

Operation Manual



DIGITAL BROADCAST COLOR MONITOR

BCM 108 DB - BCM 110 DB

BCM 115 DB - BCM 117W DB

BCM 120 DB - BCM 127W DB



a division of

*PTV Professional TeleVision Vertriebsgesellschaft für Audio- und Video-Technik mbH
D-24558 Henstedt-Ulzburg ~ Fon & Fax: ..49 - (0)700 - TAMUZLCD [82 689 523]*

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a division of
PTV Professional TeleVision
Vertriebsgesellschaft für Audio- und Video-Technik mbH
Fon & Fax: +49 - (0)700 TAMUZLCD [82 689 523]
eMail: info@tamuz.tv
www.tamuz.tv*

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Technische und farbliche Änderungen vorbehalten*

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Introduction

LCD Video Monitor

The TAMUZ **BCM Digital Broadcast Color Monitor** series is a LCD monitor series with active TFT displays, designed as a desktop or portable unit for video applications in studio or field production environment. It covers a wide horizontal and vertical viewing angle at its best.



The 4:3 screen displays allows full screen presentation of standard 4:3 videos and anamorphic 16:9 videos (with black areas on top and bottom). In the user setup any other format is individual adjustable.

The wide screen displays allows full screen presentation of anamorphic 16:9 videos and full size presentation of standard 4:3 videos (with black areas beside on left and right). In the user setup any other format is individual adjustable.

The operation of the system was formed simply and user friendly. The input selection happens with the front-side direct-select keyboard or the programmable input switch (Button DOWN). The **BCM Digital Broadcast Color Monitor** series monitors offers a set of input ports for analog composite or component, serial digital component, serial digital High-Definition video and graphics signals.

All I/O ports are placed at the rear of the monitor, even an additional DC power connector for a power supply or battery.

BCM Broadcast Color Monitor Models

The **BCM Digital Broadcast Color Monitor** series signal processor contains a set of micro computer controlled DSP's and scalers with native serial capability. Within the **BCM Digital Broadcast Color Monitor** series different models are available.

Model	Screen Size	Aspect Ratio	Freq-V Hz	Format	Input 1	Input 2	Input 3	Input 4	Input 5	Input 6	Input 7	Input 8
BCM 108 DB	8.4"	4:3	50 - 60	PAL / NTSC	CCVS	CCVS	YC	CAV**1	SDI	SDI**2	VGA**3	VGA**3
BCM 110 DB	10.4"	4:3	50 - 60	PAL / NTSC	CCVS	CCVS	YC	CAV**1	SDI	SDI**2	VGA**3	VGA**3
BCM 115 DB	15"	4:3	50 - 60	PAL / NTSC	CCVS	CCVS	YC	CAV**1	SDI	SDI**2	VGA**3	VGA**3
BCM 117W DB	17"W	16:9	50 - 60	PAL / NTSC	CCVS	CCVS	YC	CAV**1	SDI	SDI**2	VGA**3	VGA**3
BCM 120 DB	20"	4:3	50 - 60	PAL / NTSC	CCVS	CCVS	YC	CAV**1	SDI	SDI**2	VGA**3	VGA**3
BCM 127W DB	27"W	16:9	50 - 60	PAL / NTSC	CCVS	CCVS	YC	CAV**1	SDI	SDI**2	VGA**3	VGA**3

*1 = The CAV input is selectable between RGB or YUV component. The RGB video may have a separated sync or SOG (sync-on-green)

*2 = As option a second SDI input is available. The second SDI is available as plain SDI or dual-format HDSDI input module. The HD video will be down-scaled to the related screen resolution.

*3 = The VGA inputs accept as a MultiFormat MultiSync input common VESA signals, from CGA up to UXGA, and most uncommon graphic signals from any source.

Differences in the series

In general all BCM models are fully equipped with analog and digital inputs. To support individual features optional I/O modules are used to customize the **BCM Digital Broadcast Color Monitor** series. All types based on the unique Eagle broadcast interface from TAMUZ.

An audio de-embedder module allows audio extraction from SDI sources as option.

An additional second serial digital module, available as dual-format or plain SD, increases the digital input performance.

BCM Broadcast Color Monitor

The **BCM Broadcast Color Monitor** series is equipped with selected TFT panels from FUJITSU, ID-Tech, LG, NEC, Samsung, Sharp or TMO production line. This panel types are state-of-the-art high resolution panels at the market.

The **BCM Broadcast Color Monitor** series has two analog composite video inputs, one YC video input, one component video input, one serial digital video input and two VGA inputs as standard. All video inputs are made as active loop. Optional a second serial digital video input is available. This option is selectable as plain SD format or dual-format HDSDI input module.

The housing is designed to fit the dimensions of CRT monitors as a replacement. The front cover is made of black anodized aluminium.

EBU Recommendation

TAMUZ **BCM Digital Broadcast Color Monitor** series video monitors complies the EBU recommendation for control applications, in some fact the recommendation for reference applications.

Class of Usability

Next the upcoming EBU / IRT standard defines the classification of usability of LCD monitors.

<i>Usability Classification</i>	<i>Description</i>
Reference Class	This permits several users to view the entire display area at the same time. This applies for intended viewing distance (between 40 to 60 cm, depending on the size and resolution of the monitor) and for a viewing angle within an 80° cone in front of the screen without any restriction of visual efficiency, in such a way that brightness, contrast and color is maintained
Control Class	Permits a single user to view the entire area of the display. This applies for intended viewing distance (between 40 to 60 cm, depending on the size and resolution of the monitor) from every position in front of the screen, in such a way that brightness, contrast and color is maintained.
Viewing Class	Permits a single user to view the entire area of the display. This applies for intended viewing distance (between 40 to 60 cm, depending on the size and resolution of the monitor) from one fixed position in front of the screen, in such a way that brightness, contrast and color is maintained.

All of the TAMUZ **BCM Digital Broadcast Color Monitor** series monitors comply with control class.

ISO Product Quality

For the production of TAMUZ **BCM Digital Broadcast Color Monitor** series video monitors LCD panels are used which complies with the standard ISO 13406-2, error-class 1 or 2, only. This ISO standard 13406-2 defines the scales for ergonomic and picture quality.

Pixel Errors

Following limiting values which may not be exceeded are valid.

<i>ISO 13406-2</i>	<i>Typ 1</i>	<i>Typ 2</i>	<i>Typ 3</i>	<i>max. Distance</i>	<i>connected Defects</i>
Class I	0	0	0		
Class II	2	2	5	1 defect pixel within a circle of 5 mm	maximum 2 defective sub-pixel beside each other
Class III	5	15	50	2 defect pixels within a circle of 5 mm	maximum 2 defective sub-pixel beside each other
Class IV	50	150	500		

Error-type 1 describes errors by a complete bright (white) pixel, error-type 2 describes errors by a complete dark (black) pixel, error-type 3 describes errors by defective sub-pixels of the colors red, green and blue, which are completely bright or dark.

A single LCD pixel is built by a set of three sub-pixels, one of red, green and blue.

Error class I contains highly selected panels with no pixel error anyway. Panels within this class are rare and very high priced. Panels from the error class II are the most common selection for high quality industry applications. The error class III defines the mass production selection for IT applications. TFT panels related to the error class IV are not useful for a LCD monitor at all.

Class of Usability

Next the standard ISO 13406-2 defines the classification of usability of LCD screens.

<i>Usability Classification</i>	<i>Description</i>
Class 1	This permits several users to view the entire display area at the same time. This applies for intended viewing distance (between 40 to 60 cm, depending on the size and resolution of the monitor) and for a viewing angle within an 80° cone in front of the screen without any restriction of visual efficiency, in such a way that brightness, contrast and color is maintained
Class 2	Permits a single user to view the entire area of the display. This applies for intended viewing distance (between 40 to 60 cm, depending on the size and resolution of the monitor) from every position in front of the screen, in such a way that brightness, contrast and color is maintained.
Class 3	Permits a single user to view the entire area of the display. This applies for intended viewing distance (between 40 to 60 cm, depending on the size and resolution of the monitor) from one fixed position in front of the screen, in such a way that brightness, contrast and color is maintained.

Usability Classification	Description
Class 4	Permits a single user to view the center area of the display. This applies for intended viewing distance (between 40 to 60 cm, depending on the size and resolution of the monitor) from one fixed position in front of the screen, in such a way that brightness, contrast and color is maintained.

All of the TAMUZ **BCM Digital Broadcast Color Monitor** series monitors comply with class 1.

Class of Reflections

The reflection characteristics of an LCD Screen are of particular importance in very bright ambient conditions or in an environment with multiple light sources. The ISO standard provides for three quality classes.

Reflection Classification	Description
Class 1	General office conditions without special requirements as to workspace lighting.
Class 2	Appropriate for most office conditions, with few exceptions.
Class 3	Appropriate for office environments, with controlled luminance conditions.


All of the TAMUZ **BCM Digital Broadcast Color Monitor** series monitors comply with class 1.

Wide Screen Format

The TAMUZ BCM 117W DB is a LCD monitor equipped with a wide screen 17" active TFT display, the TAMUZ BCM 127W DB is a LCD monitor equipped with a wide screen 27" active TFT display, developed to display 16:9 wide screen videos with a full screen image without any loss.

The BCM 117W native screen aspect ratio is 15:9, so real full screen 16:9 video sources fills the monitor screen with small black lines at top and bottom, if the monitor is switched to 16:9 mode.

The BCM 127W native screen aspect ratio is 16:9, so real full screen 16:9 video sources fills the monitor screen without black lines at top and bottom, if the monitor is switched to 16:9 mode.

	Note: If you use the BCM 1xxW Digital BCM Broadcast Color Monitor series monitor in a real full screen mode for 16:9 or 4:3 sources, the aspect ratio of the displayed image is incorrect!
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Some sources don't produce a real 16:9 signal. They stretch a standard 768 x 576 pixel image with an anamorphic optical or electronic filter to get the wide screen effect. The TAMUZ **BCM Broadcast Color Monitor** series is able to handle this and other type of signals, see table below.

Format	horizontal Resolution	vertical Resolution	Pixel Style	Aquivalent
16 : 9	1024	576	square	full wide screen - full resolution analog composite PAL
4 : 3	768	576	square	full screen analog composite PAL
16 : 9	960	576	rectangle	full wide screen - full resolution digital component 625/50
4 : 3	720	576	rectangle	full screen digital component 625/50
16 : 9	768	432	square	letterbox wide screen analog composite PAL
16 : 9	1280	720	square	full wide screen - full resolution analog composite PAL
4 : 3	1024	768	square	full screen analog composite PAL
16 : 9	1280	768	rectangle	full wide screen - full resolution digital component 625/50
4 : 3	1024	768	rectangle	full screen digital component 625/50
16 : 9	1280	720	square	letterbox wide screen analog composite PAL

Sampling the Video

TAMUZ develops a special interface, named EAGLE, to process the video to be displayed on a LCD Screen.

The EAGLE interface digitize the incoming analog video. Every TV line is scanned at the active area by 940 samples using an over-sampling technology. The internal clock is 18 MHz. Analog signals are sampled in square pixels at a clock rate of 14,75 MHz, digital signals will stay in their native format at a clock rate of 13,5 MHz for rectangle samples regarding the ITU-R601. High-Definition digital signals will be processed by an additional digital scaler to fit the HD information to the TFT screen size.

Most of the common SMPTE 274M and 296M HD formats are supported.

General Safety Instructions

Duty of care of the user

The *BCM Broadcast Color Monitor series* was designed and built under the harmonized norms to be adhered as well as further technical specifications. It corresponds to the state of the art and ensures a maximum amount of safety.

However, this safety can only be reached, if all measures required for this are taken in the operational practice. It is the duty of the *BCM Broadcast Color Monitor series* user, to plan these measures and check their explanation.

The user must guarantee particularly, that

- *the BCM Broadcast Color Monitor series is only used as agreed (cf. chapter product specification)*
- *the BCM Broadcast Color Monitor series is operated only in faultless, working condition and particularly the safety facilities are checked for their function efficiency regularly*
- *the BCM Broadcast Color Monitor series operator's manual always be placed in a complete and legible condition for disposal*
- *only sufficiently qualified and authorized staff uses, maintain and repairs the BCM Broadcast Color Monitor series*
- *this staff is instructed in all questions of work safety and environmental protection regularly and knows the operator's manual as well as there particularly contained safety instructions*
- *all appropriate safety and warning notes not being removed and remaining legible at the BCM Broadcast Color Monitor series*

Constructive changes at the *BCM Broadcast Color Monitor series* may be carried out only after written permission by the manufacturer!

Used safety symbols

In this operator's manual following safety symbols are used. These symbols shall primarily draw the attention of the reader to the text of the accompanying safety note.



This symbol points out that there are dangers for life and health of persons.



This symbol indicates information which contributes for a better understanding of the function of the equipment.



This symbol points out that there are dangers for material and environment or the equipment himself.



Warning about dangerous electrical voltages to or within the equipment.

Basic Safety Instructions

The *BCM Broadcast Color Monitor series* only may be used by persons who are trained and authorized for this and who knows the operator's manual and can work after whom!

Before every production starts, check the *BCM Broadcast Color Monitor series* for visible damages and make sure that it is operated only in faultless condition! Report noticed lacks to the supervisor immediately or arrange the remedying by qualified persons.

Service and Maintenance

Adhere the specified inspection and maintenance intervals in the operator's manual!

- *Before maintenance and repair work it has to be guaranteed that all parts of the BCM Broadcast Color Monitor series perhaps to be touched have cooled down on space temperature!*
- *Smear-, cool- or cleaning-fluids, endangering the environment, have to be disposed duly!*
- *Repair work on the electrical power supply of the BCM Broadcast Color Monitor series system only may be done by a trained electric qualified employee!*
- *Damaged lines or cables have to be immediately replaced!*

Released bolted joints have to be checked for solid seat before putting into operation after maintenance or repair work and it has to be guaranteed, that removed system-unit cover parts or filters were installed again!

Observe environmental protection prescriptions

At all works at and with the *BCM Broadcast Color Monitor series* the legal duties for waste avoidance and proper utilization or elimination have to be adhered!

During repair, installation and maintenance work water endangering substances as

- *Lubricating greases and oil*
- *Hydraulics oils*
- *Coolant*
- *solvent containing cleaning liquids*

don't load the floor or reach into the sewage system!



Note: *The valid environmental protection prescriptions have to be observed.*

These water endangering substances must be kept, transported, caught and disposed in suitable containers!

Recognition of the copyrights

The user of the *BCM Broadcast Color Monitor series* appreciates, that in the *BCM Broadcast Color Monitor series* contained software programs as well as this documentation is subject to the copyright laws as well as copyright propriety and other protection right and he doesn't purchase this with the acquisition or the use of the *BCM Broadcast Color Monitor series* system by any time. The user gets rather merely the right for the exclusive use of the *BCM Broadcast Color Monitor series*.

In the *BCM Broadcast Color Monitor series* contained software as well as the accompanying documentation may not be changed, enlarged or adapted to other systems or translated into other languages, without written permission of the author. With the installation and use of the *BCM Broadcast Color Monitor series* the user recognizes these license and use conditions.



Note: *The BCM Broadcast Color Monitor series system contains copyright protected software and documentation's.*

Guarantee agreement:

The in the *BCM Broadcast Color Monitor series* system contained software and the instructions are leave to the user as they are. This means, the author of the software or the instructions doesn't assume any liability for the suitability of the software or the documentation to any special purpose. He particularly isn't liable for damages or sequential damages which indirectly deliberately or unintentionally arise from the use of the *BCM Broadcast Color Monitor series* or the documentation directly.

The *BCM Broadcast Color Monitor series* system and the documentation can be changed and enlarged without previous announcement at any time and there doesn't exist it any right for updates free of charge.

Guarantee period

TAMUZ - LCD Video Monitors, the manufacturer of the *BCM Broadcast Color Monitor series* grants a guarantee period of 24 months on the faultless function of the system and its components.

Guarantee Certification

Please, send in the full guarantee certification upon receipt of the product to the manufacturer or suppliers within 21 working days. The manufacturer or supplier only then can grant possible rights to claim under guarantee in full size and transmitting current information about software updates and indications for expansions or for the operation of the equipment to you.



Note: *Only if the guarantee card of the BCM Broadcast Color Monitor series monitor has been returned intime to the manufacturer or supplier, rights to claim under guarantee can be asserted against the manufacturer or supplier.*

Warranty Card

To come in the position to reclaim your warranty rights, send in this warranty card within 21 days to the manufacturer (**TAMUZ - LCD Video Monitors, Tiedenkamp 16, D-24558 Henstedt-Ulzburg**) or your local dealer.

