH-SDI for 230VAC mains.(110 VAC optionally).

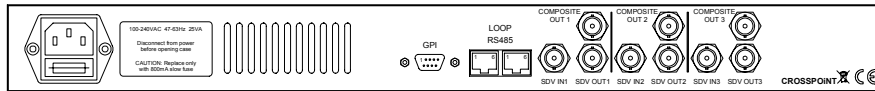
Rear view



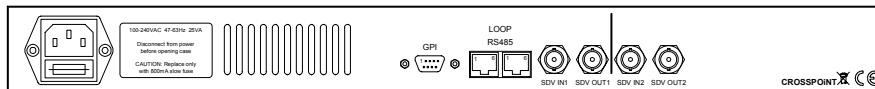
IPA-D4CH-SDI



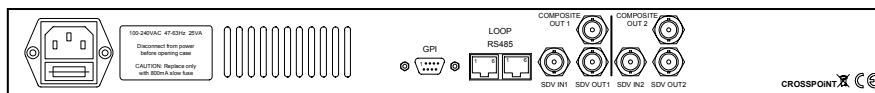
IPA-T4CH-SDI



IPA-T4CH-SDI-DA



IPA-D4CH-SDI-H



IPA-D4CH-SDI-H-DA

SPECIFICATIONS:

Models:	IPA-D4CH-SDI IPA-T4CH-SDI, IPA-T4CH-SDI-DA IPA-D4CH-SDI-H, IPA-D4CH-SDI-H-DA
Input digital video:	SDI Digital video(SMPTE 259M) with embedded audio (SMPTE 272M), 2 in (IPA-D4CH-SDI, IPA-D4CH-SDI-H), 3 in (IPA-T4CH-SDI).
Output digital video:	SDI Digital video(SMPTE 259M) with embedded audio (SMPTE 272M), copy fully equalized and reclocked, for each SDI input.
Output analog video:	2 x 1 Vpp. PAL(625/50) ó NTSC(525/60), autodetect. (IPA-D4CH-SDI-H-DA). 3 x 1 Vpp. PAL(625/50) ó NTSC(525/60), autodetect. (IPA-T4CH-SDI-DA).
Audio Measurement:	SDI Embedded audio level, peak-meter type.
Scale:	0 dBFS to -39dBFS.
LED bar-graphs:	8 with 12 tricolor LEDs each, 31x5 mm vertical (IPA-D4CH-SDI). 8 with 24 tricolor LEDs each, 62x5 mm horizontal (IPA-D4CH-SDI-H). 12 with 12 tricolor LEDs each, 31x5 mm vertical (IPA-T4CH-SDI).
Brightness:	From 1 to 100, adjustable in 99 steps, through push-bottoms and serial port.
Detected alarms:	Absence of digital data, parity or validity. Overflow, Silence.
Communications:	RS485 port for multi-drop serial communication. It allows parameters modification and alarm reporting through network.
Connectors:	RS-485: 2 x RJ-11 looped. GPI/O: Sub-D 9 pin male. Open collector, 100mA max. per output. Video: 4 BNC(IPA-D4CH-SDI, IPA-D4CH-SDI-H), 6 BNC(IPA-D4CH-SDI-H-DA, IPA-T4CH-SDI) and 9 BNC(IPA-T4CH-SDI-DA).
Power Supply:	100 - 240 VAC, 47-63 Hz. IPA-D4CH-SDI , 230 VAC, 47-63 Hz. (optionally 110 VAC).
Max. Consumption:	20 VA.
Size:	Width, 19". Height, 1RU (42 mm). Depth, 200 mm. (without connectors).
Weight:	2,4 Kg.

CROSSPOINT

IPA-D2CH-F-SDI IPA-D2CH-F-SDI-DA

BAR-GRAPH AUDIO MONITORING DISPLAYS

4 CHANNEL AUDIO LEVEL and STEREO PHASE METERS

SDI embedded digital audio version

SDI embedded digital audio with internal video digital to analog converter version

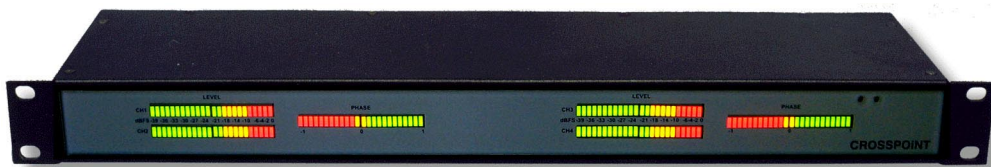
CROSSPOINT manufactures several models of Display for installation on TV monitoring panels. These Displays are designed for use in control rooms where different video and audio signals have to be presented and identified in a clear and simple manner. IPA models are designed to display the level of audio channels that, depending on models, can be either analog, AES/EBU or embedded audio in SDI. Versions with Video digital to analog internal converters also available.

The **IPA-D2CH-F-SDI** model combine, in a single 1 RU unit, the following features:

- 2 SDI video inputs with embedded audio
- 4 channel digital embedded audio metering
- 2 Stereo Phase meters
- Audio alarm signaling
- RS-485 network remote control capability

The **IPA-D2CH-F-SDI-DA** model adds the following feature:

- 2 SDI video to composite Pal/NTSC internal converters



IPA-D4CH-F-SDI, IPA-D4CH-F-SDI-DA,

AUDIO METERING. These models receive 2 SDI digital signals (SMPTE 259M), and can process 8 groups of embedded digital Audio (SMPTE 272M). Measurements of selected audio channels are displayed over 6 horizontal bar-graphs of tricolored LED type with 24 steps, graded from 0dBFS to -40dBFS for audio PPM levels and from -1 to +1 for Stereo Phase indication. The audio signal is taken directly from a SDI signal, and it is possible to select the audio group and channel to be displayed on each bar. Both models have an active loop output from each SDI input, with equalization and clock regeneration.

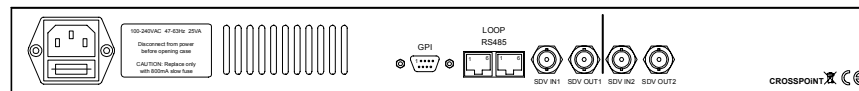
DIGITAL TO ANALOG CONVERSION. Model IPA-D4CH-F-SDI-DA has an internal D/A converter providing analog composite PAL/NTSC video signals, with automatic detection. You save money using cheap analog picture monitors instead of the expensive ones with SDI input.