Garantie Registrierungskarte - Warranty Registration Card		
Model:	TAMUZ BCM	Type:
Seriennummer:		Serial Number:
Dieses Gerät wurde gekauft bei: - The Unit was purchased from:		
Händler:		Dealer:
Ort:		City:
Land:		Country:
Verkaufsdatum:		Purchase Date:
Dieses Gerät wurde gekauft von: - The Unit was purchased by:		
Kunde:		Customer:
Ansprechpartner:		Contact Person:
Firma:		Company:
Strasse:		Street:
PLZ:		Zip Code:
Ort:		City:
Land:		Country:
Telefon:		Phone:
Telefax:		Fax:
Email:		Email:
Dieses Gerät wird eingesetzt im: - This Unit will be used at:		
Regieraum:		Control Room:
Schaltraum:		Distribution:
Studio:		Studio:
Ü-Wagen:		OB-Truck:
Kopieranlage:		VTR-Dubbing:
Schnittplatz:		Editing:
Sprecher-Raum:		Off-Room:
Andere:		Other:
<p>Unser Bestreben ist es, unsere Produkte kundengerecht zu entwickeln und fertigen. Wir sind Ihnen dankbar, wenn Sie sich Zeit für Anregungen oder Kommentare nehmen:</p> <p>Our mutual interest is, to design and manufacture practical products. We appreciate you taking the time to note your information and comments you may have.</p>		

Transport of the equipment

Transportation

The *BCM Broadcast Color Monitor series* is a sensitive electronic product and should be transported with all caution. Throwing the equipment or hard pushes during the transport must be avoided.

Weight

The *BCM Broadcast Color Monitor series* weights inclusive of the accessories and his packing less 10 kg and can be carried under consideration of the accident prevention measures or transported with help of corresponding aids therefore alone by a person.



Note: Observe the accident prevention prescriptions at the transport of the *BCM Broadcast Color Monitor series* to the avoidance of persons and damages to property.

Packing

The *BCM Broadcast Color Monitor series* is delivered in a special transport carton. It recommends itself to keep this carton and the accompanying packaging. So in the case of a later necessary transport and dispatch the equipment can be packed and protect against damages as delivered to you.

Return dispatch

At a return dispatch without original packing to the supplier or manufacturer the liability is excluded.

Don't forget to ask for a RMA (return material authorisation) number before you send any material back to the manufacturer. Check for a RMA the web-site www.tamuz.tv.

Damages in transit

Check the contents of the received transport carton with the delivery note or the invoice on completeness and inform your supplier about perhaps missing parts upon receipt of the product within 5 working days. Please, if you receive a delivery on which the transport carton or the contents is damaged, proceed after the known guidelines of the cargo shipper, which as a rule is enclosed with the delivering papers. Perhaps stricter terms have to be taken into account here.



Note: Check before using the *BCM Broadcast Color Monitor series* whether damages in transit have been happened and arrange a repair of these damages if necessary.

Conformity Declaration

to EMV guideline (89/336/EC)

to low-voltage guideline (73/23/EC chapter 10)

The manufacturer:

*TAMUZ - LCD Video Monitors
a division of PTV Professional TeleVision
Vertriebsgesellschaft für Audio-Und Video-Technik mbH
Tiedenkamp 16
D-24558 Henstedt-Ulzburg*

declares hereby, that the product:

Product name: LCD Video Monitor
Model number: BCM Broadcast Color Monitor series
Year of construction: 2004

corresponds to the regulations of the guidelines described above:

The following harmonized norms were used:

EN 55011	ISM Equipment, Group 1, Class A
EN 50081-2	Generic standard interference transmission, industry area
EN 50082-2	Generic standard interference immunity, industry area
prEN55103-1	EMV product family norm for Audio-, Video and audio-visual facilities as well as for studio light control facilities for the professional usage, -Part 1: Limiting values and measurement procedure for disturbing emissions
prEN55103-2	EMV product family norm for Audio-, Video and audio-visual facilities as well as for studio light control facilities for the professional usage, -Part 2: Requirements on the interference immunity

The following national or international norms (or parts/clauses from this) and specifications were used:

DIN EN 6099	Verbindungsmaterial für Niederspannungsstromkreise für Haushalt und ähnliche Zwecke; Teil 1: Allgemeine Anforderungen
IEC 127-6	Geräteschutzsicherungen

Henstedt-Ulzburg, 10.09.2004

The Management

Technical Data

Hardware **BCM IO8 DB Broadcast Color Monitor**

The hardware of the Video Monitor consists of the following components which are installed in an elegant and emission shielded full metal system-unit cover of high quality:

System Frame:	TAMUZ <i>BCM 108 Digital BCM Broadcast Color Monitor series</i>
Display Type:	NEC
Display Technology:	8.4" active matrix TFT, poly silicon technology
Resolution:	high resolution, full color* ¹
Dot Format:	1024 x RGB x 768 dots, 983.040 pixel
Dot Pitch:	0,150 H x 0,150 V
Luminance:	250 cd/m ²
Contrast:	250:1
Viewing Angle:	±75° horizontal, ±70° vertikal
Viewing Direction:	06:00 h
Display Classification:	ISO 13406-2, error class 2

*¹ = or similar alternative, *² = optional feature

Features **BCM IO8 DB Broadcast Color Monitor**

The video monitor *BCM Broadcast Color Monitor series* is designed and equipped for the following requests, tasks and applications :

Application:	Preview Monitor, Control Monitor, Camera Monitor, Computer Monitor
Graphic Format:	CGA, EGA, VGA, SVGA, XGA, W-XGA, SXGA, W-SXGA
Video Format:	PAL, NTSC, SECAM, SDI, HD-SDI, auto-detection
Frequency Range:	5 MHz ±0,5 dB
Video Level:	1 Vpp ±10% analog, 800 mVpp ±10% digital
Video Input I/O:	BNC 75 Ohm
Signal Format:	2x CCVS, 1x YC, 1x CAV (RGB/YUV), 1x SDI active looped, 2x VGA as <i>BCM 1x DB</i>
DC Power I/O:	+12 V DC (-2 /+6) via XLR 4pin male
Power Consumption:	18 W as <i>BCM 108 DB</i>
Operating Temperature:	-0°C to +50°C at max. 90% humidity
Storage Temperature:	-20°C to +60°C at max. 90% humidity
Dimensions:	221 mm width, 225 mm height, 215 mm depth
Weight:	3350 g , with stand mounted
Power Supply	internal
Power Supply:	TAMUZ LCM PSD* ¹
Line Voltage:	110-240 V 50-60 Hz, 1 A, short-circuit proofed
Main Input I/O:	IEC 3pin connector
DC Voltage:	12 V DC
DC Output I/O:	XLR4F, cable type

*¹ = or similar alternative

Hardware **BCM I15 DB Broadcast Color Monitor**

The hardware of the Video Monitor consists of the following components which are installed in an elegant and emission shielded full metal system-unit cover of high quality:

System Frame:	TAMUZ <i>BCM 115 Digital BCM Broadcast Color Monitor series</i>
Display Type:	FUJITSU FLC
Display Technology:	15" active matrix TFT, poly silicon technology
Resolution:	high resolution, full color* ¹
Dot Format:	1024 x RGB x 768 dots, 983.040 pixel
Dot Pitch:	0,150 H x 0,150 V
Luminance:	250 cd/m ²
Contrast:	250:1
Viewing Angle:	±75° horizontal, ±70° vertikal
Viewing Direction:	06:00 h
Display Classification:	ISO 13406-2, error class 2

*¹ = or similar alternative, *² = optional feature

Features **BCM I15 DB Broadcast Color Monitor**

The video monitor *BCM Broadcast Color Monitor series* is designed and equipped for the following requests, tasks and applications :

Application:	Preview Monitor, Control Monitor, Camera Monitor, Computer Monitor
Graphic Format:	CGA, EGA, VGA, SVGA, XGA, W-XGA, SXGA, W-SXGA
Video Format:	PAL, NTSC, SECAM, SDI, HD-SDI, auto-detection
Frequency Range:	5 MHz ±0,5 dB
Video Level:	1 Vpp ±10% analog, 800 mVpp ±10% digital
Video Input I/O:	BNC 75 Ohm
Signal Format:	2x CCVS, 1x YC, 2x VGA as <i>BCM 1xx VB</i> , 2x CCVS, 1x YC, 1x SDI active looped, 2x VGA as <i>BCM 1x DB</i>
DC Power I/O:	+12 V DC (-2 /+6) via XLR 4pin male
Power Consumption:	28 W as <i>BCM 115 VB / DB</i> , 36 W as <i>BCM 115 DBH</i>
Operating Temperature:	-0°C to +50°C at max. 90% humidity
Storage Temperature:	-20°C to +60°C at max. 90% humidity
Dimensions:	442 mm width, 308 mm height, 65 mm depth
Weight:	5850 g, with stand mounted 6350 g
Power Supply	external
Power Supply:	TAMUZ LCM PSD* ¹
Line Voltage:	110-240 V 50-60 Hz, 1 A, short-circuit proofed
Main Input I/O:	IEC 3pin connector
DC Voltage:	12 V DC
DC Output I/O:	XLR4F, cable type

*¹ = or similar alternative

Hardware **BCM I20 DB Broadcast Color Monitor**

The hardware of the Video Monitor consists of the following components which are installed in an elegant and emission shielded full metal system-unit cover of high quality:

System Frame:	TAMUZ <i>BCM 120 DB Digital BCM Broadcast Color Monitor series</i>
Display Type:	NEC
Display Technology:	20" active matrix TFT, poly silicon technology
Resolution:	high resolution 119 dpi, full color* ¹
Dot Format:	1600 x RGB x 1200 dots, 983.040 pixel
Dot Pitch:	0,150 H x 0,150 V
Luminance:	250 cd/m ²
Contrast:	250:1
Viewing Angle:	±75° horizontal, ±50° vertikal
Viewing Direction:	06:00 h
Display Classification:	ISO 13406-2, error class 2

*¹ = or similar alternative, *² = optional feature

Features **BCM I20 DB Broadcast Color Monitor**

The video monitor *BCM Broadcast Color Monitor series* is designed and equipped for the following requests, tasks and applications :

Application:	Preview Monitor, Control Monitor, Camera Monitor, Computer Monitor
Graphic Format:	CGA, EGA, VGA, SVGA, XGA, W-XGA, SXGA, W-SXGA
Video Format:	PAL, NTSC, SECAM, SDI, HD-SDI, auto-detection
Frequency Range:	5 MHz ±0,5 dB
Video Level:	1 Vpp ±10% analog, 800 mVpp ±10% digital
Video Input I/O:	BNC 75 Ohm
Signal Format:	2x CCVS, 1x YC, 2x VGA as <i>BCM 117W VB</i> , 2x CCVS, 1x YC, 1x SDI active looped, 2x VGA as <i>BCM 117W DB</i> , 2x CCVS, 1x YC, 1x SDI active looped, 1x HD-SDI active looped, 1x VGA as <i>BCM 117W DBH</i>
DC Power I/O:	+12 V DC (-2 /+6) via XLR 4pin male
Power Consumption:	28 W as <i>BCM 117 VB / DB</i> , 36 W as <i>BCM 117 DBH</i>
Operating Temperature:	-0°C to +50°C at max. 90% humidity
Storage Temperature:	-20°C to +60°C at max. 90% humidity
Dimensions:	442 mm width, 308 mm height, 65 mm depth
Weight:	5850 g, with stand mounted 6350 g
Power Supply	external
Power Supply:	TAMUZ LCM PSD* ¹
Line Voltage:	110-240 V 50-60 Hz, 1 A, short-circuit proofed
Main Input I/O:	IEC 3pin connector
DC Voltage:	12 V DC
DC Output I/O:	XLR4F, cable type

*¹ = or similar alternative

Hardware **BCM I27 DB Broadcast Color Monitor**

The hardware of the Video Monitor consists of the following components which are installed in an elegant and emission shielded full metal system-unit cover of high quality:

System Frame:	TAMUZ <i>BCM 127W Digital BCM Broadcast Color Monitor series</i>
Display Type:	ID-Tech
Display Technology:	27"W active matrix TFT, poly silicon technology
Resolution:	high resolution, full color* ¹
Dot Format:	1280 x RGB x 720 dots, 983.040 pixel
Dot Pitch:	0,150 H x 0,150 V
Luminance:	250 cd/m ²
Contrast:	250:1
Viewing Angle:	±75° horizontal, ±70° vertikal
Viewing Direction:	06:00 h
Display Classification:	ISO 13406-2, error class 2

*¹ = or similar alternative, *² = optional feature

Features **BCM I27 DB Broadcast Color Monitor**

The video monitor *BCM Broadcast Color Monitor series* is designed and equipped for the following requests, tasks and applications :

Application:	Preview Monitor, Control Monitor, Camera Monitor, Computer Monitor
Graphic Format:	CGA, EGA, VGA, SVGA, XGA, W-XGA, SXGA, W-SXGA
Video Format:	PAL, NTSC, SECAM, SDI, HD-SDI, auto-detection
Frequency Range:	5 MHz ±0,5 dB
Video Level:	1 Vpp ±10% analog, 800 mVpp ±10% digital
Video Input I/O:	BNC 75 Ohm
Signal Format:	2x CCVS, 1x YC, 2x VGA as <i>BCM 117 VB</i> , 2x CCVS, 1x YC, 1x SDI active looped, 2x VGA as <i>BCM 117 DB</i>
DC Power I/O:	+12 V DC (-2 /+6) via XLR 4pin male
Power Consumption:	28 W as <i>BCM 117 VB / DB</i> , 36 W as <i>BCM 117 DBH</i>
Operating Temperature:	-0°C to +50°C at max. 90% humidity
Storage Temperature:	-20°C to +60°C at max. 90% humidity
Dimensions:	442 mm width, 308 mm height, 65 mm depth
Weight:	5850 g, with stand mounted 6350 g
Power Supply	external
Power Supply:	TAMUZ LCM PSD* ¹
Line Voltage:	110-240 V 50-60 Hz, 1 A, short-circuit proofed
Main Input I/O:	IEC 3pin connector
DC Voltage:	12 V DC
DC Output I/O:	XLR4F, cable type

*¹ = or similar alternative

Installation

First putting into Operation

The video monitor *BCM Broadcast Color Monitor series* has an especially designed system-unit cover. This contains all components of the monitor and they are installed operational. Usually they don't require any modification by the user.

Take the monitor *BCM Broadcast Color Monitor series* from the packing and check it for possible damages in transit. Please, necessary indications for this take from the transportation documents.

Mounting in 19" Racks

The smaller sized *BCM Broadcast Color Monitor series* is prepared for mounting in standard 19" racks. Therefore disassemble the stand and mount the optional brackets on the left and right side of the monitor.



Note: Use the optional brackets to mount the monitor in a 19" rack only.

Check the packaging for the optional brackets and keep them in a safe place for future usage.

Ventilation

The equipment is a low-powered self ventilated device and has no air ventilation openings. There is no integrated fans producing a continuous stream of cooling air.



Note: When required check the chassis for faultiness and clean them regularly.

Cleaning

Remind that the LCD screen itself is a sensitive device, don't scratch it. This device may be cleaned with usual household glass cleaning fluids only. Avoid scrapers and rub on the screen surface.



Note: When required check the device for faultiness regularly and clean it with a gentle glass cleaner and soft cotton cloths. No acids or solvent may be used for cleaning.

External Control Units

External control units aren't necessary for the normal use of the monitor.

In case of special modes or for service an optional IR remote controller (**EAGLE WHISTLE**) is available and necessary to get access to the OSD menu.



Please ask your service department or dealer if necessary.

Switching the Monitor on

Guarantee the connection with the external power supply unit at the rear XLR connector indicated as 12 V DC input. For switching the display of the monitor *BCM Broadcast Color Monitor series* on you press the accompanying switch **POWER** at the rear. The monitor thereupon starts test routines automatically and then represents the video on his display.



Note: The video monitor *BCM Broadcast Color Monitor series* becomes current supplied with an external power supply or alternatively by an optional battery system.

During the test routines the TAMUZ logo appears shortly on the screen after clearing the memory.

Thereafter the monitor shows the signal from the selected input source (refer to the manual chapter Operation / Input Switch). If the source at this input port don't feed a signal into the monitor, an error message appears on the screen.



Check the cable connections or the feeding source itself.

Power Save Mode

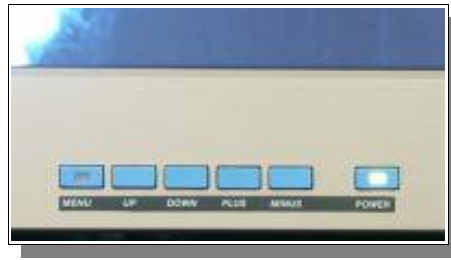
After a period of waiting (to refer the period length see chapter OSD menu / DPMS) for an incoming signal the monitor automatically switches to the POWER SAVE mode in two steps.

Suspend Mode

The first step of saving power ist the SUSPEND mode. After a default five seconds period of waiting for an incoming signal, the micro processor switches the backlight down to a minimum brightness value. The screen becomes darker.

Power Down Mode

The second step of saving power is the POWER DOWN mode. Waiting for another fifteen seconds (default period), the micro processor switches the backlight off and stops processing for video signals. The screen becomes black and the power indicator LED at the front still lit.



Power Save Wake Up

When the POWER SAVE mode is activated, a wake up will be happens automatically when the internal micro processor recognize a video signal at the selected input.