ALARMS. The SDI stream is continuously analyzed to monitor selected audios and generate alarms when malfunction occurs. Absence of digital data, Overflow and silence are the detected conditions. Alarms are indicated using the color change ability of the bars. These alarms also are available on the rear of unit in the form of circuit closure and over the multi-point RS485 link.

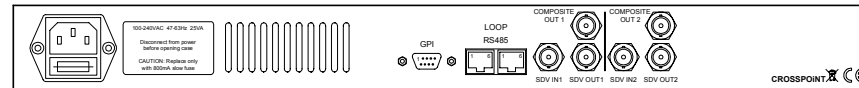
They can be centralized both in parallel format (relay closure) and in serial format in a custom-designed controller. Having alarms centralized in serial format allows a connection to automatic "login" systems, remote sending to other control rooms, etc.

CONTROL. Their functions can be controlled with the push-buttons on their front panel or via RS485 serial port. These units fit in a standard 19" rack using 1RU. It is power supplied directly from the 100- 240VAC mains.

Rear view



IPA-D2CH-F-SDI Rear view



IPA-D2CH-F-SDI-DA Rear view

SPECIFICATIONS:

Models:	IPA-D2CH-F-SDI IPA-D2CH-F-SDI-DA
Input digital video:	2 x SDI Digital video(SMPTE 259M) with embedded audio (SMPTE 272M),
Output digital video:	SDI Digital video(SMPTE 259M) with embedded audio (SMPTE 272M), copy fully equalized and reclocked for each SDI input.
Output analog video:	2 x 1 Vpp. PAL(625/50) ó NTSC(525/60), autodetect. (IPA-D2CH-F-SDI-DA).
Level measurement:	SDI Embedded audio level, peak-meter type.
Scale:	0 dBFS to -39dBFS.
Phase measurement:	Correlation(Stereo phase): -1 to +1
LED bar-graphs:	6 with 24 tricolor LEDs each, 62x5 mm, horizontal.
Brightness:	From 1 to 100, adjustable in 99 steps, through push-bottoms and serial port.
Detected alarms:	Absence of digital data, parity or validity. Overflow, Silence.
Communications:	RS485 port for multi-drop serial communication. It allows parameter modification and alarm reporting through network.
Connectors:	RS-485: 2 x RJ-11 looped. GPI/O: Sub-D 9 pin male. Open collector, 100mA max. per output. Video: 4 BNC(IPA-D2CH-F-SDI), 6 BNC(IPA-D2CH-F-SDI-DA)
Power Supply:	100-240 VAC, 47-63 Hz.
Max. Consumption:	25 VA.
Size:	Width, 19". Height, 1RU (42 mm). Depth, 200 mm. (without connectors).
Weight:	2,4 Kg.

(Specifications subject to change without prior notice)

CROSSPOINT

HUB-ALM

AUDIO ALARM PROCESSOR

CROSSPOINT manufactures different models of Displays for installation on monitoring panels. The displays indicating Presence of Audio are designed to detect various alarm conditions, like failure in digital flow of data, saturation/overload and silence. These alarms are visible on the front of Display in visual form (tricolored) and on the rear of each Display in the form of circuit closure.

The **HUB-ALM** model combine, in a single unit , the following features:

- **Multi-Alarm processing from CROSSPOINT audio displays, IPA**
- **RS-485 network remote control capability**
- **Serial port alarms reporting.**
- **Ethernet port, optional.**
- **Input/output serial port, optional.**
- **Parallel Input/output, optional.**



Since the number of audio/video signals controlled by an operator in the control room is everyday increased, it has proven very useful to concentrate all alarm signals on one location and to generate an indication strong enough to prevent an alarm from going undetected. This is easily achieved by linking all Displays in the control room to a Audio Alarm Processor HUB-ALM over the local RS485 network.

In this way, besides the visual alarm indication on the Display front, there can be an acoustic/visual alarm indication encompassing groups of Displays arranged according to the specific needs of the installation, i.e., grouped by racks, or provider, or satellite... . A push-button, associated to this alarm, allows the operator to “acknowledge” such alarm. This acknowledgement deactivates the indication of that group alarm until a new alarm within that group is triggered.

Groups can be as wide as all Displays in a single group, or a group with a single Display, generating its own alarm signal and associated to an “acknowledgement” button. The visual

alarm presented on the front of Displays will remain ON until the alarm condition disappears.

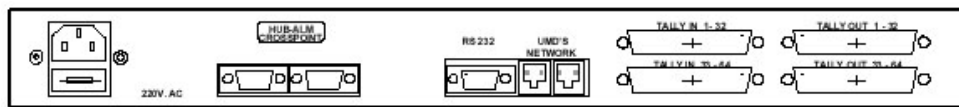
CROSSPOINT's HUB-ALM achieves important savings in wiring and time spent configuring the system, as it gathers all alarms under a single device, both in the form of “circuit closure” and via serial port. The serial port option allows linking with alarm “login” systems for monitoring audio alarms within the Center Control and Supervision System .

When there are several Audio Alarm Processors in different locations, these can be linked via the ethernet network of the installation, in order to obtain a unified indication of the state of alarms on the system's General Alarm Controller.

When you have installed the Under Monitor Display system by CROSSPOINT, these alarms can also be sent to the UMDs for their display in text form.

This unit is power supplied directly from the 100 - 240VAC.

Rear view



SPECIFICATIONS:

Model:	HUB-ALM
Alarm outputs:	RS232/RS422 serial port.
Configuration:	Via RS232 port.
Communications:	Party line with CROSSPOINT Audio Monitoring Displays IPA. RS485 port for multi-drop serial communication, 9600 baud, 8 bit data, 1 stop bit with no parity.
Options:	64TALLY OUT. 64 Alarms Output: by Solid state Relés.. PS-MTX: Serial Port and software to communicate with a HBU_DSP, UMD's Controller. NOTE: To configure the Processor please order at least one of the option bellow. 64TALLY IN, 64 inputs by closure to GND, non-isolated. E-NET, 10BaseT Ethernet port.
Power Supply:	100 - 240 VAC, 47 – 63Hz
Max. Consumption:	20 VA.
Size:	Width, 19". Height, 42 mm (1RU). Depth, 210 mm. (without connectors).
Weight:	3,5 Kg.

(Specifications subject to change without prior notice)

CROSSPOINT

DBM-10IPA
DBM-10IPA-F
DBM-D9IPA-F

COMBINED UNDER MONITOR DISPLAYS
SINGLE OR DUAL TEXT WITH AUDIO LEVEL METERS

Analog audio versions, with and without Phase meter

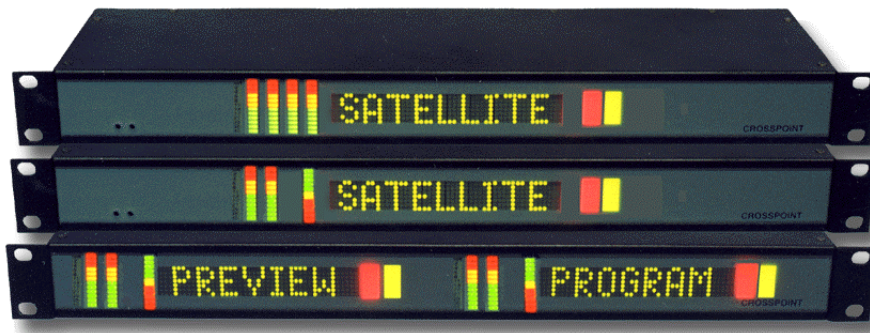
CROSSPOINT manufactures several models of Display for installation on TV monitoring panels. These Displays are designed for use in control rooms where different video and audio signals have to be presented and identified in a clear and simple manner. Situations like Tally and audio alarms are also signaled.

The **all three** models combine, in a single unit, the following features:

- **Single or dual text message display**
- **Dual independent TALLY lights per text**
- **2 - 4 channel Analog audio metering with audio alarm signaling**
- **RS-485 network remote control capability**

The **DBM-10IPA-F** and **DBM-D9IPA-F** models add the following feature:

- **Single or dual Phase meter**



AUDIO METERING. Model **DBM-10-IPA** receives four analog audio signals and displays four VU-meter type indications plus one text. Model **DBM-10-IPA-F** receives two analog audio signals and displays two VU-meter type indications plus the Stereo Phase and one text. Model **DBM-D9-IPA-F** receives 2 + 2 analog audio signals, and displays 2+2 VU-meter type indications and 1+1 Stereo Phase indicators plus two texts. Audio levels are presented over 2/4 vertical bars, LED-type tricolored, with 12 steps, gauged to +4dBm for the VU-meter type indicators and from -1 to +1 on Phase-meters. Audio channels are continuously analyzed to generate alarms when malfunction occurs. These alarms are available on the rear of unit in the form of circuit closure and over the multi-point RS485 link.

They can be centralized both in parallel format (relay closure) and in serial format in a custom-designed controller. Having alarms centralized in serial format allows a connection to automatic "login" systems, remote sending to other control rooms, etc.

TEXT & TALLY. Text displays is clear and auto-centered. Brightness level is user-programmable from 1 to 100, which allows adapting the brightness level to the actual lighting of the room. The indication of active Tally situation is performed by large LED lamps which not only highlight

text brightness to a level –also programmable–, but give a very clear indication of the signal "on the air". Having two colors for Tally it is possible also to indicate audio alarms, etc., very clearly.

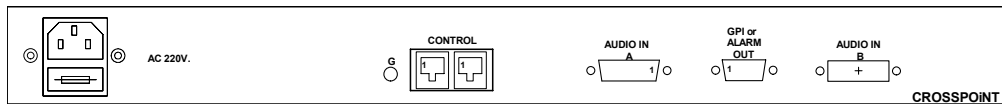
This type of Tally indication is so bright that monitors without Tally lights can be used, again reducing expenses, since usually this type of monitor has a markedly lower price. You will also save in cable and connectors, as there is no need to link up each Display to its associated video monitor.

CONTROL. Their functions can be controlled with the push-buttons on their front panel or via RS485 serial port.

Using CROSSPOINT's HUB-DSP controller, it is possible to modify texts on the displays quickly –in less than 10 seconds– without the intervention of specially trained operators. It also allows to configure (depending on the options) the remote conveying of Tally to the displays, their mapping from the keyboard, delivering time signal, relay-mapped tally output (for CCU, ...), dynamic following of routing switchers' status, reception of tally in serial format or saving user's set-ups protected by password and easily restored.

This unit is power supplied directly from the 230VAC mains.(110 VAC optionally).

Rear view



SPECIFICATIONS:

Models:	DBM-10IPA DBM-10IPA-F DBM-D9IPA-F
Input audio:	Four analog audio channels, DBM-10IPA and DBM-D9IPA-F. Two analog audio channels, DBM-10IPA-F
Input impedance:	>10 KOhms.
Level measurement:	0VU= +4dBm, VU-meter type.
Phase Measurement:	Correlation (Stereo Phase): -1 to +1.
LED bar-graphs:	4 with 12 tricolor LEDs each, DBM-10IPA. 3 with 12 tricolor LEDs each, DBM-10IPA-F. 3+3 with 12 tricolor LEDs each, DBM-D9IPA-F.
Detected alarms:	Silence: Level below -20dBm for more than 10 secs., programmable. Inverted Phase: Inverted phase for more than 5 secs.
Text window:	10 matrix with 5x7 LED each, 17 mm height. DBM-10IPA and DBM-10IPA-F 9+9 matrix with 5x7 LED each, 17 mm height. DBM-D9IPA-F
Brightness:	Two levels (normal and Tally), adjustable in 99 steps.
Memory:	Store 8 messages per text shown plus internal parameters and user setups.
TALLY:	Two TALLY lamps (red and green) per text window. When tally lights up, text brightness is highlighted.
Control of Tallies:	Over GPI or RS485 network.
Communications:	RS485 port for multi-drop serial communication, 9600 baud, 8 bit data, 1 stop bit with no parity. CROSSPOINT protocol. Other protocols available using the CROSSPOINT HUB-DSP controller.
Connectors:	RS-485: 2 x RJ-11 looped. GPI/O: Sub-D 9 pin male. Open collector, 100mA max. per output. Closed circuit to common ground for input. Audio: 2 x Sub-D 15 pin.
Power Supply:	230 VAC, 47-63 Hz. (optionally 110 VAC)
Max. Consumption:	20 VA.
Size:	Width, 19". Height, 1RU (42 mm). Depth, 125 mm. (without connectors).
Weight:	2,4 Kg.