The monitor comes back alive and the incoming signal will be shown on the screen.


Connections of the Monitor

The Monitor Screen

The video monitor *BCM Broadcast Color Monitor series* contains a single, individual working, screen. The following using instructions and steps apply to the screen.



All input connectors are placed at the rear.

	Note: All features and operation modes of the monitor <i>BCM Broadcast Color Monitor series</i> are independent from each other for each screen.
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DC Voltage

The DC voltage to operate the Video Monitors *BCM Broadcast Color Monitor series* becomes supplied by an external Power Supply. The connection happens with a XLR 4pin port at the rear.



The pin-out of the XLR4M port is shown in following table:


Pin	Function
1	Ground
2	NC
3	NC
4	+ 12 V DC

External Power Supply

Interconnect the mains output using a reliable cord with the IEC port of the external Power Supply.

The pin-out of the IEC port is shown in following table:

Pin	Function
1 (N)	Neutral
2 (P)	Phase
3 (GND)	Ground

	Note: Warning about dangerous electrical voltages to or within the equipment. Take care to use the correct power cord depending to your local electricity safety system.
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Video Inputs at the **BCM Broadcast Color Monitor**

The **BCM Broadcast Color Monitor** version of the *BCM Broadcast Color Monitor series* was designed for analog composite video signals in the formats PAL, SECAM or NTSC and VGA graphic signals.



Connect your video source using standard 75 Ohm BNC cables to the input ports at the rear of the monitor. The inputs are internally 75 Ohm terminated. There is no need for an external standard 75 ohm terminating resistor. Connect your VGA graphic source using standard Sub-HD15 cables to the input ports at the rear of the monitor.

BNC Inputs

Depending on the version of the device the allocation of the ports varies. The respectively BNC jack pair is described as input and loop. The loop is an active loop, no signal comes out if power off. Details see the table below or at the rear of the monitor.



The allocation of the BNC ports is shown in following table:

Model / Interface Type	Name	Format	Input 1	Input 2	Input 3	Input 4	Input 5	Input 6	Input 7
BCM 1xx VB	BCM Broadcast Color Monitor	PAL / NTSC / Secam	VGA	VGA	CCVS	CCVS	YC	-	-

Optional Input YC

As an option of the *BCM Broadcast Color Monitor series* the right pair of BNC ports is defined as a YC input, left as Y (Luminance) and right as C (Chrominance). The YC signal input is separated, use a adapter to split the 4pin Mini-DIN connections.

Signal Format

The video monitor *BCM Broadcast Color Monitor series* are designed as a MultiFormat and MultiSync monitor to be used with signals in the format PAL/SECAM 625/50 or NTSC 525/60, no matter if analog or digital version.

As standard the integrated signal processor recognizes the video format automatically and adapts itself to this correspondingly. The picture aspect ratios have to be adapted by adjusting H and V size to the video screen size if necessary (service available under service conditions only).

Usually the wide screen monitor type shows a full screen picture every time feeding 16:9 images. In case of a 4:3 aspect ratio image, select the 4:3 mode using the OSD menu step GEOMETRY - ZOOM 2.

For faster operation the button PLUS opens the menu step, when the menu itself is not open.

Video Inputs at **BCM Broadcast Color Monitor**

The **BCM Broadcast Color Monitor series** was designed for analog composite video signals and serial digital component (SDI) signals in the formats PAL, SECAM or NTSC and VGA graphic signals.



Connect your video source using standard 75 Ohm BNC cables to the input ports at the rear of the monitor. The inputs are internally 75 Ohm terminated. There is no need for an external standard 75 ohm terminating resistor. Connect your VGA graphic source using standard Sub-HD15 cables to the input ports at the rear of the monitor.

BNC Inputs

Depending on the version of the device the allocation of the ports varies. The respectively BNC jack pair is described as input and loop. The loop is an active loop, no signal comes out if power off. Details see the table below or at the rear of the monitor.



The allocation of the BNC ports is shown in following table:

Model / Interface Type	Name	Format	Input 1	Input 2	Input 3	Input 4	Input 5	Input 6	Input 7
BCM 1xx DB	BCM Broadcast Color Monitor D	PAL / NTSC / Secam	VGA	VGA	CCVS	CCVS	YC	SDI	-

Optional Input YC

As an option of the *BCM Broadcast Color Monitor series* the right pair of BNC ports is defined as a YC input, left as Y (Luminance) and right as C (Chrominance). The YC signal input is separated, use a adapter to split the 4pin Mini-DIN connections.

Signal Format

The video monitor *BCM Broadcast Color Monitor series* are designed as a MultiFormat and MultiSync monitor to be used with signals in the format PAL/SECAM 625/50 or NTSC 525/60, no matter if analog or digital version.

As standard the integrated signal processor recognizes the video format automatically and adapts itself to this correspondingly. The picture aspect ratios have to be adapted by adjusting H and V size to the video screen size if necessary (service available under service conditions only).

Usually the wide screen monitor type shows a full screen picture every time feeding 16:9 images. In case of a 4:3 aspect ratio image, select the 4:3 mode using the OSD menu step GEOMETRY - ZOOM 2.

For faster operation the button PLUS opens the menu step, when the menu itself is not open.

Video Inputs at **BCM Broadcast Color Monitor HD**

The **BCM Broadcast Color Monitor HD** version of the *BCM Broadcast Color Monitor series* was designed for analog composite video signals and serial digital component (SDI) signals in the formats PAL, SECAM or NTSC, VGA graphic signals and serial digital High-Definition (HD-SDI) signals in the formats 1080i, 1035i, 24/25sf and 720p.



Connect your video source using standard 75 Ohm BNC cables to the input ports at the rear of the monitor. The inputs are internally 75 Ohm terminated. There is no need for an external standard 75 ohm terminating resistor. Connect your VGA graphic source using standard Sub-HD15 cables to the input ports at the rear of the monitor.

BNC Inputs

Depending on the version of the device the allocation of the ports varies. The respectively BNC jack pair is described as input and loop. The loop is an active loop, no signal comes out if power off. Details see the table below or at the rear of the monitor.



The allocation of the BNC ports is shown in following table:

Model / Interface Type	Name	Format	Input 1	Input 2	Input 3	Input 4	Input 5	Input 6	Input 7
BCM 1xx DBH	BCM Broadcast Color Monitor HD	PAL / NTSC / Secam HDTV	VGA	RS232	CCVS	CCVS	YC	SDI	HDSDI

Optional Input YC

As an option of the *BCM Broadcast Color Monitor series* the right pair of BNC ports is defined as a YC input, left as Y (Luminance) and right as C (Chrominance). The YC signal input is separated, use a adapter to split the 4pin Mini-DIN connections.

Signal Format

The video monitor *BCM Broadcast Color Monitor series* are designed as a MultiFormat and MultiSync monitor to be used with signals in the format PAL/SECAM 625/50 or NTSC 525/60, no matter if analog or digital version.

As standard the integrated signal processor recognizes the video standard automatically and adapts itself to this correspondingly. The picture aspect ratios have to be adapted by adjusting H and V size to the video screen size if necessary (service available under service conditions only).

Usually the wide screen monitor type shows a full screen picture every time feeding 16:9 images. In case of a 4:3 aspect ratio image, select the 4:3 mode using the OSD menu step GEOMETRY - ZOOM 2.

For faster operation the button **PLUS** opens the menu step, when the menu itself is not open.

HDTV Input

At the version BCM 1xxW DBH of the *BCM Broadcast Color Monitor series* the VGA 1 port is configured as HDTV input internally. Instead of a Sub-HD15 socket a standard Sub-D9 socket is then installed in the terminal field. The input module for HD signals is installed on the right side of the terminal field.

Select the VGA 1 source in the INPUT menu to show the HDTV signal on screen.

Most of the common HDTV formats are supported by the internal HD interface, see table below. The input signal format for HD is the common SMPTE 274M HD-SDI stream with 1,5 Gbit/s data rate. The signal will be detected automatically.

<i>Format</i>	<i>Samples per line</i>	<i>Active lines</i>	<i>Frame rate</i>	<i>Scanning format</i>	<i>supported</i>
1080p@60	1920	1080	60	Progressive	NO
1080p@59,94	1920	1080	59,94	Progressive	NO
1080p@50	1920	1080	50	Progressive	NO
1080i@60	1920	1080	60	2:1 interlace	YES
1080i@59,94	1920	1080	59,94	2:1 interlace	YES
1080i@50	1920	1080	50	2:1 interlace	YES
1080p@30	1920	1080	30	Progressiv	NO
1080p@29,97	1920	1080	29,97	Progressiv	NO
1080p@25	1920	1080	25	Progressiv	NO
1080p@24	1920	1080	24	Progressiv	NO
1080p@23,98	1920	1080	23,98	Progressiv	NO
1080p@30sf	1920	1080	30	Progressive segmented frames	YES
1080p@29,97sf	1920	1080	29,97	Progressive segmented frames	YES
1080p@25sf	1920	1080	25	Progressive segmented frames	YES
1080p@24sf	1920	1080	24	Progressive segmented frames	YES
1080p@23,98sf	1920	1080	23,98	Progressive segmented frames	YES
720p@60	1280	720	60	Progressive	YES
720p@59,94	1280	720	59,94	Progressive	YES
720p@50	1280	720	50	Progressive	YES
720p@30	1280	720	30	Progressive	YES
720p@29,97	1280	720	29,97	Progressive	YES
720p@25	1280	720	25	Progressive	NO
720p@24	1280	720	24	Progressive	NO
720p@23,98	1280	720	23,98	Progressive	NO

The list of currently unsupported formats may be changed without notice.

GPI/O Interface

For some special application a so-called GPI/O interface is helpful to control the monitor by external events or get an information from or to external devices, like tally. As an option a GPI/O 5pin Binder port is available for the *BCM Broadcast Color Monitor series* monitor (factory built-in at order).



The pin-out of the GPI/O port is shown in following table:

Pin	Function	Pin	Function
1	GPI Tally closed contact +	4	Not Connected
2	GPI Tally closed contact -	5	Not Connected
3	Not Connected		

The GPI/O feature is an option and must have been engaged for the purpose of integration at order of the *BCM Broadcast Color Monitor series* monitor.

Service Interface

For some special application a so-called service interface is helpful to control or maintain the monitor firmware by external devices, like a PC system. As an option a GPI/O 5pin Binder port is available for the *BCM Broadcast Color Monitor series* monitor (factory built-in at order).



This service interface can be used by service technicians to update the firmware.

Operation

The operation for all models in the *BCM Broadcast Color Monitor series* is easy to learn and explains himself intuitive. The main features are controlled by OSD menu. Individual setups or service features are available with the optional IR-remote **EAGLE WHISTLE**.

Hereafter the manual operation for each model of the *BCM Broadcast Color Monitor series* .

Operation of the **BCM Broadcast Color Monitor**

On the right side at the rear of the monitor **BCM Broadcast Color Monitor** from the *BCM Broadcast Color Monitor series* you will find several buttons, switches or adjustment controls.

From the left to the right: Power switch **POWER**, navigation cross **MINUS - PLUS - DOWN - UP - MENU**, image feature keys **4:3/16:9 - SIZE - R/G/B - B/W**, input keys.

POWER Switch

Use the switch **POWER** to put the monitor *BCM Broadcast Color Monitor series* into operation.



The power LED at the front indicates DC POWER ON and that the device is ready to be used.

Navigation Cross Buttons

With the button **MENU** in the middle of the navigation cross the OSD menu can be open to select features or adjust the screen.

To navigate the menu use the buttons **UP** and **DOWN**, to select or activate a menu step use the button **PLUS**. To adjust a value use the buttons **PLUS** and **MINUS**. To close the menu use the buttons **MENU**.



Note: The *BCM Broadcast Color Monitor series* can be equipped with an IR remote controller as option. Is that the case, any operation is possible with the Whistle remote controller.

Image Feature Buttons

The *BCM Broadcast Color Monitor* is equipped with a set of buttons to have direct access to some image features.

Button	Function	Button	Function
4:3 / 16:9	Selects the 16:9 or 4:3 aspect ratio	SIZE	Selects UNDERSCAN or NORMAL
R / G / B	Selects the mode R/G/B only	B / W	Select the Black & White mode

Format Switch

Using the button **PLUS** when the main menu is not active, you may toggle between the 16:9 wide screen and 4:3 mode of the monitor *BCM Broadcast Color Monitor series* .


If the button **PLUS** is pushed once, the menu step GEOMETRY will appear immediately. Here you can select (see image below) if the monitor works in 16:9 or 4:3 mode. The aspect ratio will be set to the corresponding values.

16:9 mode, select GEOMETRY - DEFAULT

4:3 mode, select GEOMETRY - ZOOM 2

Anamorphic signals will be shown in the correct aspect ratio. Under 16:9 conditions standard 4:3 signals are shown in a horizontal stretched mode.

As default the active video area will be shown. The interface of the monitor *BCM Broadcast Color Monitor series* is capable to show the full video signal, in case of PAL formats up to 625 TV lines or in case of NTSC formats up to 525 TV lines. Therefore you have to adjust the setup for scanning TV lines in the menu step SCALING - SIGNALS - LINES. The aspect ratio in a suitable way must corrected is after this.

 **Note:** The 16:9 and 4:3 aspect ratio formats are selectable as default. If another aspect ratio or anamorphic conversion is necessary, refer the service section of this manual to adjust your individual setup.

Video Input Switches


The BCM Broadcast Color Monitor is equipped with a set of buttons to have direct access to the different video inputs.

Using the input buttons, you may toggle between the input sources, connected at the rear of the monitor *BCM Broadcast Color Monitor series*. Depending of the monitor type CCVS, YC, SDI, HDSDI or VGA signals may be the source

See table hereafter for reference.

Model / Interface Type	Name	Input 1	Input 2	Input 3	Input 4	Input 5	Input 6	Input 7	Input 8
<i>BCM 1xx DB</i>	BCM Broadcast Color Monitor	CCVS 1	CCVS 2	YC	CAV	SDI 1	-	VGA 1	VGA 2
<i>BCM 1xx D2B</i>	BCM Broadcast Color Monitor 2D	CCVS 1	CCVS 2	YC	CAV	SDI 1	SDI 2	VGA 1	VGA 2
<i>BCM 1xx DHB</i>	BCM Broadcast Color Monitor HD	CCVS 1	CCVS 2	YC	CAV	SDI 1	HDSDI	VGA 1	VGA 2

The selected input will be indicated by an LED within the button.

 **Note:** The button LEDs will indicate the selected source. The light lits when the selection is confirmed by the controller.

If the source at the selected input port don't feed a signal into the monitor, an error message appears on the screen. Check the cable connections or the feeding source itself.

TALLY Indicator

With the TALLY port at the rear GPI/O connector an attention light can be switched on at the front of the monitor *BCM Broadcast Color Monitor series* .

For studio usage the Tally light marks the source shown at this monitor as „On-Air“ or selected. The integrated LED will lit when the Tally port is closed.

Option IR-Remote Controller

For individual setups or service purposes an optional IR remote controller (**EAGLE WHISTLE**) is available.



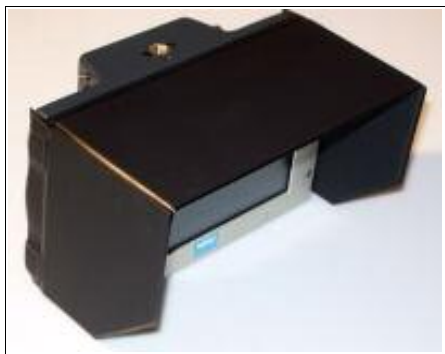
The user can navigate the OSD menu with the keys on the controller. Open the OSD menu with the key **MENU**. Toggle up or down in the menu with the keys **P+** and **P-**. Open a menu step or adjust a value with the keys **V+** and **V-**.

Any key stroke will be quit by the integrated LED.

Using the key **POWER** the monitor will activate the Power Save Mode.

Option Sun Hood

To shade the monitor screen from bright sunlight, when the monitor is used outside, an optional sun hood (**EAGLE HOOD**) can be attached to the monitor and fixed with their velcro's.



Option Carrying Bag

To protect the monitor against external impacts an optional carrying bag (**EAGLE NEST**) is available. The upholstered bag is equipped with a hinged sun hood at the front side.



At the rear a special cable feed-trough is built-in. With the carrying straps the bag can being hung around the operators neck.

OSD Menu Operation

For individual setups or service purposes the *BCM Broadcast Color Monitor series* contains an OSD menu. To get access to the menu you need to push the button **MENU** or to have the optional IR remote controller (**EAGLE WHISTLE**).



The user can navigate the OSD menu with the keys on the front key-pad or the IR controller. Open the OSD menu with the key **MENU**. Toggle the menu up or down using the **UP (P+)** and **DOWN (P-)** keys. Open a menu step or adjust a value with the **LEFT (V+)** and **RIGHT (V-)** keys. Using the **POWER** key the monitor will activate the Power Save Mode.

OSD Menu

There are two important menus to operate or configure the *BCM Broadcast Color Monitor series* interface. The MAIN MENU and the SERVICE MENU.