(Specifications subject to change without prior notice)

CROSSPOINT

**DBM-10IPA-AES
DBM-10IPA-F-AES
DBM-D9IPA-F-AES**

**COMBINED UNDER MONITOR DISPLAYS
SINGLE OR DUAL TEXT WITH AUDIO LEVEL METERS**

AES digital audio version, with and without Phase meter

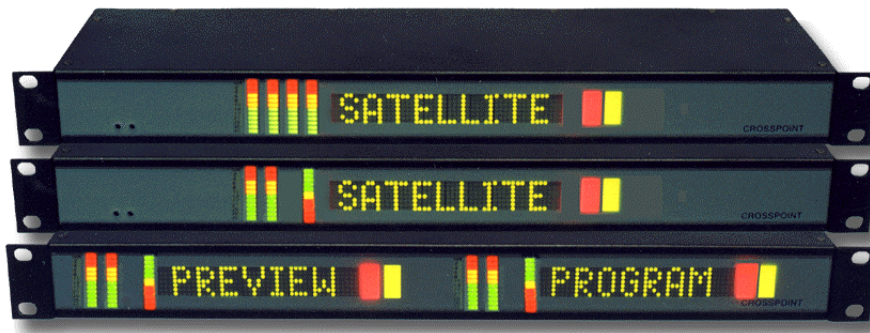
CROSSPOINT manufactures several models of Display for installation on TV monitoring panels. These Displays are designed for use in control rooms where different video and audio signals have to be presented and identified in a clear and simple manner. Situations like Tally and audio alarms are also signaled.

The **all three** models combine, in a single unit, the following features:

- **Single or dual text message display**
- **Dual independent TALLY lights per text**
- **4 channel digital audio metering with audio alarm signaling**
- **RS-485 network remote control capability**

The **DBM-10IPA-F-AES** and **DBM-D9IPA-F-AES** models add the following feature:

- **Single or dual Phase meter**



AUDIO METERING. Model **DBM-10-IPA-AES** receives two AES pairs digital audio signals, and displays four PPM-meter type indications. Model **DBM-10-IPA-AES-F** receives one AES pair digital audio signal, and displays two PPM-meter type indications and a phase indicator. Model **DBM-D9-IPA-AES-F** receives two AES pair digital audio signals, and displays 2+2 PPM-meter type indications and 1+1 phase indicators. Audio levels are presented over 2/4 vertical bars, LED-type tricolored, with 12 steps, scaled from 0dBFS to -40dBFS for the PPM-meter type indicators and from -1 to +1 on Phase-meters. The AES stream is continuously analyzed to monitor selected audios and generate alarms when malfunction occurs. These alarms are available on the rear of unit in the form of circuit closure and over the multi-point RS485 link.

They can be centralized both in parallel format (relay closure) and in serial format in a custom-designed controller. Having alarms centralized in serial format allows a connection to automatic "login" systems, remote sending to other control rooms, etc.

TEXT & TALLY. Text displays is clear and auto-centered. Brightness level is user-programmable from 1 to 100, which allows adapting the brightness level to the actual lighting of the room. The indication of active Tally situation is performed by large LED lamps which not only highlight

text brightness to a level –also programmable–, but give a very clear indication of the signal "on the air". Having two colors for Tally it is possible also to indicate audio alarms, etc., very clearly.

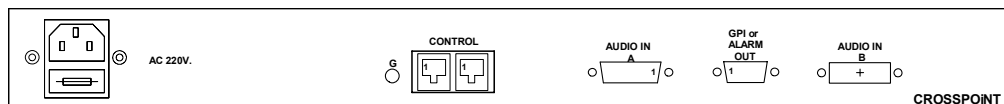
This type of Tally indication is so bright that monitors without Tally lights can be used, again reducing expenses, since usually this type of monitor has a markedly lower price. You will also save in cable and connectors, as there is no need to link up each Display to its associated video monitor.

CONTROL. Their functions can be controlled with the push-buttons on their front panel or via RS485 serial port.

Using CROSSPOINT's HUB-DSP controller, it is possible to modify texts on the displays quickly –in less than 10 seconds– without the intervention of specially trained operators. It also allows to configure (depending on the options) the remote conveying of Tally to the displays, their mapping from the keyboard, delivering time signal, relay-mapped tally output (for CCU, ...), dynamic following of routing switchers' status, reception of tally in serial format or saving user's set-ups protected by password and easily restored.

This unit is power supplied directly from the 230VAC mains.(110 VAC optionally).

Rear view



SPECIFICATIONS:

Models:	DBM-10IPA-AES DBM-10IPA-F-AES DBM-D9IPA-F-AES
Input audio:	2 x AES /EBU pair, DBM-10IPA-AES and DBM-D9IPA-F-AES. 1 x AES /EBU pair, DBM-10IPA-F-AES
Input impedance:	110 Ohm, transformer isolated.
Level measurement:	Digital AES audio level, peak-meter type.
Scale:	0 dBFS to -40dBFS.
Phase Measurement:	Correlation (Stereo Phase): -1 to +1.
LED bar-graphs:	4 with 12 tricolor LEDs each, DBM-10IPA-AES. 3 with 12 tricolor LEDs each, DBM-10IPA-F-AES. 3+3 with 12 tricolor LEDs each, DBM-D9IPA-AES.
Detected alarms:	Absence of digital data. Overload. Silence. Out of Phase.
Text window:	10 matrix with 5x7 LED each, 17 mm height. DBM-10IPA-AES and DBM-10IPA-F-AES 9+9 matrix with 5x7 LED each, 17 mm height. DBM-D9IPA-F-AES
Brightness:	Two levels (normal and Tally), adjustable in 99 steps.
Memory:	Store 8 messages per text shown plus internal parameters and user setups.
TALLY:	Two TALLY lamps (red and green) per text window. When tally lights up, text brightness is highlighted.
Control of Tallies:	Over GPI or RS485 network.
Communications:	RS485 port for multi-drop serial communication, 9600 baud, 8 bit data, 1 stop bit with no parity. CROSSPOINT protocol. Other protocols available using the CROSSPOINT HUB-DSP controller.
Connectors:	RS-485: 2 x RJ-11 looped. GPI/O: Sub-D 9 pin male. Open collector, 100mA max. per output. Closed circuit to common ground for input. Audio: 2 x Sub-D 15 pin.
Power Supply:	230 VAC, 47-63 Hz. (optionally 110 VAC)
Max. Consumption:	20 VA.
Size:	Width, 19". Height, 1RU (42 mm). Depth, 125 mm. (without connectors).
Weight:	2,4 Kg.

(Specifications subject to change without prior notice)

CROSSPOINT

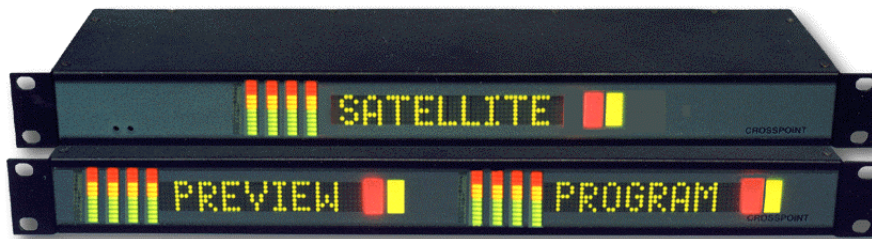
DBM-10IPA-SDI DBM-D9IPA-SDI

COMBINED UNDER MONITOR DISPLAYS SINGLE OR DUAL TEXT WITH AUDIO LEVEL METERS SDI embedded digital audio version

CROSSPOINT manufactures several models of Display for installation on TV monitoring panels. These Displays are designed for use in control rooms where different video and audio signals have to be presented and identified in a clear and simple manner. Situations like Tally and audio alarms are also signaled.

The **DBM-10IPA-SDI** and **DBM-D9IPA-SDI** models combine, in a single unit, the following features:

- **Single or dual text message displays**
- **Dual independent TALLY lights per text**
- **4 or 8 channel digital audio metering with audio alarm signaling**
- **RS-485 network remote control capability**



AUDIO METERING. The DBM-10IPA-SDI receives 1xSDI digital signal (SMPTE 259), and can process the four groups of embedded digital Audio (SMPT272M). The DBM-D9IPA-SDI receives 2xSDI digital signal (SMPTE 259), and can process the 4+4 groups of embedded digital Audio (SMPT272M). Audio levels are displayed over 4 (or 8) vertical bar-graphs of tricolored LED type, with 12 steps, graded from 0dBFS to -40dBFS. Alarms are indicated using the color change ability of the bars. Both models have an active loop output from each SDI input, with equalization and clock regeneration. The audio signal is taken directly from an SDI signal, and it is possible to select the audio group and channel to be presented on each bar. The SDI stream is continuously analyzed to monitor selected audios and generate alarms when malfunction occurs. These alarms are available on the rear of unit in the form of circuit closure and over the multi-point RS485 link.

They can be centralized both in parallel format (relay closure) and in serial format in a custom-designed controller. Having alarms centralized in serial format allows a connection to automatic "login" systems, remote sending to other control rooms, etc.

TEXT & TALLY. Text displays is clear and auto-centered. Brightness level is user-programmable from 1 to 100, which allows adapting the brightness level to the actual lighting of the room. The indication of active Tally situation

is performed by large LED lamps which not only highlight text brightness to a level –also programmable–, but give a very clear indication of the signal "on the air". Having two colors for Tally it is possible also to indicate audio alarms, etc., very clearly.

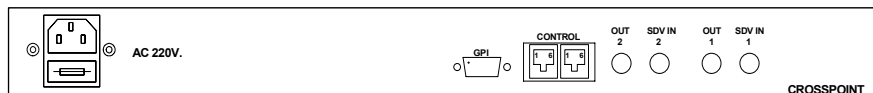
This type of Tally indication is so bright that monitors without Tally lights can be used, again reducing expenses, since usually this type of monitor has a markedly lower price. You will also save in cable and connectors, as there is no need to link up each Display to its associated video monitor.

CONTROL. Their functions can be controlled with the push-buttons on their front panel or via RS485 serial port.

Using CROSSPOINT's HUB-DSP controller, it is possible to modify texts on the displays quickly –in less than 10 seconds– without the intervention of specially trained operators. It also allows to configure (depending on the options) the remote conveying of Tally to the displays, their mapping from the keyboard, delivering time signal, relay-mapped tally output (for CCU, ...), dynamic following of routing switchers' status, reception of tally in serial format or saving user's set-ups protected by password and easily restored.

This unit is power supplied directly from the 100 - 240VAC mains.

Rear view

**SPECIFICATIONS:**

Models:	DBM-10IPA-SDI and DBM-D9IPA-SDI
Input video:	1 x SDI Digital video(SMPTE 259M) with embedded audio (SMPTE 272M), DBM-10IPA-SDI. 2 x SDI Digital video(SMPTE 259M) with embedded audio (SMPTE 272M), DBM-D9IPA-SDI.
Output video:	SDI Digital video(SMPTE 259M) with embedded audio (SMPTE 272M), copy fully equalized and reclocked, for each SDI input.
Text window:	10 matrix with 5x7 LED each, 17 mm height. DBM-10IPA-SDI, 9+9 matrix with 5x7 LED each, 17 mm height. DBM-D9IPA-SDI,
Brightness:	Two levels (normal and Tally), adjustable in 99 steps.
Memory:	Store 8 messages per text shown plus internal parameters and user setups.
TALLY:	Two TALLY lamps (red and green) per text window. When tally lights up, text brightness is highlighted.
Control of Tallies:	Over GPI or RS485 network.
Audio Measurement:	SDI Embedded audio level, peak-meter type.
Scale:	0 dBFS to -40dBFS.
LED bar-graphs:	4 with 12 tricolor LEDs each, DBM-10IPA-SDI. 4+4 with 12 tricolor LEDs each, DBM-D9IPA-SDI.
Detected alarms:	Absence of digital data, parity or validity. Overflow. Silence.
Communications:	RS485 port for multi-drop serial communication, 9600 baud, 8 bit data, 1 stop bit with no parity. CROSSPOINT protocol. Other protocols available using the CROSSPOINT HUB-DSP controller.
Connectors:	RS-485: 2 x RJ-11 looped. GPI/O: Sub-D 9 pin male. Open collector, 100mA max. per output. Closed circuit to common ground for input. Video: 2 x BNC.(DBM-10IPA-SDI), 4 x BNC.(DBM-D9IPA-SDI),
Power Supply:	100 - 240 VAC, 47-63 Hz.
Max. Consumption:	20 VA.
Size:	Width, 19". Height, 1RU (42 mm). Depth, 200 mm. (without connectors).
Weight:	2,4 Kg.