The MAIN MENU contains all relevant items to operate the *BCM Broadcast Color Monitor series* monitor.

The SERVICE MENU contains all relevant items to configure the *BCM Broadcast Color Monitor series* monitor under service conditions.

Main Menu

Press the **MENU** key at the front panel key-pad operation panel or the IR remote controller once to open the OSD menu. The MAIN MENU appears on screen.



With most of the OSD menu steps a help window opens and describe the selected menu step. Use the **UP** and **DOWN** keys (**P+** and **P-** at the **EAGLE WHISTLE**) to select the next step. Open a menu step or adjust a value using the **LEFT** and **RIGHT** keys (**V+** and **V-** at the **EAGLE WHISTLE**). Close and save the menu or value step by step with the **MENU** key.

The MAIN MENU shows following operational steps:

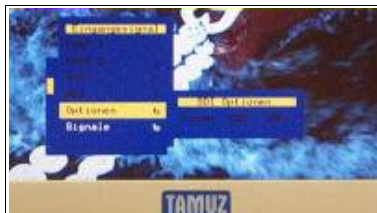
Menu Step		Function
1.0	INPUTS	choose the input signal
2.0	SCALING	select or adjust the geometry of the input image
3.0	IMAGE	adjust the brightness, contrast, color and more
4.0	KEYBOARD	define the navigation keys
5.0	SYSTEM	change language, OSD adjustments and more

Close and save this menu step by pushing the **MENU** key once.

The five main steps have individual sub menus, see following description.

Input Menu

Select the INPUT MENU from the MAIN MENU with the **UP** and **DOWN** keys and open the menu step with the **RIGHT (V+)** key.



The INPUT MENU shows following operational steps:

Menu Step		Function
1.1	CCVS 1	Select the input CCVS 1 as source signal for the screen.
1.2	CCVS 2	Select the input CCVS 2 as source signal for the screen.
1.3	YC	Select the input YC as source signal for the screen.
1.4	CAV	Select the input CAV (RGB/YUV) as source signal for the screen.
1.5	SDI 1	Select the interface input SDI 1 video as source for the screen.
1.6	SDI 2	Select the interface input SDI 2 video as source for the screen. [Hidden, if the SDI interface is not equipped in the monitor!]
1.7	VGA 1	Select the interface input VGA 1 as source for the screen.
1.8	VGA 2	Select the interface input VGA 2 as source for the screen.
1.9	DVI	Select the interface input DVI as source for the screen. [Hidden, if the DVI interface is not equipped in the monitor!]
1.10	Format	Opens the sub menu FORMAT [Hidden, if the selected input didn't allow any change!]

Close and save this menu step by pushing the **MENU** key once.

Submenu Format

Select the FORMAT MENU from the INPUT MENU with the **UP** and **DOWN** keys and open the menu step with the **RIGHT (V+)** key.

Submenu Format for analog Video

When a analog video source is selected the FORMAT MENU allows to select the video standards.

The FORMAT MENU shows following operational steps:

Menu Step		Function
1.10.1	Format	Opens the sub menu FORMAT
1.10.1.1	AUTO	Detection of the video standard PAL, NTSC or SECAM, automatically.
1.10.1.2	NTSC	Shows the current detected video standard when AUTO NORM is ON. When AUTO NORM is OFF, the video standard is selectable as NTSC
1.10.1.3	PAL	Shows the current detected video standard when AUTO NORM is ON. When AUTO NORM is OFF, the video standard is selectable as PAL
1.10.1.4	SECAM	Shows the current detected video standard when AUTO NORM is ON. When AUTO NORM is OFF, the video standard is selectable as SECAM
1.10.1.5	CAV Format: RGB	When RGB is ON, the CAV input is set to decode RGB values
1.10.1.6	CAV Format: YUV	When YUV is ON, the CAV input is set to decode YUV values

Close and save this menu step by pushing the **MENU** key once.

Submenu Format for VGA Video

When a VGA video source is selected the FORMAT MENU allows to select the video standards.

The FORMAT MENU shows following operational steps:

Menu Step		Function
1.10.2	Format	Opens the sub menu FORMAT
1.10.2.1	Auto Sync Detect	Detection of the VGA standard automatically.
1.10.2.2	HV Sync	Shows the current detected sync standard when AUTO SYNC is ON. When AUTO SYNC is OFF, the sync standard is selectable as HV-Sync
1.10.2.3	Composite Sync	Shows the current detected sync standard when AUTO SYNC is ON. When AUTO SYNC is OFF, the sync standard is selectable as C omposite Sync
1.10.2.4	Sync on Green	Shows the current detected sync standard when AUTO SYNC is ON. When AUTO SYNC is OFF, the sync standard is selectable as Sync-on-Green
1.10.2.5	C-Sync Filter	The C-Sync Filter is selectable between Off - LF - HF
1.10.2.6	Edge	The Edge filter is selectable between 1 st and 2 nd edge
1.10.2.7	Coast lines	The line where sync is detected is selectable between 1 to 32, the default va - lue is 7
1.10.2.8	SoG Level	The level for Sync-on-Green detection is adjustable between -20 and -330 mV, the default value is 170 mV
1.10.2.9	H-Clamp	Horizontal clamp phase. For special purpose only. The default value is 8.

Close and save this menu step by pushing the **MENU** key once.

Submenu Format for DVI Video

When a DVI video source is selected the FORMAT MENU allows to select the video standards.

The FORMAT MENU shows following operational steps:

Menu Step		Function
1.10.3	Format	Opens the sub menu FORMAT
1.10.3.1		
1.10.3.2		
1.10.3.3		
1.10.3.4		

Close and save this menu step by pushing the **MENU** key once.

Scaling Menu

Select the SCALING MENU from the MAIN MENU with the **UP** and **DOWN** keys and open the menu step with the **RIGHT (V+)** key.



The SCALING MENU shows following operational steps:

Menu Step		Function
2.1	4 : 3	Select 4:3 aspect ratio
2.2	16 : 9	Select 16:9 aspect ratio

Menu Step		Function
2.3	1 : 1	Set the scaling to 1:1, the incoming video will be shown in his native pixel resolution, f.e. SDI as 720x576
2.4	Display	Set the scaling to the display resolution. Note: Some LCDs, like SXGA, didn't have a native 4:3 or 16:9 aspect ratio
2.5	Scan	Opens the sub menu SCAN
2.6	Mirror	Select the mirror mode, swapping left to right. [Hidden, if this mode is not available!]
2.7	180°	Select the 180° mode, swapping top to bottom. [Hidden, if this mode is not available!]
2.8	Anamorph	Select the anamorph mode, decodes anamorphic images. [Hidden, if this mode is not available!]
2.9	Signal	Opens the sub menu SIGNAL
2.10	Display	Opens the sub menu DISPLAY
2.11	Zoom	Opens the sub menu ZOOM
2.12	Reset	Reset the scaling values to their factory defaults. Note: Selecting this menu step with the RIGHT (V+) key once, all individual settings for the current display mode will be erased and the monitor works in the factory default mode!

Close and save this menu step by pushing the **MENU** key once.

Submenu Scan

Select the SCAN MENU from the SCALING MENU with the **UP** and **DOWN** keys and open the menu step with the **RIGHT (V+)** key.

The SCAN MENU shows following operational steps:

Menu Step		Function
2.5	Scan	Opens the sub menu SCAN
2.5.1	Underscan	Enables the underscan mode. All lines of the video source will be shown.
2.5.2	Normal	Enables the normal mode. All active lines of the video source will be shown.
2.5.3	Overscan	Enables the overscan mode. The active video will be cropped to 90% width and height.
2.5.4	Zoom	Opens the sub menu ZOOM

Close and save this menu step by pushing the **MENU** key once.

Submenu Signal

Select the SIGNAL MENU from the SCALING MENU with the **UP** and **DOWN** keys and open the menu step with the **RIGHT (V+)** key.

The SIGNAL MENU shows following operational steps:

Menu Step		Function
2.9	Signal	Opens the sub menu SIGNAL
2.9.1	Pixel	Adjust how many pixels becomes sampled horizontally. Note: Selecting this menu step with the RIGHT (V+) or LEFT (V-) key for an individual setting. The value is limited to the maximal TV line width, regarding to the TV standard (best for PAL is 940 samples).
2.9.2	Lines	Adjust how many lines becomes sampled horizontally. Note: Selecting this menu step with the RIGHT (V+) or LEFT (V-) key for an individual setting. The value is limited to the maximal TV frame lines, regarding to the TV standard (best for PAL is 576 lines).

Menu Step		Function
2.9.3	X-Position	Adjust the horizontal image position on the screen. Note: Selecting this menu step with the RIGHT (V+) or LEFT (V-) key for an individual setting. The value is limited to the maximal TV line width.
2.9.4	Y-Position	Adjust the vertical image position on the screen. Note: Selecting this menu step with the RIGHT (V+) or LEFT (V-) key for an individual setting. The value is limited to the maximal TV frame width.

Close and save this menu step by pushing the **MENU** key once.



Note: When DVI input is selected and active, this menu allows the selection of incoming video, f.e. XGA = 1024 pixel, only.

Submenu Display

Select the DISPLAY MENU from the SCALING MENU with the **UP** and **DOWN** keys and open the menu step with the **RIGHT (V+)** key.

The DISPLAY MENU shows following operational steps:

Menu Step		Function
2.10	Display	Opens the sub menu DISPLAY
2.10.1	Pixel	Adjust the horizontal size for the active area of the LCD panel. Note: Selecting this menu step with the RIGHT (V+) or LEFT (V-) key for an individual setting. The value is limited to the native panel resolution.
2.10.2	Lines	Adjust the vertical size for the active area of the LCD panel. Note: Selecting this menu step with the RIGHT (V+) or LEFT (V-) key for an individual setting. The value is limited to the native panel resolution.
2.10.3	X-Position	Adjust the horizontal position on the screen. Note: Selecting this menu step with the RIGHT (V+) or LEFT (V-) key for an individual setting. The value is limited to the native panel resolution.
2.10.4	Y-Position	Adjust the vertical position on the screen. Note: Selecting this menu step with the RIGHT (V+) or LEFT (V-) key for an individual setting. The value is limited to the native panel resolution.

Close and save this menu step by pushing the **MENU** key once.

Submenu Zoom

Select the ZOOM MENU from the SCALING MENU with the **UP** and **DOWN** keys and open the menu step with the **RIGHT (V+)** key.

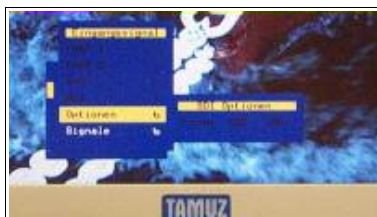
The ZOOM MENU shows following operational steps:

Menu Step		Function
2.11	Zoom	Opens the sub menu ZOOM
2.11.1	X-Position	Adjust the horizontal position on the screen. Note: Selecting this menu step with the RIGHT (V+) or LEFT (V-) key for an individual setting. The value is limited to the native panel resolution.
2.11.2	Y-Position	Adjust the vertical position on the screen. Note: Selecting this menu step with the RIGHT (V+) or LEFT (V-) key for an individual setting. The value is limited to the native panel resolution.
2.11.3	X-Factor	Adjust the horizontal ZOOM factor to magnify the image on screen. Note: Selecting this menu step with the RIGHT (V+) or LEFT (V-) key for an individual setting. Values between 0 to 100 are possible.
2.11.4	Y-Factor	Adjust the vertical ZOOM factor to magnify the image on screen. Note: Selecting this menu step with the RIGHT (V+) or LEFT (V-) key for an individual setting. Values between 0 to 100 are possible.

Close and save this menu step by pushing the **MENU** key once.

Image Menu

Select the IMAGE MENU from the MAIN MENU with the **UP** and **DOWN** keys and open the menu step with the **RIGHT (V+)** key.



The IMAGE MENU shows following operational steps:

Menu Step		Function
3.1	Brightness	Adjust the brightness value for the screen. Note: Selecting this menu step with the RIGHT (V+) or LEFT (V-) key for an individual setting. Values between -128 to +128 are possible. The value for best image setup is 0.
3.2	Contrast	Adjust the contrast value for the screen. Note: Selecting this menu step with the RIGHT (V+) or LEFT (V-) key for an individual setting. Values between -128 to +128 are possible. The value for best image setup is 0.
3.3	Saturation	Adjust the color saturation value for the screen. Note: Selecting this menu step with the RIGHT (V+) or LEFT (V-) key for an individual setting. Values between -128 to +128 are possible. The value for best image setup is 0. [Hidden, if this mode is not available!]
3.4	Backlight	Adjust the backlight brightness. Note: This value is dependently on the current value BRIGHTNESS. Note: Selecting this menu step with the RIGHT (V+) or LEFT (V-) key for an individual setting. Values between 0 to 16 are possible.
3.5	Gamma	Opens the sub menu GAMMA
3.6	Color Temp.	Opens the sub menu COLOR TEMPERATURE
3.7	Color Adjust	Opens the sub menu COLORS SETTINGS.
3.8	B/W	Enables the Black-and-White mode
3.9	Negative	Enables the Negative mode
3.10	R/G/B	Opens the sub menu RGB
3.11	Freeze	Enables the Freeze mode
3.12	Aperture	Opens the sub menu APERTURE

Close and save this menu step by pushing the **MENU** key once.

Submenu Gamma


Select the GAMMA MENU from the IMAGE MENU with the **UP** and **DOWN** keys and open the menu step with the **RIGHT (V+)** key.

The GAMMA MENU shows following operational steps:

Menu Step		Function
3.5	Gamma	Opens the sub menu GAMMA
3.5.1	Off	Disables pre-configured gamma correction Note: Selecting this menu step with the RIGHT (V+) or LEFT (V-) key for an individual setting.

Menu Step		Function
3.5.2	1.8	enables pre-configured gamma correction with value 1.8 Note: Selecting this menu step with the RIGHT (V+) or LEFT (V-) key for an individual setting.
3.5.3	2.2	enables pre-configured gamma correction with value 2.2 Note: Selecting this menu step with the RIGHT (V+) or LEFT (V-) key for an individual setting.

Close and save this menu step by pushing the **MENU** key once.

	<p>Note: When GAMMA is OFF, the internal LCD panel gamma correction setup will be used</p>
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Submenu Color Temperature

Select the **COLOR TEMPERATURE MENU** from the **IMAGE MENU** with the **UP** and **DOWN** keys and open the menu step with the **RIGHT (V+)** key.

The **COLOR TEMPERATURE MENU** shows following operational steps:

Menu Step		Function
3.6	Color Temp.	Opens the sub menu COLOR TEMPERATURE
3.6.1	User	Enables the USER settings in sub menu COLOR ADJUST Note: Selecting this menu step with the RIGHT (V+) or LEFT (V-) key for an individual setting.
3.6.2	3200	enables pre-configured Color Temperature for 3.200°K Note: Selecting this menu step with the RIGHT (V+) or LEFT (V-) key for an individual setting.
3.6.3	6500	enables pre-configured Color Temperature for 6.500°K Note: Selecting this menu step with the RIGHT (V+) or LEFT (V-) key for an individual setting.
3.6.4	9300	enables pre-configured Color Temperature for 9.300°K Note: Selecting this menu step with the RIGHT (V+) or LEFT (V-) key for an individual setting.

Close and save this menu step by pushing the **MENU** key once.

Submenu Color Adjust

This sub menu is available only when the **COLOR TEMPERATURE** is select as **USER** in the sub menu **COLOR TEMPERATURE**.

Select the **COLOR ADJUST MENU** from the **IMAGE MENU** with the **UP** and **DOWN** keys and open the menu step with the **RIGHT (V+)** key.

The **COLOR ADJUST MENU** shows following operational steps:

Menu Step		Function
3.7	Color adjust	Opens the sub menu COLOR Adjust
3.7.1	White R	Adjust the white color value for the screen in the red channel. Note: Selecting this menu step with the RIGHT (V+) or LEFT (V-) key for an individual setting. Values between -128 to +128 are possible.
3.7.2	White G	Adjust the white color value for the screen in the green channel. Note: Selecting this menu step with the RIGHT (V+) or LEFT (V-) key for an individual setting. Values between -128 to +128 are possible.
3.7.3	White B	Adjust the white color value for the screen in the blue channel. Note: Selecting this menu step with the RIGHT (V+) or LEFT (V-) key for an individual setting. Values between -128 to +128 are possible.