(Specifications subject to change without prior notice)

CROSSPOINT

DBM-10IPA-SDI-PAL**COMBINED UNDER MONITOR DISPLAY****TEXT, AUDIO METERS, PAL/NTSC OUTPUT AND ANALOG AUDIO OUTPUT**

SDI embedded digital audio version with PAL/NTSC output and optional analog audio output

CROSSPOINT manufactures several models of Display for installation on TV monitoring panels. These Displays are designed for use in control rooms where different video and audio signals have to be presented and identified in a clear and simple manner. Situations like Tally and audio alarms are also signaled.

The **DBM-10IPA-SDI-PAL** model combine, in a single unit , the following features:

- **Single text message display**
- **Dual independent TALLY lights**
- **4 channel digital audio metering with audio alarm signaling**
- **SDI video to composite PAL/NTSC conversión**
- **Digital to analog quad embedded audio converter, optional**
- **RS-485 network remote control capability**



AUDIO METERING. The unit receives an SDI digital signal (SMPTE 259), and can process the four groups of embedded digital Audio (SMPT272M). They have an active loop output from the SDI input, with equalization and clock regeneration. Audio levels are displayed over 4 horizontal bar-graphs of tricolored LED type, with 24 steps, graded from 0dBFS to -39dBFS. Alarms are indicated using the color change ability of the bars. The audio signal is taken directly from an SDI signal, and it is possible to select the audio group and channel to be presented on each bar. The SDI stream is continuously analyzed to monitor selected audios and generate alarms when malfunction occurs. These alarms are available on the rear of unit in the form of circuit closure and over the multi-point RS485 link.

They can be centralized both in parallel format (relay closure) and in serial format in a custom-designed controller. Having alarms centralized in serial format allows a connection to automatic “login” systems, remote sending to other control rooms, etc.

DIGITAL TO ANALOG CONVERSION. An internal D/A converter provides an analog composite PAL/NTSC video signal, with automatic detection. You save money using cheap analog picture monitors instead the expensive ones with SDI input.

Optionally, an internal audio digital to analog converted can be supplied. Four channels of analog audio are converted from the embedded SDI signal and are available at the output for monitoring purposes (order model DBM-10IPA-SDI-PAL/A).

TEXT & TALLY. Text display is clear and auto-centered. Brightness level is user-programmable from 1 to 100, which allows adapting the brightness level to the actual lighting of the room. The indication of active Tally situation is performed by large LED lamps which not only highlight text brightness to a level –also programmable–, but give a very clear indication of the signal “on the air”. Having two colors for Tally it is possible also to indicate audio alarms, etc., very clearly.

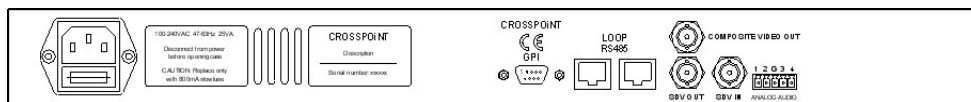
This type of Tally indication is so bright that monitors without Tally lights can be used, again reducing expenses, since usually this type of monitor has a markedly lower price. You will also save in cable and connectors, as there is no need to link up each Display to its associated video monitor.

CONTROL. Their functions can be controlled with the push-buttons on their front panel or via RS485 serial port.

Using CROSSPOINT's HUB-DSP controller, it is possible to modify texts on the displays quickly –in less than 10 seconds— without the intervention of specially trained operators. It also allows to configure (depending on the options) the remote conveying of Tally to the displays, their mapping from the keyboard, delivering time signal, relay-mapped tally output (for CCU, ...), dynamic following of routing switchers' status, reception of tally in serial format or saving user's set-ups protected by password and easily restored.

This unit is power supplied directly from the 100 - 240VAC mains.

Rear view



SPECIFICATIONS:

Model:	DBM-10IPA-SDI-PAL DBM-10IPA-SDI-PAL/A.(Includes optional output analog audio).
Input video:	SDI Digital video(SMPTE 259M) with embedded audio (SMPTE 272M).
Output video:	SDI Digital video(SMPTE 259M) with embedded audio (SMPTE 272M), copy fully equalized and reclocked.
Output analog video:	1 Vpp. PAL(625/50) or NTSC(525/60). Automatic detection.
Output Audio(optional):	4 unbalanced analog channels de-embedded from SDI input, DBM-10IPA-SDI-PAL/A
Text window:	10 matrix with 5x7 LED each, 17 mm height.
Brightness:	Two levels (normal and Tally), adjustable in 99 steps.
Memory:	Store 8 messages plus internal parameters and user setups.
TALLY:	Two TALLY lamps (red and green). When tally lights up, text brightness is highlighted.
Control of Tallies:	Over GPI or RS485 network.
Audio Measurement:	Embedded audio level, peak-meter type.
Scale:	0 dBFS to -39dBFS.
LED bar-graphs:	4 with 24 tricolor LEDs each.(62 mm width, 5 mm height).
Detected alarms:	Absence of digital data, parity or validity. Overflow. Silence.
Communications:	RS485 port for multi-drop serial communication, 9600 baud, 8 bit data, 1 stop bit with no parity. CROSSPOINT protocol. Other protocols available using the CROSSPOINT HUB-DSP controller.
Connectors:	RS-485: 2 x RJ-11 looped. GPI/O: Sub-D 9 pin male. Open collector, 100mA max. per output. Closed circuit to common ground for input. Video: 3 x BNC. Analog audio(optional): Removable "Phoenix" style connector.
Power Supply:	100 - 240 VAC, 47-63 Hz.
Max. Consumption:	25 VA.
Size:	Width, 19". Height, 42 mm (1RU). Depth, 125 mm. (without connectors).
Weight:	2,1 Kg.

(Specifications subject to change without prior notice)

CROSSPOINT

DBM-D9PM-DVITC**COMBINED UNDER MONITOR DISPLAY
TEXT, TALLY AND DVITC TIME CODE**

Dual Display with Text, Tally lights and DVITC time code reader from SDI digital Video

CROSSPOINT manufactures several models of Display for installation on TV monitoring panels. **DBM-D9PM-DVITC** is an Under Monitor Display to be mounted in TV Broadcast installations where it is necessary to identify the origin or destination of TV signal, indicate TALLY conditions as well as display of the **DVITC time code** accompanying a SDI digital video signal.

The **DBM-D9PM-DVITC** model combine, in a single unit, the following features:

- **Single text message display**
- **Dual independent TALLY lights**
- **DVITC reader and display from a SDI input signal**
- **SDI output signal, equalized and reclocked**
- **RS-485 network remote control capability**



TEXT & TALLY. Left window follows the normal operation of any Dynamic UMD. Text display is clear and auto-centered. Brightness level is user-programmable from 1 to 100, which allows adapting the brightness level to the actual lighting of the room. The indication of active Tally situation is performed by large LED lamps which not only highlight text brightness to a level –also programmable–, but give a very clear indication of the signal “on the air”. This type of Tally indication is so bright that monitors without Tally lights can be used, again reducing expenses, since usually this type of monitor has a markedly lower price. You will also save in cable and connectors, as there is no need to link up each Display to its associated video monitor.

DVITC Time Code. Right window shows DVITC time code extracted from a SDI digital input video signal. It allows three modes of TC presentation:

- Time code in “hh:mm:ss”
- Time code in “hh:mm:ss:ff”
- User bits

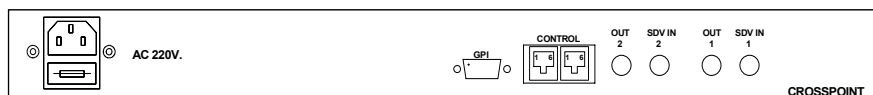
This information is decoded from two video lines (user-configurable) of the SDI video vertical interval. This model provides a SDI output copy signal, fully equalized and reclocked.

CONTROL. Their functions can be controlled with the push-buttons located on their front panel or via RS485 serial port.

Using CROSSPOINT’s HUB-DSP controller, it is possible to modify texts on the displays quickly –in less than 10 seconds– without the intervention of specially trained operators. It also allows to configure (depending on the options) the remote conveying of Tally to the displays, their mapping from the keyboard, delivering time signal, relay-mapped tally output (for CCU, ...), dynamic following of routing switchers’ status, reception of tally in serial format or saving user’s set-ups protected by password and easily restored.

This unit is power supplied directly from the 230 VAC mains.
(110VAC optionally).

Rear view

**SPECIFICATIONS:**

Model:	DBM-D9PM-DVITC
Text window:	10 matrix with 5x7 LED each, 17 mm height.
Brightness:	Two levels (normal and Tally), adjustable in 99 steps.
Memory:	Store 8 messages plus internal parameters and user setups.
TALLY:	Two TALLY lamps (red and green). When tally lights up, text brightness is highlighted.
Input video:	SDI Digital video(SMPTE 259M) with DVITC time code (SMPTE 266M).
Output video:	SDI Digital video(SMPTE 259M) copy fully equalized and reclocked.
DVITC:	Extracted from 2 VBI lines (programmable from line 6 to line 22)
Modes of TC presentation:	Time code in "hh:mm:ss" Time code in "hh:mm:ss:ff" User bits
Control of Tallies:	Over GPI or RS485 network.
Communications:	RS485 port for multi-drop serial communication, 9600 baud, 8 bit data, 1 stop bit with no parity. CROSSPOiNT protocol. Other protocols available using the CROSSPOiNT HUB-DSP controller.
Connectors:	RS-485: 2 x RJ-11 looped. GPI/O: Sub-D 9 pin male. Open collector, 100mA max. per output. Closed circuit to common ground for input. Video: 2 x BNC.
Power Supply:	230 VAC, 50 Hz. (Optionally 110 VAC, 60Hz)
Max. Consumption:	12 VA.
Size:	Width, 19". Height, 42 mm (1RU). Depth, 120 mm(without connectors).
Weight:	2,4 Kg.

(Specifications subject to change without prior notice)

CROSSPOiNT

DBM-D9PM-LTC**COMBINED UNDER MONITOR DISPLAY****TEXT, TALLY AND LTC TIME CODE**

Dual Display with Text, Tally lights and LTC longitudinal time code reader

CROSSPOINT manufactures several models of Display for installation on TV monitoring panels. **DBM-D9PM-LTC** is an Under Monitor Display to be mounted in TV Broadcast installations where it is necessary to identify the origin or destination of TV signal, indicate TALLY conditions as well as display of the LTC longitudinal time code.

The **DBM-D9PM-LTC** model combine, in a single unit, the following features:

- **Single text message display**
- **Dual independent TALLY lights**
- **LTC reader and display**
- **SDI output signal, equalized and reclocked**
- **RS-485 network remote control capability**



TEXT & TALLY. The left window follows the normal operation of any Dynamic UMD. Text display is clear and auto-centered. Brightness level is user-programmable from 1 to 100, which allows adapting the brightness level to the actual lighting of the room. The indication of active Tally situation is performed by large LED lamps which not only highlight text brightness to a level –also programmable–, but give a very clear indication of the signal “on the air”. This type of Tally indication is so bright that monitors without Tally lights can be used, again reducing expenses, since usually this type of monitor has a markedly lower price. You will also save in cable and connectors, as there is no need to link up each Display to its associated video monitor.

LTC Time Code. The right window shows LTC, longitudinal time code. It allows three modes of TC presentation:

- Time code in “hh:mm:ss”
- Time code in “hh:mm:ss:ff”
- User bits

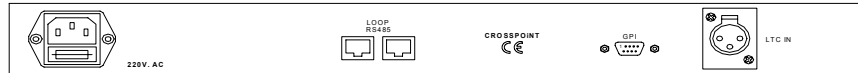
It reads high speed Time Code present at the XLR connector. Last Time Code reading can be stored.

CONTROL. Their functions can be controlled with the push-buttons located on their front panel or via RS485 serial port.

Using CROSSPOINT’s HUB-DSP controller, it is possible to modify texts on the displays quickly –in less than 10 seconds– without the intervention of specially trained operators. It also allows to configure (depending on the options) the remote conveying of Tally to the displays, their mapping from the keyboard, delivering time signal, relay-mapped tally output (for CCU, ...), dynamic following of routing switchers’ status, reception of tally in serial format or saving user’s set-ups protected by password and easily restored.

This unit is power supplied directly from the 230 VAC mains.
(110VAC optionally).