Menu Step		Function
3.7.4	Grey R	Adjust the grey color value for the screen in the red channel. Note: Selecting this menu step with the RIGHT (V+) or LEFT (V-) key for an individual setting. Values between -128 to +128 are possible.
3.7.5	Grey G	Adjust the grey color value for the screen in the green channel. Note: Selecting this menu step with the RIGHT (V+) or LEFT (V-) key for an individual setting. Values between -128 to +128 are possible.
3.7.6	Grey B	Adjust the grey color value for the screen in the blue channel. Note: Selecting this menu step with the RIGHT (V+) or LEFT (V-) key for an individual setting. Values between -128 to +128 are possible.
3.7.7	Black R	Adjust the black color value for the screen in the red channel. Note: Selecting this menu step with the RIGHT (V+) or LEFT (V-) key for an individual setting. Values between -128 to +128 are possible.
3.7.8	Black G	Adjust the black color value for the screen in the green channel. Note: Selecting this menu step with the RIGHT (V+) or LEFT (V-) key for an individual setting. Values between -128 to +128 are possible.
3.7.9	Black B	Adjust the black color value for the screen in the blue channel. Note: Selecting this menu step with the RIGHT (V+) or LEFT (V-) key for an individual setting. Values between -128 to +128 are possible.

Close and save this menu step by pushing the **MENU** key once.

NOTE: Any individual color temperature can be set using the sub menu COLOR ADJUST.

Submenu R/G/B

This sub menu allows to configure an individual color setting for the monitor, f.e. BLUE only mode.

Select the R/G/B MENU from the IMAGE MENU with the **UP** and **DOWN** keys and open the menu step with the **RIGHT (V+)** key.

The R/G/B MENU shows following operational steps:

Menu Step		Function
3.10	R/G/B	Opens the sub menu R/G/B
3.10.1	R	Enables the R channel to display red colored signals. Default is ON.
3.10.2	G	Enables the G channel to display green colored signals. Default is ON.
3.10.3	B	Enables the B channel to display blue colored signals. Default is ON.

Close and save this menu step by pushing the **MENU** key once.

Submenu Aperture

Select the APERTURE MENU from the IMAGE MENU with the **UP** and **DOWN** keys and open the menu step with the **RIGHT (V+)** key.

The APERTURE MENU shows following operational steps:

Menu Step		Function
3.11	Aperture	Opens the sub menu APERTURE
3.11.1	Enhancement	Adjust the sharpness value for the screen by an individual edge enforcement. Note: The default value is about 0. Note: Selecting this menu step with the RIGHT (V+) or LEFT (V-) key for an individual setting. Values between 0 to 8 are possible.
3.11.2	Detail min	Enables the detail enforcement at a minimum level
3.11.3	Detail medium	Enables the detail enforcement at a medium level

Menu Step		Function
3.11.4	Detail max	Enables the detail enforcement at a maximum level

Close and save this menu step by pushing the **MENU** key once.

Keyboard Menu

Select the KEYBOARD MENU from the MAIN MENU with the **UP** and **DOWN** keys and open the menu step with the **RIGHT (V+)** key.



This menu step allows to programm the direct functions of the navigation keys individually. The direct functions are available when the OSD menu is not active.

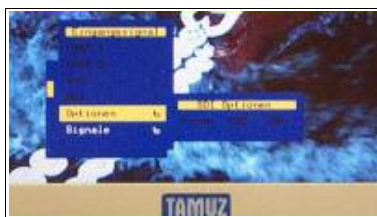
The KEYBOARD MENU shows following operational steps:

Menu Step		Function
4.1	Down	Enables the selected direct function for the key. Select the function with the RIGHT (V+) or LEFT (V-) key for an individual setting. Available functions are - VGA1 - VGA2 - DVI - CCVS1 - CCVS2 - Y/C - RGB/VUV - SDI1 - SDI2 - Brightness- - Brightness+ - Contrast- - Contrast+ - Saturation- - Saturation+ - 4:3 - 16:9 - Underscan - B/W - Freeze - The default value is „no direct function key“.
4.2	Up	Enables the selected direct function for the key. Select the function with the RIGHT (V+) or LEFT (V-) key for an individual setting. Available functions are - VGA1 - VGA2 - DVI - CCVS1 - CCVS2 - Y/C - RGB/VUV - SDI1 - SDI2 - Brightness- - Brightness+ - Contrast- - Contrast+ - Saturation- - Saturation+ - 4:3 - 16:9 - Underscan - B/W - Freeze - The default value is „no direct function key“.
4.3	Left	Enables the selected direct function for the key. Select the function with the RIGHT (V+) or LEFT (V-) key for an individual setting. Available functions are - VGA1 - VGA2 - DVI - CCVS1 - CCVS2 - Y/C - RGB/VUV - SDI1 - SDI2 - Brightness- - Brightness+ - Contrast- - Contrast+ - Saturation- - Saturation+ - 4:3 - 16:9 - Underscan - B/W - Freeze - The default value is „no direct function key“.
4.4	Right	Enables the selected direct function for the key. Select the function with the RIGHT (V+) or LEFT (V-) key for an individual setting. Available functions are - VGA1 - VGA2 - DVI - CCVS1 - CCVS2 - Y/C - RGB/VUV - SDI1 - SDI2 - Brightness- - Brightness+ - Contrast- - Contrast+ - Saturation- - Saturation+ - 4:3 - 16:9 - Underscan - B/W - Freeze - The default value is „no direct function key“.

Close and save this menu step by pushing the **MENU** key once.

System Menu

Select the SYSTEM MENU from the MAIN MENU with the **UP** and **DOWN** keys and open the menu step with the **RIGHT (V+)** key.



This menu step allows the user to program the monitor setup individually. Some of the menu step are accessible under service conditions only.

The SYSTEM MENU shows following operational steps:

Menu Step		Function
5.1	Power On	Opens the sub menu POWER ON
5.2	Search	Opens the sub menu SEARCH
5.3	Visualisation	Opens the sub menu VISUALISATION
5.4	Language	Opens the sub menu LANGUAGE
5.5	OSD	Opens the sub menu OSD
5.6	Wall	Opens the sub menu WALL
5.7	RGB Adjust	Opens the sub menu RGB ADJUST Note: Hidden when not in Service mode
5.8	Auto Color	Opens the sub menu AUTO COLOR Note: Hidden when not in Service mode
5.9	Backlight	Opens the sub menu BACKLIGHT Note: Hidden when not in Service mode

Close and save this menu step by pushing the **MENU** key once.

Submenu Power On

This sub menu allows to define the video input which will be shown after Power On.

Select the POWER ON MENU from the SYSTEM MENU with the **UP** and **DOWN** keys and open the menu step with the **RIGHT (V+)** key.

The POWER ON MENU shows following operational steps:

Menu Step		Function
5.1	Power On	Opens the sub menu POWER ON
5.1.1	Last	Enables that the monitor will start with the last active video input at power on.
5.1.2	CCVS 1	Enables that the monitor will start with the CCVS 1 video input at power on.
5.1.3	CCVS 2	Enables that the monitor will start with the CCVS 2 video input at power on.
5.1.4	Y/C	Enables that the monitor will start with the Y/C video input at power on.
5.1.5	CAV	Enables that the monitor will start with the CAV video input at power on.
5.1.6	SDI 1	Enables that the monitor will start with the SDI 1 video input at power on.
5.1.7	SDI 2	Enables that the monitor will start with the SDI 2 video input at power on.
5.1.8	VGA 1	Enables that the monitor will start with the VGA 1 video input at power on.
5.1.9	VGA 2	Enables that the monitor will start with the VGA 2 video input at power on.
5.1.10	DVI	Enables that the monitor will start with the DVI video input at power on.

Open this menu step with the **RIGHT (V+)** or **LEFT (V-)** key for an individual setting. Select the video input of your choice with the UP or DOWN key and define with the RIGHT or LEFT key.

Only one selection in this list is possible.

Close and save this menu step by pushing the **MENU** key once.

Submenu Search

This sub menu allows to define the video inputs on which the system search after Power On.

Select the SEARCH MENU from the SYSTEM MENU with the **UP** and **DOWN** keys and open the menu step with the **RIGHT (V+)** key.

The SEARCH MENU shows following operational steps:

Menu Step		Function
5.2	Search	Opens the sub menu SEARCH
5.2.1	CCVS 1	Enables that the monitor will start with the CCVS 1 video input at power on.
5.2.2	CCVS 2	Enables that the monitor will start with the CCVS 2 video input at power on.
5.2.3	Y/C	Enables that the monitor will start with the Y/C video input at power on.
5.2.4	CAV	Enables that the monitor will start with the CAV video input at power on.
5.2.5	SDI 1	Enables that the monitor will start with the SDI 1 video input at power on.
5.2.6	SDI 2	Enables that the monitor will start with the SDI 2 video input at power on.
5.2.7	VGA 1	Enables that the monitor will start with the VGA 1 video input at power on.
5.2.8	VGA 2	Enables that the monitor will start with the VGA 2 video input at power on.
5.2.9	DVI	Enables that the monitor will start with the DVI video input at power on.

Open this menu step with the **RIGHT (V+)** or **LEFT (V-)** key for an individual setting. Select the video input of your choice with the UP or DOWN key and define with the RIGHT or LEFT key.

Multiple selection in this list are possible.

Close and save this menu step by pushing the **MENU** key once.

Submenu Visualisation

Select the VISUALISATION MENU from the SYSTEM MENU with the **UP** and **DOWN** keys and open the menu step with the **RIGHT (V+)** key.

The VISUALISATION MENU shows following operational steps:

Menu Step		Function
5.3	Visualisation	Opens the sub menu VISUALISATION
5.3.1	Interlace	Enables the de-interlacer for interlaced video signals
5.3.2	Progressive	Disables the de-interlacer for progressive video signals
5.3.3	Full Color	Enables full color video processing
5.3.4	64 Colors	Limit the color video processing to 64 colors (6 bit) only
5.3.5	8 Colors	Limit the color video processing to 8 colors (3 bit) only

Open this menu step with the **RIGHT (V+)** or **LEFT (V-)** key for an individual setting. Select the function of your choice with the UP or DOWN key and define with the RIGHT or LEFT key.

Close and save this menu step by pushing the **MENU** key once.

Submenu Language

Select the LANGUAGE MENU from the SYSTEM MENU with the **UP** and **DOWN** keys and open the menu step with the **RIGHT (V+)** key.

The LANGUAGE MENU shows following operational steps:

Menu Step		Function
5.4	Language	Opens the sub menu LANGUAGE
5.4.1	Deutsch	Enables the OSD language GERMAN

Menu Step		Function
5.4.2	English	Enables the OSD language ENGLISH

Open this menu step with the **RIGHT (V+)** or **LEFT (V-)** key for an individual setting. Select the function of your choice with the UP or DOWN key and define with the RIGHT or LEFT key.

Close and save this menu step by pushing the **MENU** key once.

Submenu OSD Setup

Select the OSD SETUP MENU from the SYSTEM MENU with the **UP** and **DOWN** keys and open the menu step with the **RIGHT (V+)** key.

The OSD SETUP MENU shows following operational steps:

Menu Step		Function
5.5	OSD Setup	Opens the sub menu OSD SETUP
5.5.1	Cascade	Enables the OSD feature CASCADE
5.5.2	Transparent	Enables the OSD feature TRANSPARENT
5.5.3	Help	Enables the OSD feature HELP
5.5.4	OSD Time	Enables and adjust the time how long the OSD will be visible on screen. Values between - 10 - 20 - 30 - 40 - 50 - 60 - Never - are selectable.
5.5.5	X-Position	Adjust the horizontal OSD position on the screen. Note: Selecting this menu step with the RIGHT (V+) or LEFT (V-) key for an individual setting. The value is limited to the maximal TV line width.
5.5.6	Y-Position	Adjust the vertical OSD position on the screen. Note: Selecting this menu step with the RIGHT (V+) or LEFT (V-) key for an individual setting. The value is limited to the maximal TV frame width.

Open this menu step with the **RIGHT (V+)** or **LEFT (V-)** key for an individual setting. Select the function of your choice with the UP or DOWN key and define with the RIGHT or LEFT key.

Close and save this menu step by pushing the **MENU** key once.

Submenu Wall

Select the DISPLAY WALL MENU from the SYSTEM MENU with the **UP** and **DOWN** keys and open the menu step with the **RIGHT (V+)** key.

The DISPLAY WALL MENU shows following operational steps:

Menu Step		Function
5.6	Display Wall	Opens the sub menu DISPLAY WALL
5.6.1	Display Wall	Enables the feature DISPLAY WALL
5.6.2	Display No.	Adjust the display number in the wall setup for this screen. Note: Selecting this menu step with the RIGHT (V+) or LEFT (V-) key for an individual setting. Values between 0 to 1024 are possible.
5.6.3	Displays hor.	Adjust the number of displays horizontally to built the wall setup. Note: Selecting this menu step with the RIGHT (V+) or LEFT (V-) key for an individual setting. Values between 0 to 32 are possible.
5.6.4	Displays vert.	Adjust the number of displays vertically to built the wall setup. Note: Selecting this menu step with the RIGHT (V+) or LEFT (V-) key for an individual setting. Values between 0 to 32 are possible.
5.6.5	Border hor.	Adjust the horizontal OSD position on the screen. Note: Selecting this menu step with the RIGHT (V+) or LEFT (V-) key for an individual setting. The value is limited to the maximal TV line width.

Menu Step		Function
5.6.6	Border vert.	Adjust the vertical OSD position on the screen. Note: Selecting this menu step with the RIGHT (V+) or LEFT (V-) key for an individual setting. The value is limited to the maximal TV frame width.

Open this menu step with the **RIGHT (V+)** or **LEFT (V-)** key for an individual setting. Select the function of your choice with the UP or DOWN key and define with the RIGHT or LEFT key.

Close and save this menu step by pushing the **MENU** key once.

Submenu RGB Adjust

This is a hidden menu when the monitor is not in SERVICE mode.

Select the RGB ADJUST MENU from the SYSTEM MENU with the **UP** and **DOWN** keys and open the menu step with the **RIGHT (V+)** key.

The RGB ADJUST MENU shows following operational steps:

Menu Step		Function
5.7	RGB Adjust	Opens the sub menu RGB ADJUST
5.7.1	VGA 1	Selects the video input VGA 1
5.7.2	VGA 2	Selects the video input VGA 2
5.7.3	B&W	Enables the B&W mode.
5.7.4	Offset	Adjust the offset (black point) value for VGA inputs. Note: Selecting this menu step with the RIGHT (V+) or LEFT (V-) key for an individual setting.
5.7.5	Gain	Adjust the offset (black point) value for VGA inputs. Note: Selecting this menu step with the RIGHT (V+) or LEFT (V-) key for an individual setting.

Open this menu step with the **RIGHT (V+)** or **LEFT (V-)** key for an individual setting. Select the function of your choice with the UP or DOWN key and define with the RIGHT or LEFT key.

Close and save this menu step by pushing the **MENU** key once.

Submenu Auto Color

This is a hidden menu when the monitor is not in SERVICE mode.

Select the AUTO COLOR MENU from the SYSTEM MENU with the **UP** and **DOWN** keys and open the menu step with the **RIGHT (V+)** key.

The AUTO COLOR MENU shows following operational steps:

Menu Step		Function
5.8	Auto Color	Opens the sub menu AUTO COLOR
5.8.1	Probe	Open the sub menu PROBE
5.8.2	Calibrate	Starts the calibration procedure. Note: Stops automatically when no probe is connected to the monitor.
5.8.3	Measure	Starts the measure procedure. Note: Stops automatically when no probe is connected to the monitor.
5.8.4	Status	Shows the status of the probe remote port.
5.8.5	X	Shows the measured value of the x component
5.8.6	Y	Shows the measured value of the y component
5.8.7	Y cd	Shows the measured value of the luminance in cd/m ²

Menu Step		Function
5.8.8	Whitepoint x	Adjust the x position of the whitepoint for the specific LCD. Note: Selecting this menu step with the RIGHT (V+) or LEFT (V-) key for an individual setting. Values between 0 to 999 are possible.
5.8.9	Whitepoint y	Adjust the y position of the whitepoint for the specific LCD. Note: Selecting this menu step with the RIGHT (V+) or LEFT (V-) key for an individual setting. Values between 0 to 999 are possible.
5.8.10	Default	Disables all user settings and reconfigure to the factory default.
5.8.11	User Gamma	Enables the calibrated value as user setup for gamma.

Open this menu step with the **RIGHT (V+)** or **LEFT (V-)** key for an individual setting. Select the function of your choice with the UP or DOWN key and define with the RIGHT or LEFT key.

Close and save this menu step by pushing the **MENU** key once.

Submenu Backlight

This is a hidden menu when the monitor is not in SERVICE mode.


Select the BACKLIGHT MENU from the SYSTEM MENU with the **UP** and **DOWN** keys and open the menu step with the **RIGHT (V+)** key.