Rear view



SPECIFICATIONS:

Model:	DBM-D9PM-LTC
Displays:	2 windows, 9+9 matrix with 5x7 LED each, 17 mm height.
Brightness:	Two levels (normal and Tally), adjustable in 99 steps.
Memory:	Store 8 messages plus internal parameters and user setups.
TALLY:	Two TALLY lamps (red and green). When tally lights up, text brightness is highlighted.
LTC:	High speed longitudinal Time Code can be decoded and displayed.
Modes of TC presentation:	Time code in "hh:mm:ss" Time code in "hh:mm:ss:ff" User bits
Control of Tallies:	Over GPI or RS485 network.
Communications:	RS485 port for multi-drop serial communication, 9600 baud, 8 bit data, 1 stop bit with no parity. CROSSPOINT protocol. Other protocols available using the CROSSPOINT HUB-DSP controller.
Connectors:	RS-485: 2 x RJ-11 looped. GPI/O: Sub-D 9 pin male. Open collector, 100mA max. per output. Closed circuit to common ground for input. Video: 2 x BNC.
Power Supply:	230 VAC, 50 Hz. (Optionally 110 VAC, 60Hz)
Max. Consumption:	12 VA.
Size:	Width, 19". Height, 42 mm (1RU). Depth, 120 mm(without connectors).
Weight:	2,4 Kg.

(Specifications subject to change without prior notice)

CROSSPOINT

UMA-D4CH-HD

AUDIO MONITORING UNIT

8 CHANNEL VU-PPM WITH INTERNAL STEREO LOUDSPEAKER SYSTEM

Analog, AES/EBU and embedded HD-SD/SDI audio inputs and Analog, AES/EBU outputs

CROSSPOINT manufactures several models of Display for installation on TV monitoring panels. This 1RU audio monitor brings 8 audio channels metering for analog, AES-EBU and/or embedded audio in HD-SD/SDI signals. With internal stereo loudspeaker system to monitor any combination of audio inputs. All in 1 RU.

The **UMA-D4CH-HD** model combine, in a single 1RU unit , the following features:

- 2 autosense HD-SD/SDI video inputs with embedded audio
- 8 analog and digital AES/EBU audio channels
- Internal stereo loudspeaker system for quality monitoring
- 8 channel VU-PPM metering selected from any input
- 4 stereo phase alarm indicators
- Analog and AES/EBU audio outputs, copied or deembedded
- Stereo analog and AES/EBU line output with channel mix



UMA-D4CH-HD

AUDIO METERING. The unit receives 2 HD-SD/SDI digital signals (SMPTE 259 and 292M), and can process up to four groups of embedded digital Audio (SMPT 272M and 299M) from selected input. It has an active loop output from the selected autosense HD-SD/SDI video input, equalized and reclocked. 4 AES/EBU digital audio pairs, 1 SPDIF/AES optical and 8 analog audio channels are available inputs as well. Audio levels are displayed over 4 + 4 vertical bar-graphs of tricolored LED type, with 26 steps, graded from 0dBFS to -60dBFS and from -42VU to +18VU. Any input channel, discrete or embedded, can be addressed to any bar-graph with simultaneous VU and PPM indication. 4 little red LEDs shows stereo phase alarm condition. Other audio alarms are indicated using the color change ability of the bars. The AES and SDI streams are continuously analyzed to monitor selected audios and triggering alarms when malfunction occurs. These alarms are available on the rear of unit in the form of circuit closure.

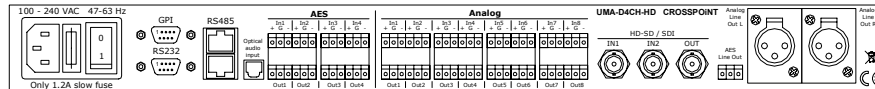
LOUDSPEAKER SYSTEM. Two middle-treble and one bass drivers, in a carefully designed enclosure and powered with high quality amplifiers, gives a clear and precise stereo sound response.

AUDIO OUTPUTS. 8 output channels, both in analog and AES/EBU, simultaneously from any combination of selected analog, AES-EBU and HD-SD/SDI embedded audio inputs. Analog and AES/EBU line output from mixed input channels is also available at the unit rear. A headphone jack is available on the front panel.

CONTROL. Its functions can be controlled easily with two push-buttons, rotary knob and a LCD display on the front panel.

This unit can be rack mounted in 1RU. It is power supplied directly from the 100 - 240VAC mains.

Rear view

**SPECIFICATIONS:**

Model:	UMA-D4CH-HD
Input video:	2 x autosense HD-SD/SDI Digital video (SMPTE 259M, 296M, 274M, 292M) with embedded audio (SMPTE 272M, 299M).
Output video:	1 x HD-SD/SDI Digital video with embedded audio, fully equalized and reclocked copy from selected video input.
Input digital audio:	4 x balanced AES/EBU pairs and 1 x optical SPDIF.
Output digital audio:	4 x balanced AES/EBU pairs selected from any audio inputs.
Input analog audio:	4 x balanced analog stereo channels.
Output analog audio:	4 x balanced analog stereo channels selected from any audio inputs.
Line output:	1 x balanced AES/EBU pairs and 1 x balanced analog stereo channels selected/mix from up to 8 input channels: analog, AES/EBU and/or deembedded .
Loudspeakers system:	2 x Middle/treble and 1 x bass drivers.
Amplifiers power:	2 x 10W , Middle/treble. 1 x 20W, Bass.
Headphones output:	¼" jack with loudspeaker auto switch off.
Audio level Measurement:	Simultaneous VU and PPM.
Scales:	-60dBFS to 0dBFS and -42VU to +18VU .
LED bar-graphs:	8 with 26 tricolor LEDs each.
Stereo Phase indicators:	4 red LEDs.
Brightness:	Manual adjustment in 16 steps, either from local panel or serial port.
Detected alarms:	Absence of digital data, parity or validity. Overflow. Silence.
Control:	LCD display, pushbuttons and rotary knob.
Communications:	RS485 port for multi-drop serial communication, 9600 baud, 8 bit data, 1 stop bit with no parity. RS232 port, 9600 baud, 8 bit data, 1 stop bit with no parity.
Connectors:	RS-485: 2 x RJ-11 looped. RS-232: 1 x Sub-D 9 pin male. GPI/O: Sub-D 9 pin male. Open collector, 100mA max. per output. Closed circuit to common ground for input. Video: 3 x BNC, (2 input and 1 output). Digital audio and Analog audio: Removable "Phoenix" style connector. Headphone jack: ¼" diameter.
Power Supply:	100 - 240 VAC, 47-63 Hz.
Max. Consumption:	40 VA.
Size:	Width, 19". Height, 42 mm (1RU). Depth, 330 mm. (without connectors).
Weight:	5 Kg.

(Specifications subject to change without prior notice)

CROSSPOINT

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