The BACKLIGHT MENU shows following operational steps:

Menu Step		Function
5.9	Backlight	Opens the sub menu BACKLIGHT
5.9.1	min. brightness	Adjust the minimum voltage value for the backlight. Note: Selecting this menu step with the RIGHT (V+) or LEFT (V-) key for an individual setting. Values between 0,0 to 5,0 V are possible.
5.9.2	max. brightness	Adjust the maximum voltage value for the backlight. Note: Selecting this menu step with the RIGHT (V+) or LEFT (V-) key for an individual setting. Values between 0,0 to 5,0 V are possible.
5.9.3	Steps	Adjust the number of steps to adjust the backlight. Note: Selecting this menu step with the RIGHT (V+) or LEFT (V-) key for an individual setting. Values between 0 to 255 are possible.
5.9.4	On/Off Control	Selects the polarity for the backlight on/off signal.
5.9.5	DPMS value	Adjust the voltage for the power save mode of the backlight. Note: Selecting this menu step with the RIGHT (V+) or LEFT (V-) key for an individual setting. Values between 0 to 2.55 V are possible.
5.9.6	Default values	Disables all user settings and reconfigure to the factory default.
5.9.7	Backlight	Shows the selected value for brightness

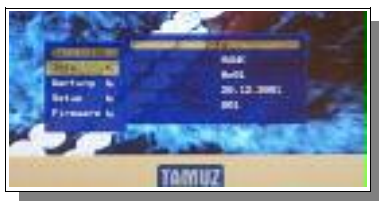
Open this menu step with the **RIGHT (V+)** or **LEFT (V-)** key for an individual setting. Select the function of your choice with the UP or DOWN key and define with the RIGHT or LEFT key.

Close and save this menu step by pushing the **MENU** key once.

	<p>Note: The user values for Brightness and Contrast Colors are individual. They aren't reset back to default, if this menu step is triggered in the menu Geometry Settings.</p>
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Service Menu

Opens the SYSTEMS MENU by pushing the **MINUS** key when no OSD menu is visible on screen.



The SYSTEMS MENU shows following operational or informational steps:

Menu Step		Function
1.0	Info	Information about the interface and firmware.
2.0	MTBF	Opens the sub menu MAINTENANCE for the backlight.
3.0	Setup	Opens the sub menu SETUP.
4.0	Firmware	Opens the sub menu FIRMWARE.

Close and save this menu step by pushing the **MENU** key once.

The four main steps have individual sub menus, see following description.

System Info Menu

Select the INFO MENU from the SYSTEMS MENU with the **LEFT (V-)** key when no OSD menu is visible on screen.



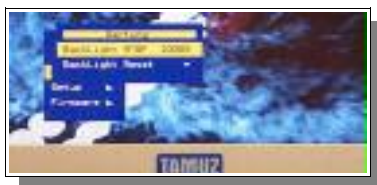
The INFO MENU shows following operational steps:

Menu Step		Function
1.0	Info	Information about the interface and firmware.
1.1	Interface board	Shows the version of the monitors interface board. Note: Eagle series monitors will be equipped with a interface named Eagle.
1.2	Panel Number	Shows the type code of the monitors TFT panel.
1.3	Software Revision	Shows the revision of the firmware at the interfaces board.
1.4	Date	Shows the date of the firmware at the interfaces board.
1.5	Panel Clock	Shows the current panel clock frequency.
1.6	Panel H	Shows the current horizontal frequency.
1.7	Panel V	Shows the current vertical frequency.
1.8	Panel Mode	Shows the current panel mode.

Close and save this menu step by pushing the **MENU** key once.

System MTBF Menu

Select the MTBF MENU from the SYSTEMS MENU with the **UP** and **DOWN** keys and open the menu step with the **RIGHT (V+)** key.



The MTBF MENU shows following operational steps:

Menu Step		Function
2.0	MTBF	Opens the sub menu MAINTENANCE for the backlight.
2.1	Backlight MTBF	Shows the mean time between failure for the backlight. Note: Eagle series monitors will be equipped with backlight systems which have a MTBF of minimum 10.000 hours.
2.2	Backlight reset	Resets the counted operation time to zero MTBF value. Note: not every Eagle series monitors don't support this feature.
2.3	IR-Access code	Enables and selects the Infrared Remote access code. Note: Selecting this menu step with the RIGHT (V+) or LEFT (V-) key for an individual setting. The default value is 0.
2.4	IR locked	Disables the IR remote port Note: Selecting this menu step with the RIGHT (V+) or LEFT (V-) key for an individual setting. The default value is OFF.
2.5	Reset	Rest the monitor to factory default settings. Note: Selecting this menu step with the RIGHT (V+) key for reset. All user adjustments will be deleted.

Close and save this menu step by pushing the **MENU** key once.

System Setup Menu

Select the SETUP MENU from the SYSTEMS MENU with the **UP** and **DOWN** keys and open the menu step with the **RIGHT (V+)** key.



The SETUP MENU shows following operational steps:

Menu Step		Function
3.0	Setup	Opens the sub menu SETUP.
3.1	No signal	Opens the sub menu NO SIGNAL.
3.2	Temperatures	Opens the sub menu TEMPERATURES.
3.3	AUX1 I/O	Opens the sub menu AUXILIARY 1.
3.4	AUX2 I/O	Opens the sub menu AUXILIARY 2.
3.5	AUX3	Opens the sub menu AUXILIARY 3.
3.6	Anti Sticking	Enables the overlay of a checkerboard to reduce sticking artefacts.
3.7	Backlight	Enables the adjustment for the backlight

Close and save this menu step by pushing the **MENU** key once.

System Firmware Menu

Select the FIRMWARE MENU from the SYSTEMS MENU with the **LEFT (V-)** key when no OSD menu is visible on screen.

The FIRMWARE MENU shows following operational steps:

<i>Menu Step</i>		<i>Function</i>
4.0	Firmware	Opens the sub menu FIRMWARE.
4.1	Baud rate	Shows the the transmission speed for a download via the serial interface port. Note: The value is selectable between 9600 - 19200 - 38400 - 115.2k.
4.2	Download	Enables the download of firmware into the interface memory. Note: Qualified technicians should download firmware to the interface only.
4.3	Transmitted	Shows the TRANSMITTED BYTES during the firmware download. Note: The default value is 0.
4.4	Byte Errors	Shows the BYTE ERRORS during the firmware download. Note: The default value is 0.
4.5	Status	Shows the STATUS of the firmware download process. Note: The default value is IDLE.

Close and save this menu step by pushing the **MENU** key once.

Blockdiagramm

The blockdiagramm explains the function of the Eagle Series interface.

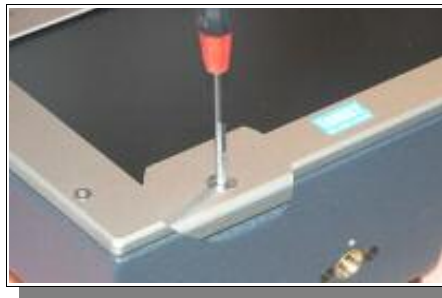
Service Section

Changing a broke Fuse

The electronics of the *BCM Broadcast Color Monitor series* monitor is protected by an integrated fuse. The fuse is placed on the interface board. In case of an electronic defect or any other reason of drawing a high current, the fuse will release. To exchange the fuse, you need to open the monitor and replace the broken fuse with a spare (2 A MT type 20 x 5 mm).

1. Step: Open the Monitor

To exchange the broken fuse, you have to open the *BCM Broadcast Color Monitor series* monitor.



Use a 2,5 mm allen-key screw driver to turn out the eight screws at the monitor front cover.



Note: Be careful during turning off the screws at the monitor front. Use the correct screw driver to open the screws.

After turning off the eight screws, open carefully the monitor housing.

The front panel contains the LCD screen and the interface board. Flip the unit down.

2. Step: Exchange the Fuse

The internal fuse is placed on the interface board (highlighted in the picture below).



Take the broken fuse out of his setting and replace with a spare. (2 A MT type 20 x 5 mm)



Note: Do not use a different fuse type as described, the monitor can otherwise be destroyed.

3. Step: Reassemble the Monitor

Finally you can reassemble the monitor as described in step 1.

Aspect Ratio Setup

The monitor BCM Broadcast Color Monitor series has a wide screen 16:9 and normal screen 4:3. The selection is easily done by the switch FORMAT.



Standard computer graphic and TV wide screen. The selection is easily done by the switch FORMAT.

Other wide screen aspect ratios are also supported.

approximately full screen image.

Video Aspect Ratio	Geometry - Input - Samples
4 : 3	940
16 : 9	940
16 : 8,65	940
16 : 7,24	464
16 : 6,80	434

The aspect ratio 16:9 is programmed at the DEFAULT mode and the aspect ratio 4:3 at the ZOOM 2 mode in the GEOMETRY menu.

To adjust an individual aspect ratio, open the menu GEOMETRY - SETTINGS - INPUT with the IR remote controller and select a new value for the sampled lines. This changes the horizontal to vertical ratio. Best results will be found, when the displayed image shows a circular parts.

Setup Instructions

The BCM Broadcast Color Monitor series interface is capable for several input signals. To present the signal at its best use the default setup or re-adjust, see tables below.

Setup VGA Signals

Computer Graphic Signals (called VGA) at the VGA input ports:

Signal Format	Aspect Ratio	Pixel Clock / MHz	Phase	X-Position	Y-Position	Pixel	Lines	Interface
MGA	4 : 3					720	350	no
Hercules	4 : 3					720	350	
CGA	4 : 3					640	200	no
EGA	4 : 3					640	350	no
VGA	4 : 3	25,16	31	-31	-10	640	480	No
SVGA	4 : 3	39,34	19	-33	-8	800	600	No
W-SVGA	17 : 10					1024	600	
XGA	4 : 3	64,65	17	-43	-9	1024	768	No
W-XGA	15 : 9					1280	768	
Mac	4 : 3					1152	870	
SXGA	5 : 4	108,05	30	2	-16	1280	1024	No
W-SXGA	16 : 10					1600	1024	
UXGA	4 : 3					1600	1200	
QXGA	4 : 3					2048	1536	

Setup HDTV Signals

The BCM Broadcast Color Monitor series interface is capable for HDTV signals.

The aspect ratio 16:9 is programmed at the DEFAULT and the aspect ratio 4:3 at the ZOOM 2 mode in the GEOMETRY menu.

HDTV signals at HD-SDI input port:

Signal Format	GEOMETRY SETTINGS INPUT							GEOMETRY SETTINGS DISPLAY			
	Pixel Clock / MHz	Phase	X-Position	Y-Position	Pixel	Lines	Interlace	Pixel	Lines	X-Position	Y-Position
HD 1080p@30	No										
HD 1080i@60	73,96	16	51	4	1920	542	No	1280	720	0	0
HD 1080i@50	74,01	16	270	3	1920	542	No	1280	720	0	0
HD 1080p@25	No										
HD 1080p@24	No										
HD 1035i@60	73,96	16	51	-8	1920	518	No	1280	720	0	0
HD 1080p@25sf	74,01	16	270	3	1920	542	No	1280	720	0	0
HD 1080p@24sf	73,96	16	324	3	1920	542	No	1280	720	0	0
HD 720@60	73,96	16	30	-2	1280	720	No	1280	720	0	0

Setup SDI Signals

The *BCM Broadcast Color Monitor series* interface is capable for SDI signals.



The aspect ratio 16:9 is programmed at the DEFAULT and the aspect ratio 4:3 at the ZOOM 2 mode in the GEOMETRY menu.

SDI signals at SDI input port:

Signal Format	GEOMETRY SETTINGS INPUT				GEOMETRY SETTINGS DISPLAY			
	Pixel	Lines	X-Position	Y-Position	Pixel	Lines	X-Position	Y-Position
SDI 625/50 16:9	720	576	0	22	1280	720	0	0
SDI 625/50 4:3	720	576	0	22	1024	768	0	0
SDI 525/60 16:9	720	480	0	-2	1280	720	0	0
SDI 525/60 4:3	720	480	0	0	1024	768	0	0

Setup CCVS Signals

The *BCM Broadcast Color Monitor series* interface is capable for analog CCVS signals.



The aspect ratio 16:9 is programmed at the DEFAULT and the aspect ratio 4:3 at the ZOOM 2 mode in the GEOMETRY menu.

Analog Composite signals at CCVS input ports:

Signal Format	GEOMETRY SETTINGS INPUT				GEOMETRY SETTINGS DISPLAY			
	Pixel	Lines	X-Position	Y-Position	Pixel	Lines	X-Position	Y-Position
CCVS 625/50 16:9	940	576	-1	-8	1280	720	0	0
CCVS 625/50 4:3	940	576	0	02.09.02	1024	768	0	0
CCVS 525/60 16:9	940	480	-2	-3	1280	720	0	0
CCVS 525/60 4:3	940	480	-2	-2	1024	768	0	0

Reset the Monitor

In the case that the setup of the monitor is not ideal or wrong, open the menu GEOMETRY - SETTINGS with the IR remote controller and select the menu step DEFAULT once.

This resets the setup of the monitor to the factory values.

Special Formats

The monitor *BCM Broadcast Color Monitor series* is capable for non-standard signals at his VGA input ports. There are several systems in the studio environment, who send non-standard signals, like VIVALDI multiviewer from Barco or BVE editors from Sony.

Setup BARCO VIVALDI

When the Barco VIVALDI sends a wide screen information, the *BCM Broadcast Color Monitor series interface* detects that automatically. To adjust that signals correctly, use the default values or make you individual adjustments, see tables below.



BARCO Vivaldi Quad as 4:3



BARCO Vivaldi Single as 4:3



BARCO Vivaldi Quad as 16:9



BARCO Vivaldi Single as 16:9

The default setup is done that way, that the dots in the VIVALDI signal on the left, right and button are just not visible.

VIVALDI signals at VGA input port:

Signal Format	GEOMETRY SETTINGS INPUT							GEOMETRY SETTINGS DISPLAY			
	Pixel Clock / MHz	Phase	X-Position	Y-Position	Pixel	Lines	Interlace	Pixel	Lines	X-Position	Y-Position
625/50 Q 4:3	99,13	16	0	-15	2560	628	No	1024	768	0	0
625/50 Q 16:9	56,87	16	10	-3	1600	606	No	1024	768	0	0
625/50 S 4:3	99,13	16	0	-15	2560	628	No	1280	720	0	0
625/50 S 16:9	56,87	16	0	-3	1600	606	No	1280	720	0	0
525/60 Q 4:3	97,68	16	4	-3	2560	536	No	1024	768	0	0
525/60 Q 16:9	58,2	16	-5	-3	1600	512	No	1024	768	0	0
525/60 S 4:3	97,68	16	4	-3	2560	536	No	1280	720	0	0
525/60 S 16:9	58,2	16	-5	-3	1600	512	No	1280	720	0	0

Setup SONY BVE

When the Sony BVE editors sends his non-standard information, the *BCM Broadcast Series interface* detects it automatically. To adjust that signals correctly, use the default values or make you individual adjustments, see tables below.



The default setup carried out, that the image of the BVE signal fits at the best to the screen.

BVE signals at VGA input port for BCM 113 / 115:

Signal Format	GEOMETRY SETTINGS INPUT							GEOMETRY SETTINGS DISPLAY			
	Pixel Clock / MHz	Phase	X-Position	Y-Position	Pixel	Lines	Interlace	Pixel	Lines	X-Position	Y-Position
BVE 9000	42,57	16	-85	-4	1920	262	No	1024	768	0	0
BVE 2000	85,96	16	-62	-7	1920	526	No	1024	768	0	0

BVE signals at VGA input port for BCM 117 / 120:

Signal Format	GEOMETRY SETTINGS INPUT							GEOMETRY SETTINGS DISPLAY			
	Pixel Clock / MHz	Phase	X-Position	Y-Position	Pixel	Lines	Interlace	Pixel	Lines	X-Position	Y-Position
BVE 9000	42,57	16	-85	-4	1920	262	No	1280	1024	0	0
BVE 2000	85,96	16	-62	-7	1920	526	No	1280	1024	0	0

Interfacing the BVE 2000

The VDU output at the BVE is made as a 9pin Sub-DF connector and a special cable is needed for the connection to the monitor. Use a high-quality single shielded 75 Ohms multiple coax-cable for this special interconnection.

The pin-out of the cable Sub-HD15M to Sub-D9M port is shown in following table:

Pin @ HD15M	Function @ Monitor	Pin @ D9M	Function @ BVE Editor	Pin @ HD15M	Function @ Monitor	Pin @ D9M	Function @ BVE Editor
1	R Video	3	R Video	9	not connected		
2	G Video	4	G Video	10	Ground Sync	1	Ground
3	B Video	5	B Video	11	not connected		
4	not connected			12	not connected		
5	not connected			13	Composite Sync	8	Composite Sync
6	Ground R Video	1	Ground	14	not connected		
7	Ground G Video	1	Ground	15	not connected		
8	Ground B Video	1	Ground	Shield	Ground	Shield	! not connected !

Leave all not named pins at the Sub-D9M open.



Note: The cable shield have to be grounded at the Sub-HD15M side only. Don't connect the shield at the Sub-D9M side ever!

Disturbed BVE Images

At appearance of reflections and jitter in the picture the used cable is of unsatisfactory quality. Particularly at cables with an extra shield this shield creates capacitive disturbances usually.



Note: Disconnect the shield at the Sub-D9M side ever! Check that no GROUND is at the SHIELD at the Sub-D9M connector.

For cable length over 5 meter, high-end non-shielded coax are recommended.

Modification at the BVE 2000

At the Sony BVE 2000 editors with serial number larger then 15000 a modification is necessary. Without this modification the VDU output don't sends a expectable sync signal for the LCM 100 Broadcast Series interface.



At the video board (upper board) condenser C181 (close by IC61 at the back connector) is obsolete and has to be replaced by an 75 Ohms resistor.



Note: Be careful when you modify the Sony BVE 2000 editor. Ask your technical service for assistance. With this modification done the original warranty may be lost.

Frequently Asked Questions

When the user needs help to operate the monitor or in case of malfunction, check these FAQ listing to find an answer first.

Q: I can't see color images on screen, but the switch B/W is set to color?

A: Check the adjustment control **COLOR** or turn the pot in a mid position.

Q: There is no signal at the loop connector, when the monitor is switched off?

A: All loop-through ports at the Eagle series are active loops and works only when the monitor is powered.

*Q: At my **BCM Broadcast Color Monitor** monitor the image on screen is turned 180°. What is wrong?*

A: The feature switch **REVERSE** is set to REVERSE. Switch back to NORMAL and the monitors works in the normal mode again.

*Q: During outside production my **BCM Broadcast Color Monitor** monitor becomes dirty. Can i clean the monitor with water?*

A: The housing is protected against fluids. To clean the monitor it is a better choice to use usual gentle glass cleaner and soft cotton cloths. No acids or solvent may be used for cleaning.

*Q: The **BCM Broadcast Color Monitor** monitor don't reacts to any command from the IR-Remote Control. What is wrong or defect?*

A: First check the internal batteries of the IR-Remote Control. When the LED quits a key stroke, the IR-Remote Controller will be working. If the monitor don't reacts to the commands, re-programme the operation code for the IR-Remote Controller. See chapter Set-up the IR-Remote Controller.

*Q: Using the **BCM Broadcast Color Monitor** monitor together with a Sony BVE editor, i saw reflections on the screen.*

A: Under this circumstances you use a cable for the interconnection of poor quality. Check the cable, specially the shield at the BVE side. No grounded shield is allowed. Specially for longer distances ask your dealer or service to get the right cable.

Safety Notice

- *The place chosen to put the unit into service should be free of danger to individuals when the unit is extending or in its extended position.*
- *When utilizing a motorized version of the unit it is not allowed to interfere with the moving portion during automatic extension or retraction.*
- *The user is forbidden to open up the unit; it contains no user serviceable or adjustable parts.*
- *Installation, upgrading, new adjustments, changes or repairs may only be carried out by an authorized technician.*
- *The electrical installation of the relevant built-in frame must meet the requirements of IEC-restrictions and national regulations.*
- *Pay close attention that the electrical current required by the unit is the same as the electrical current supplied to it.*
- *A power outlet and an external power cut-off switch must be in close proximity to the unit and easily accessible.*
- *Use only the included power cable and a correctly grounded power outlet.*
- *Avoid a power connection through a multi-outlet when other power consuming devices are connected. Do not use an extension cable.*
- *Any disconnection of the grounding cable inside or outside of the unit or loosening of the grounding cable is inadmissible and can lead to a dangerous situation.*
- *All plugs on the connecting cables must be screwed or bolted down to the housing.*
- *Discontinuation of electrical current is accomplished by pulling the power plug or switching off the external power switch.*
- *Assume that it is not possible to operate the unit in a danger free manner if visible damage is present or if the unit no longer works. In this case the unit should be turned off and disconnected from the power supply and protected against further unintentional use.*
- *Use only the included cables or shielded data cables with double-sided shielding connector.*
- *Do not install the unit in an area with direct sunlight or in close proximity to heat sources or damp areas. Ensure that the unit receives adequate air circulation.*
- *Ensure that no cables, especially no power cables, are located in traffic areas such that persons might trip or get entangled in them.*
- *Transporting of the unit should only take place in the original packaging. Only this way is the unit secure from being bumped or hit.*
- *Before the unit is put into operation it must be ensured that the operational-environment requirements have been met.*
- *Remove the power supply before cleaning. If heavy soiling exists, the unit can be cleaned using a damp cloth with a mild cleaning agent. Ensure that no water gets into the inside of the unit through openings. The inside of the unit may only be cleaned by an authorized technician.*

Remarques de sécurité

- Choisir le lieu d'installation de l'appareil de la manière que de personnes ne sont pas mises en danger lors et après de la sortie de l'écran.
- Sur la version motorisée ne pas mettre la main dans la zone du mouvement et du basculement lors de la sortie resp. l'entrée automatique.
- L'appareil ne doit pas être ouvert de l'utilisateur; il ne contient pas de composants susceptibles à être échangés ou réglés de l'utilisateur.
- De montages, extensions, nouvelles programmations, transformations ou réparations ne doivent être effectués que de personnes autorisées par.
- L'équipement électrique du lieu d'installation respectif doit être conforme aux exigences du règlement de la CIE resp. du règlement national.
- Vérifier que la tension de service indiquée sur l'appareil correspond à la tension disponible.
- La prise de l'alimentation ou un dispositif interrupteur externe doit être installé près de l'appareil ou facilement accessible.
- Ne pas utiliser que le cordon d'alimentation livré avec l'appareil et une prise mise à la terre conformément au règlement.
- Eviter un branchement sur une prise multiple avec d'autres consommateurs de courant.
- Ne pas utiliser un cordon d'allongement.
- Chaque interruption du conducteur de protection à l'intérieur ou l'extérieur de l'appareil ou le débranchement du conducteur de protection est interdite et dangereuse.
- Toutes les fiches des câbles de connexion doivent être vissées ou verrouillées sur le boîtier.
- Mettre l'appareil hors tension en sortant la fiche d'alimentation ou déconnecter le dispositif interrupteur externe.
- Probablement un fonctionnement sans danger n'est plus possible s'il y a de dégâts évidents ou l'appareil ne marche plus. Dans ce cas-là mettre l'appareil hors service resp. couper l'alimentation et pourvoir que l'appareil ne peut pas être mis en service accidentellement.
- N'utiliser que les cordons livrés avec l'appareil ou de câbles de connexion blindés avec connexion blindée des deux côtés.
- Ne pas choisir un lieu d'installation où l'appareil est exposé au soleil, à l'humidité ou à une source de chaleur. Vérifier qu'il existe une ventilation suffisante de l'appareil.
- Eviter de mettre de cordons, notamment de cordons d'alimentation, aux passages où de personnes peuvent s'en accrocher ou en trébucher.
- Ne pas transporter l'appareil que dans l'emballage original où il est protégé de façon idéale contre de chocs et coups.
- Vérifier avant la mise en service que l'appareil sera mis en marche selon les conditions indiquées.
- Sortir la fiche d'alimentation avant le nettoyage. Utiliser un tissu mouillé et un produit doux de nettoyage au cas d'une salissure plus importante. Contrôler que lors du nettoyage de liquides n'entrent pas par les ouvertures à l'intérieur de l'appareil.
- L'intérieur ne doit être nettoyé que du personnel autorisé par .

Indicaciones de seguridad

- *El lugar de montaje del aparato ha de ser seleccionado de la manera, que estando fuera o estando saliendo el visualizador no haya peligro para las personas cercanas.*
- *En el modelo con motor no intervenir cuando el visualizador esté saliendo o entrando automáticamente.*
- *El usuario no debe abrir el aparato, no contiene piezas intercambiables o ajustables.*
- *Montajes, alargamientos, ajustes nuevos, modificaciones o reparaciones solamente las pueden llevar a cabo personas autorizadas de la de venta .*
- *La instalación eléctrica del lugar de montaje respectivo ha de corresponder a las requisiciones fijadas de la CIE o bien a los reglamentos nacionales.*
- *Presten atención a que la tensión especificada en el aparato corresponda con la existente en su hogar.*
- *La caja de enchufe para la alimentación de corriente o bien el interruptor externo de conexión a la red han de estar colocados cerca del aparato y fácilmente accesible.*
- *Solamente usen el cable de alimentación incluido y una caja de enchufe debidamente conectada a tierra.*
- *Eviten enchufar el aparato junto con otros consumidores de corriente en enchufes múltiples. No utilicen cables de prolongación.*
- *Cualquier interrupción del conductor de protección dentro o fuera del aparato o la soltura de la conexión al conductor de protección puede causar peligro, por lo cual no está admitido.*
- *Todas las fichas de contacto en los cables de conexión han de estar atornillados o enclavados al gabinete.*
- *La desconexión del aparato se lleva a cabo desconectando el enchufe o bien apagando el interruptor externo de conexión a la red.*
- *Se supone, que un funcionamiento sin peligro no es posible si el aparato muestra defectos visibles o no funciona. En este caso apaguen el aparato o desenchufen la clavija de la red del tomacorriente y asegúrenlo contra una puesta en marcha imprevista.*
- *Solamente utilicen los cables incluidos o los cables de conexión pantallados en las dos partes.*
- *No monten el aparato en un lugar con luz solar directa, cerca de una fuente de calor o en un lugar húmedo. Asegúrense de que el aparato esté colocado en un área bien ventilado.*
- *Presten atención a que los cables, sobre todo los cables de alimentación, no se encuentren sobre el suelo en zonas previstas para paso de personas, donde uno se pueda caer o quedar enganchado.*
- *El aparato ha de ser transportado exclusivamente en el envase original. Solamente de esta manera el aparato está protegido de golpes y vibraciones.*
- *Antes de la puesta en marcha hay que asegurarse que el aparato es puesto en marcha según las condiciones del alrededor.*
- *Desenchufe siempre el aparato antes de limpiarlo. En caso de intenso ensuciamiento se puede limpiar el aparato con un trapo blando humedecido y una solución suave de detergente con agua. Observen que no entre agua en el aparato. El interior del aparato ha de ser limpiado de técnicos de servicio cualificados y autorizados de.*

Instruções de segurança

- *O local de instalação do aparelho deve ser seleccionado de tal modo que não haja perigos para as pessoas, quando o display estiver fora ou saindo.*
- *No caso de versão motorizada, não é permitido o acesso à área do movimento durante a saída ou recolhimento do display.*
- *O aparelho não pode ser aberto pelo utilizador. Ele não contém nenhuma peça que precise ser substituída ou ajustada pelo usuário.*
- *Trabalhos de montagem, ampliação, novos ajustes, modificações ou consertos só podem ser realizados por pessoas autorizadas pela.*
- *A instalação eléctrica da sala, na qual o aparelho deve ser instalado, tem de atender as exigências da IEC e obedecer os regulamentos nacionais.*
- *Preste atenção para que a tensão de operação indicada no aparelho coincida com a tensão de alimentação disponível.*
- *A tomada para a alimentação de energia eléctrica ou um dispositivo de interrupção têm de ser instalado nas proximidades do aparelho e em local facilmente acessível.*
- *Utilize somente o cabo de alimentação fornecido com o aparelho e uma tomada ligada devidamente à terra.*
- *Evite utilizar uma tomada que faça parte de um circuito já utilizado por outras cargas. Não utilize cabo de extensão.*
- *Não é permitida qualquer interrupção do condutor de protecção dentro ou fora do aparelho ou a desconexão do mesmo, podendo este procedimento representar perigo para os utilizadores.*
- *Todas as fixas dos cabos de ligação têm de ser aparafusados à carcaça ou devidamente travados.*
- *Para desenergizar o aparelho, deve-se retirar a ficha da tomada ou desligar o interruptor externo.*
- *Se o aparelho mostrar danos visíveis ou não mais funcionar, não se pode descartar a possibilidade de que sua operação venha representar perigo para o utilizador. Nestes casos, deve-se desligar o aparelho ou cortar a alimentação de energia eléctrica, garantindo que o mesmo não possa ser ligado novamente de forma involuntária.*
- *Utilize somente os fios fornecidos com o aparelho ou cabos de dados blindados com blindagem nos dois lados.*
- *Não monte o aparelho em local exposto directamente a raios solares, próximo a fontes de calor ou em local húmido. Cuide para que o aparelho seja ventilado suficientemente. Preste atenção para os cabos, principalmente o de ligação à rede, não passem pelo chão, em áreas onde haja perigo de pessoas caírem sobre os mesmos ou neles ficarem presas.*
- *O aparelho só deve ser transportado na sua embalagem original. Somente deste modo o aparelho estará protegido contra pancadas.*
- *Antes da primeira utilização, deve-se assegurar de o aparelho será operado de acordo com as condições ambientais pré-definidas.*
- *Antes de executar trabalhos de limpeza, o aparelho tem de ser separado da rede eléctrica. Em caso de sujidade extrema, o aparelho pode ser limpo com um pano húmido e um produto de limpeza não agressivo. Deve-se cuidar para que, durante a limpeza, não entre líquidos no aparelho, através de seus orifícios. O interior do aparelho só pode ser limpo por pessoal especializado, devidamente autorizado pela.*

Norme di sicurezza

- *Occorre scegliere il luogo di installazione dell'apparecchio in modo tale da escludere qualsiasi pericolo per le persone quando il display viene sollevato o abbassato.*
- *Nel caso della versione dotata di motore, è fatto divieto di intervenire nella zona di movimento e di rotazione durante il sollevamento o l'abbassamento automatico.*
- *L'utente non deve mai aprire l'apparecchio in quanto non contiene componenti che possono essere da lui sostituiti o regolati.*
- *Il montaggio, gli ampliamenti, le nuove regolazioni, le modifiche o le riparazioni devono essere eseguite esclusivamente da parte di persone autorizzate.*
- *L'installazione elettrica relativa al vano in cui viene montato l'apparecchio deve essere conforme alle norme IEC ovvero alle norme nazionali vigenti.*
- *Assicurarsi che la tensione di esercizio indicata sull'apparecchio corrisponda a quella disponibile.*
- *La presa per l'alimentazione elettrica, ovvero un sezionatore esterno, devono essere disposti in prossimità dell'apparecchio e facilmente accessibili.*
- *Utilizzare esclusivamente il cavo di rete in dotazione ed una presa di corrente correttamente collegata a massa.*
- *Evitare collegamenti alla rete con scatole di derivazione insieme ad altri utilizzatori. Non usare cavi di prolunga.*
- *È vietata e pericolosa qualsiasi interruzione del conduttore di protezione all'interno o all'esterno dell'apparecchio nonché lo scollegamento del conduttore di protezione.*
- *Tutti i connettori dei cavi di collegamento devono essere avvitati o fissati allo chassis.*
- *Per togliere la tensione occorre estrarre la spina di alimentazione dalla rete, ovvero disinserire il sezionatore esterno.*
- *Si presume che non sia più possibile il funzionamento sicuro dell'apparecchio se presenta danni visibili o non funziona più. In questi casi occorre disinserire l'apparecchio oppure separarlo dall'alimentazione elettrica, impedendone l'eventuale messa in funzione accidentale.*
- *Usare esclusivamente i cavi in dotazione o i cavi schermati per la trasmissione dei dati dotati di connessione allo schermo da entrambe le parti.*
- *Non installare l'apparecchio in un luogo esposto all'irradiazione solare diretta, in prossimità di fonti di calore o in un luogo umido. Provvedere ad una sufficiente ventilazione dell'apparecchio.*
- *Assicurarsi che non vi siano cavi, in particolare cavi di rete, posati sul pavimento in zone di passaggio che costituiscano pericolo di inciampo o caduta per le persone.*
- *Per il trasporto utilizzare esclusivamente l'imballo originale per proteggere l'apparecchio in modo ottimale da urti e scossoni.*
- *Prima della messa in servizio occorre assicurarsi che l'apparecchio venga messo in funzione in conformità con le condizioni ambientali precedentemente definite.*
- *Prima di effettuare la pulizia occorre staccare l'apparecchio dalla rete. In caso di forte contaminazione è possibile pulire l'apparecchio con un panno umido ed un detersivo non aggressivo. Durante la pulizia occorre fare attenzione affinché attraverso le aperture non penetri alcun liquido nell'interno dell'apparecchio. Solo il personale specializzato autorizzato dalla può pulire l'interno dell'apparecchio.*

Sikkerhedsanvisninger

- Ved valg af installationsstedet for apparatet skal det sikres, at der ikke kan opstå risiko for personskader, når displayet er kørt ud eller køres ud.
- Ved motorversionen må hånden ikke rækkes ind i bevægelses- eller svingningsområdet under automatisk ud- eller indkørsel.
- Brugeren må ikke åbne apparatet, dette indeholder ingen dele, som kan udskiftes eller indstilles af brugeren. Montage, udvidelser, nyinstallationer, ændringer eller reparationer må kun foretages af autoriseret personel.
- Den elektriske installation på det respektive installationssted skal være i overensstemmelse med IEC kravene eller gældende nationale forskrifter.
- Kontroller at driftsspændingen, som er angivet på apparatet, er i overensstemmelse med spændingen på driftsstedet.
- Stikdåsen for strømforsyningen eller en ekstern afbryder skal installeres i nærheden af apparatet og være let tilgængelig.
- Anvend kun det medleverede netkabel og en stikdåse med korrekt jordforbindelse.
- Undgå en nettilslutning i fordelerdåser sammen med andre forbrugere. En forlængerledning må ikke bruges.
- Afbrydelse af beskyttelseslederen af enhver art, i eller udenfor apparatet, er ikke tilladt, ligesom tilslutningen af beskyttelseslederen ikke må løsnes, idet disse indgreb indebærer risici for ulykker.
- Alle stik på forbindelseskablerne skal være skruet fast eller være fastspændte på huset.
- Spændingen afbrydes ved at netstikket trækkes ud af kontakten eller den eksterne afbryder slukkes.
- Apparatet er ved synlig beskadigelse eller driftsstop ikke længere driftssikker og en evt. drift vil være forbundet med risici. I disse tilfælde skal apparatet slukkes eller strømforsyningen afbrydes og apparatet sikres mod utilsigtet drift.
- Anvend kun de medleverede kabler eller afskærmede datakabler med skærmtilslutning på begge sider.
- Apparatet må på installationsstedet ikke blive udsat for direkte sol, befinde sig i nærheden af varmekilder eller i fugtige omgivelser. Sørg for tilstrækkelig ventilation omkring apparatet.
- Vær opmærksom på, at ingen kabler, specielt netkabler, bliver ført hen over gulvet i de områder, hvor personer kan falde over eller blive hængende i dem.
- Apparatet bør udelukkende transporteres i originalemballagen. Kun originalemballagen sikrer optimal beskyttelse af apparatet mod stød og slag.
- Kontroller at alle definerede omgivelsesbetingelser er opfyldt, før apparatet tages i drift.
- Før rengøringen skal apparatet kobles fra nettet. Hvis apparatet er meget snavset, kan det rengøres med en let fugtig klud og et mildt rengøringsmiddel. Vær opmærksom på under rengøringen at der ikke trænger væske ind i apparatet gennem åbningerne. Den indvendige rengøring af apparatet må kun foretages af autoriseret personel.

Säkerhetsinformationer

- Apparatus monteringsplats bör väljas så, att ingen fara för personer uppstår när displayen fälls ut resp. är utfälld.
- Med motor-versionen får under den automatiska utfällningen resp. infällningen inte ingripas i rörelse- resp. svängområdet.
- Apparaten får inte öppnas av användaren, den innehåller inga delar som användaren skall byta ut eller ställa in.
- Montering, utökningar, nyinställningar, ändringar eller reparationer får endast genomföras av personer som är auktoriserade.
- Den elektriska installationen i den respektive monteringslokalen måste motsvara IEC-kraven resp. de nationella föreskrifterna.
- Kontrollera att driftspänningen som är markerad på apparaten överensstämmer med den aktuella spänningen.
- Väggtaget för strömförsörjningen resp. en extern frånskiljearordning måste vara placerad i närheten av apparaten och vara lättillgänglig.
- Använd endast nätkabeln som levereras med apparaten och ett ordentligt jordat vägguttag.
- Undvik en nätanslutning i förgreningsdosor tillsammans med många andra strömförbrukare. Använd ej förlängningskabel.
- Det är ej tillåtet och kan vara farligt att avbryta skyddsledaren innanför eller utanför apparaten eller att lossa skyddsledaranslutningen.
- Alla stickproppar på förbindelsekablarna måste vara fastskruvade eller förreglade med apparatens kåpa.
- Spänningsfrikopplingen sker genom att dra ut nätkontakten resp. genom att frånkoppla den externa frånskiljearordningen.
- Man måste utgå från att en riskfri drift inte längre är möjlig, om apparaten uppvisar synliga skador eller om apparaten inte längre fungerar. I sådana fall bör apparaten kopplas från resp. skiljas från strömförsörjningen och säkras mot att tas i drift av misstag.
- Använd endast de kablar som levereras med apparaten eller skärmade datakablar med avskärningsanslutning i båda sidor.
- Montera ej apparaten på en plats med direkt solljus, i närheten av värmekällor eller på en fuktig plats. Se till att apparaten får tillräcklig ventilation.
- Observera att inga kablar, särskilt inga nätkablar ligger på golvet inom områden där personer kan falla över kablar eller fastna i dem.
- Transporten bör endast ske i originalförpackningen. Endast så är apparaten optimalt skyddad mot stötar och slag.
- Före driftstart bör kontrolleras att de definierade omgivningsvillkoren stämmer för apparaten.
- Före rengöring måste apparaten tas från nätet. Vid stark smuts kan apparaten rengöras med en fuktig trasa och ett mildt rengöringsmedel. Vid rengöringen bör observeras att ingen vätska tränger in i apparatens öppningar. Apparatus inre får endast rengöras av fackpersonal som är auktoriserad av .

Turvallisuusohjeet

- *Laitteen sijaintipaikka on valittava niin, henkilöiden turvallisuus ei ole vaarassa kun näyttöä ajetaan ulos tai sen ollessa ulosajettuna.*
- *Moottorilla varustetun mallin automaattisen ulos- tai sisäänajon aikana ei laitteen liikkumis- tai kääntymisalueeseen saa tarttua.*
- *Käyttäjä ei saa avata laitetta, sen sisällä ei ole käyttäjän toimesta vaihdettavia tai säädettäviä osia.*
- *Vain valtuuttamat henkilöt saavat suorittaa asennukset, laajennukset, uudelleenasettelut, muutokset tai korjaukset.*
- *Kysymykseen tulevan asennustilan sähköasennusten on vastattava IEC-määräysten ja kansallisten ohjesääntöjen vaatimuksia.*
- *Varmista, että laitteeseen merkitty käyttöjännite vastaa työpaikalla vallitsevaa jännitettä.*
- *Virtalähteen pistorasian tai ulkoisen irtikytkentälaitteiston on sijaittava lähellä laitetta ja sen luokse on päästävä helposti.*
- *Käytä vain toimitukseen sisältyvää verkkokaapelia ja asianmukaisesti maadoitettua pistorasiaa.*
- *Vältä verkkoliitäntää jakorasioissa muiden sähkönkuluttajien kanssa. Älä käytä jatkoakaapelia.*
- *Mikä tahansa suojamaadoitusjohtimen katkos laitteen sisä- tai ulkopuolella tai suojamaadoituspääteen irrottaminen on kielletty ja voi olla vaarallista.*
- *Kaikkien yhdyskaapeleiden pistokkeiden on oltava lukittuina tai ruuvattuina kotelon kanssa.*
- *Kytkenä jännitteettömäksi tapahtuu vetämällä verkkopistoke tai irtikytkemällä ulkoinen erotuslaitteisto.*
- *Laitteen vaaraton käyttö ei mitä todennäköisimmin ole enää mahdollista jos laite on näkyvästi vioittunut tai ei enää toimi. Tässä tapauksessa laite on kytkettävä pois päältä tai erotettava virtalähteestä ja varmistettava asiattomalta käytöltä.*
- *Käytä vain toimitukseen sisältyviä kaapeleita tai suojattuja datakaapeleita molemminpuolisella suojaliitännällä.*
- *Laitetta ei saa asentaa suoraan auringonpaisteeseen, lämmönlähteiden läheisyyteen eikä kosteaan paikkaan. Huolehdi laitteen riittävästä tuuletuksesta.*
- *Varmista, että kaapeleita, erityisesti verkkokaapeleita ei asenneta lattiapintaa pitkin alueella, jossa henkilöt voivat kompastua niihin tai juuttua niihin kiinni.*
- *Kuljeta laitetta ainoastaan sen alkuperäispakkauksessa. Vain siten laite voidaan parhaiten suojata iskuilta ja lyönneiltä.*
- *Ennen käyttöönottoa on varmistettava, että laite otetaan käyttöön annettujen ympäristöolosuhteiden mukaisesti.*
- *Ennen puhdistusta laite on kytkettävä irti sähköverkosta. Suuremmat likaantumiset voidaan puhdistaa kostealla rievulla ja miedolla pesuaineella. Huomaa, että nestettä ei saa päästä puhdistuksen yhteydessä avonaisista aukoista laitteen sisälle. Sisätilat saa puhdistaa vain :n valtuuttama ammattihenkilökunta.*

Sikkerhetsanvisninger

- Ved valg av installasjonssted for apparatet skal man sørge for at det ikke kan oppstå risiko for personskader når displayet er trykket ut eller beveges utover.
- Ved bruk av modellen som har motordrift, må ikke hånden føres inn i bevegelses- eller svingningsområdet under automatisk ut- eller innkjøring.
- Brukeren må ikke åpne apparatet, dette inneholder ingen deler som kan skiftes ut eller stilles inn av brukeren.
- Montering, utvidelser, nyinstallasjoner, endringer eller reparasjoner må bare foretas av autorisert personale.
- De elektriske installasjonene på installeringsstedet må være i overensstemmelse med IEC-kravene eller nasjonale forskrifter.
- Kontroller at driftsspenningen som er angitt på apparatet, svarer til spenningen på driftsstedet.
- Stikkontakten for strømforsyningen eller en ekstern av-bryter skal installeres i nærheten av apparatet og være lett tilgjengelig.
- Bruk bare nettkabelen som følger med, og en stikkontakt med riktig jordforbindelse.
- Bruk helst enkle kontakter ved tilslutning til nettet, og bruk ikke skjøteledning.
- Beskyttelseslederen må ikke avbrytes på noen måte, verken i eller utenfor apparatet.
- Tilslutningen av denne må heller ikke løsnes da dette innebærer risiko for ulykker.
- Alle kontaktpunkter på forbindelseskablene skal være fastskrudd eller fastspent på huset.
- Spenningen avbrytes ved å trekke støpselet ut av kontakten eller ved å slå av den eksterne av-bryteren.
- Ved synlig skade eller driftsstopp er ikke apparatet lenger driftssikkert, og ev. drift vil være forbundet med risiko. I slike tilfeller skal apparatet slås av eller strømforsyningen avbrytes og apparatet sikres mot utilsiktet drift.
- Bruk bare de kablene som følger med, eller avskjermede datakabler med skjermtilslutning på begge sider.
- Apparatet må ikke utsettes for direkte sollys, plasseres i nærheten av varmekilder eller befinne seg i fuktige omgivelser på installasjonsstedet. Sørg for tilstrekkelig ventilasjon rundt apparatet.
- Pass på at ikke kablene, spesielt nettkablene, trekkes over gulvet på steder hvor personer kan snuble i dem eller vikle seg inn i dem.
- Apparatet bør utelukkende transporteres i originalemballasjen. Bare originalemballasjen sikrer optimal beskyttelse av apparatet mot støt og slag.
- Kontroller at alle definerte omgivelsesbetingelser er oppfylt før apparatet tas i bruk.
- Før rengjøring skal apparatet koples fra nettet. Hvis apparatet er svært skittent, kan det rengjøres med en lett fuktig klut og et mildt rengjøringsmiddel. Pass på at det ikke trenger væske gjennom åpningene og inn i apparatet. Innvendig rengjøring av apparatet må bare foretas av autorisert -personale.

Öryggisleiðbeiningar

- Tækjiparf avara þannig staðsett ætíð stafi hættu af því þegar geisladrífur opnað eða þástendur opið.
- Vinotkun á vélknúnu útgáfunni má alls ekki grípa inn í þegar sjálfvirki búnaðurinn rennur út eða dregst saman.
- Notendur mega ekki opna tækið, þar eru engir hlutir sem notandi getur skipt um eða stillt.
- Uppsetning, endurnýjun, stillingar, breytingar og viðgerðir verða aframkvæmast af eða umboðsaðilum þess.
- Allar raflagnir atækinu verða avara samkvæmt alþjóðlegum öryggisreglum IEC og reglum í viðkomandi landi.
- Sjáttil þess auppgefin rafspenna í tækinu sé í samræmi við spennu sem er til staðar þar sem tengja á tækið.
- Nauðsynlegt er rafmagnsinnstunga eða rofi sé staðsett á aðgengilegum stavið tækjipannig aauðvelt sé arjúfa strauminn atækinu.
- Notieinungis kapalinn sem fylgir tækinu og tengi (löglega) jarðtengda innstungu.
- Forðist anota fjöltengi meðrum orkufrekum tækjum. Notiekki framlengingarkapal.
- Óheimilt er arjúfa jarðtengingu innan eða utan tækisins. Þagetur haft hættu í för með sér.
- Allar tengingar á köplunum verða avara skrífaðar eða festar á tryggan hátt viumgjörð tækisins.
- Spenna er rofin með því ataka klóna úr sambandi eða slökkva á rofanum.
- Gangiút frá því ætíð sé hægt astarfrækja tækian áhættu ef þahetur orðifyrir sjáanlegum skemmdum eða þavirkar ekki. Þá ber aslökkva á tækinu, taka þaúr sambandi og koma í veg fyrir þaverði sett í gang aðvörum.
- Notieinungis þá kapla sem fylgja eða einangraða tölvukapla þar sem bæði tengi eru einangruð.
- Staðsetjítækiekki þar sem þaverður fyrir beinum sólargeislum, í námunda viofn eða annan hitagjafa eða í raka. Sjáttil þess anægjanlegt loft leiki um tækið.
- Gætiþess aengir kaplar, sérstaklega ekki rafmagnskaplar séu leiddir yfir gólfipar sem fólk gengur og getur fest sig í þeim.
- Ef flytja þarf tækiaætti aflytja þaí upprunalegu þakkningunni. Einungis á þann hátt er hægt atryggja atækiverði ekki fyrir hnjaski viþlutning.
- Áður en tækier tekií notkun skal gengiúr skugga um aumhverfi tækisins uppfylli þær kröfur sem gerðar eru.
- Takitækíúr sambandi áður en þaer hreinsað. Ef um mikil óhreinindi er aræða má hreinsa þamerökum klút og mildum þvottalegi. Gætiþess avökvi renni ekki inn um op eða rifur á tækinu. Einungis tæknimenn viðurkenndir af "" mega hreinsa tækiainnan.

Veiligheidsvoorschriften

- *De plaats voor het installeren van het apparaat dient dusdanig te worden gekozen dat bij uitgeklapte resp. het uitklappen van het display geen gevaar voor personen ontstaat.*
- *Bij de gemotoriseerde versie mag bij het automatisch uitklappen resp. inklappen niet in het bewegings- resp. zwenkbereik ingegrepen worden.*
- *Het apparaat mag niet door de gebruiker geopend worden, het bevat geen door de gebruiker verwisselbare of instelbare onderdelen.*
- *Montage, verbeteringen, nieuwe instellingen, veranderingen of reparaties mogen slechts worden uitgevoerd door gemachtigde personen.*
- *De elektrische installatie van de inbouwruimte moet voldoen aan de verordeningen van de IEC-richtlijnen, resp. de nationale voorschriften.*
- *Let er op, dat de op het apparaat aangegeven bedrijfsspanning met de bij u ter beschikking staande spanning overeenstemt.*
- *De contactdoos voor de stroomvoorziening, respectievelijk een externe aan/uit schakelaar, moet in de nabijheid van het apparaat zijn aangebracht en makkelijk toegankelijk zijn.*
- *Gebruik alleen de meegeleverde stroomkabel en een overeenkomstig de voorschriften gemaakte contactdoos.*
- *Vermijd een netaansluiting met contactdozen die mede gebruikt worden voor andere stroomvoorzieningen. Gebruik geen verlengsnoer.*
- *Iedere onderbreking van de aardedraad binnen of buiten het apparaat of het verbreken van de aardkabel is ongeoorloofd en kan tot gevaar leiden*
- *Alle stekkers aan de verbindingkabels moeten aan de behuizing vastgeschroefd of vergrendeld zijn.*
- *Het uitschakelen van de spanning geschiedt door het lostrekken van de stekker resp. uitschakelen van de externe aan/uit schakelaar*
- *Het is aannemelijk, dat het apparaat niet zonder gevaar te gebruiken is, als het apparaat zichtbare beschadigingen vertoont of als het apparaat niet meer werkt. In deze gevallen is het verstandig het apparaat uit te schakelen, resp. van de stroomvoorziening los te koppelen om het tegen onopzettelijk gebruik te beschermen.*
- *Gebruik alleen de meegeleverde kabel of een afgeschermd datakabel met tweezijdige schermaansluiting.*
- *Monteer het apparaat niet op een plaats met direct zonlicht, in de nabijheid van warmte-bronnen of op een vochtige plek. Zorg voor voldoende ventilatie van het apparaat.*
- *Let er op dat er geen kabels, met name spanningskabels, in begaanbare looppaden liggen, waar personen over de kabel heen kunnen vallen of aan de kabels kunnen blijven hangen.*
- *Transport van het apparaat dient uitsluitend plaats te vinden in de originele verpakking.*
- *Slechts dan is het apparaat optimaal beschermd tegen stoten en schokken.*
- *Voor ingebruikname van het apparaat dient vastgesteld te worden, dat het apparaat volgens de gedefinieerde omgevingsvoorwaarden in bedrijf wordt genomen.*
- *Voor het schoonmaken dient het apparaat van het net losgekoppeld te worden. Bij sterke vervuiling kan het apparaat met een vochtige doek en een milde schoonmaakmiddel gereinigd worden. Pas er op dat er geen vloeistof via openingen in de binnenzijde van het apparaat terechtkomt. De binnenzijde van het apparaat mag slechts door door geautoriseerde vakbekwaam personeel*