



Limited Warranty Terms

TAMUZ[®]

BROADCAST MONITORS

Developed and Handmade in Germany

D-24558 Henstedt-Ulzburg ~ Fon & Fax: ..49 - (0)700 - TAMUZLCD [82 689 523]

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valid for TAMUZ Products*

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General Safety Instructions

Limitation of the Product

The technology itself and some parts built-in the TAMUZ products have limitations which the user have to understand and accept.

The user must accept that it is necessary

- *to avoid condensation of water within any devices. It may result in improper operation or disconnection of electrodes.*
- *not to exceed the absolute maximum rating value. (input voltage variation, environmental temperature and so on) Otherwise the receiver may be damaged.*
- *the antenna must be grounded correctly. Please observe the relevant regulations.*

Duty of Care of the User

The product 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 safety measures are taken in the operational practice. It is the duty of the products user, to plan these measures and check their explanation.

The user must guarantee that

- *the product is only used as agreed (cf. chapter product specification)*
- *the product is operated only in faultless, working condition and particularly the safety facilities are checked for their function efficiency regularly*
- *the product operator's manual always be placed in a complete and legible condition for disposal*
- *only sufficiently qualified and authorized staff operates, maintains and repairs the product*
- *staff is instructed to meet work safety and environmental protection regulation 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 product*

Constructive changes at the product may be carried out only after written permission by the manufacturer!

Recognition of the Copyrights

The user of the product appreciates, that in the product contains software programs as well as this documentation is subject to the copyright laws as well as copyright propriety and other protection rights and does not purchase this with the acquisition or the use of the product system by any time. The user obtains rather merely the right for the exclusive use of the product.

In the product 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 product the user recognizes these license and use conditions.



Note: The product system contains copyright protected software and documentation's.

Guarantee Agreement

In the product system contains software and the instructions are left 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 product or the documentation directly.

The product system and the documentation can be changed and enlarged without previous announcement at any time. Rights for updates free of charge does not apply.

Guarantee Period

TAMUZ Monitors, the manufacturer of the product grants a guarantee period of 24 months on the faultless function of the system and its components, if this Limited Warranty becomes valid by registering the product.

For non registered products the manufacturer grants a guarantee period of 12 month on the faultless function of the system and its components.

Guarantee Exceptions

Claims for defects shall not exist in cases of

- *natural wear and tear and damages, defects, reduced output, and changes of condition or operation of our product due to extraneous cause (for example impact, blows, agitation, water, fire), improper storage, treatment or erection, unusual climatic conditions, special conditions at receipt or operational conditions at the location of use, or force majeure;*
- *defects due to construction and material deficiencies, as far as the customer has specified the construction or the material.*
- *Image Sticking on LCD-Panel, which is caused by permanent pictures as well as Gap Mura on the LCD-Panel.*

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 product has been returned intime to the manufacturer or supplier, rights to claim under guarantee can be asserted against the manufacturer or supplier.*

Enroll Warranty

To come in the position to reclaim your full 24 Month Limited Warranty rights, enroll the Limited Warranty by sending this warranty card within 21 days to the manufacturer (**TAMUZ Monitors, Germany**) or your local dealer. Or use the ENROLL WARRANTY FORM online at the web. Search for www.tamuz.tv/warranty or www.tamuz-usa.com/warranty.

Garantie Registrierungskarte - Warranty Registration Card		
Model:	TAMUZ	Type:
Seriennummer:		Serial Number:
<i>Dieses Gerät wurde gekauft bei: - The Unit was purchased from:</i>		
Händler:		Dealer:
Ort:		City:
Land:		Country:
Verkaufsdatum:		Purchase Date:
<i>Dieses Gerät wurde gekauft von: - The Unit was purchased by:</i>		
Kunde:		Customer:
Ansprechpartner:		Contact Person:
Firma:		Company:
Strasse:		Street:
PLZ:		Zip Code:
Ort:		City:
Land:		Country:
Telefon:		Phone:
Telefax:		Fax:
Email:		Email:
<i>Dieses Gerät wird eingesetzt im: - This Unit will be used at:</i>		
Regieraum:		Control Room:
Schaltraum:		Distribution:
Studio:		Studio:
Ü-Wagen:		OB-Truck:
Kopieranlage:		VTR-Dubbing:
Schnittplatz:		Editing:
Sprecher-Raum:		Off-Room:
Andere:		Other:
<p style="text-align: center;"><i>Unser Bestreben ist es, unsere Produkte kundengerecht zu entwickeln und fertigen. Wir sind Ihnen dankbar, wenn Sie sich Zeit für Anregungen oder Kommentare nehmen:</i></p> <p style="text-align: center;"><i>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.</i></p>		

Transport of the equipment

Transportation

The product 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

Regarding the product weights, inclusive of accessories and packing, the product should be carried under consideration of the accident prevention rules or transported with help of corresponding aids therefore by two persons.



Note: Observe the accident prevention prescriptions at the transport of the product to the avoidance of persons and damages to property.

Packing

The product 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 authorization) number before you send any material back to the manufacturer. Check for a RMA the web-site www.tamuz.tv, www.tamuz.de or www.tamuz.us.

Damages in transit

Check the contents of the received transport carton with the delivery note or the invoice on completeness and inform your supplier if you have missing parts upon receipt of the product. Please contact within 5 working days. 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 must be taken into account.



Note: Check before using the product whether damages in transit have been happened and arrange a repair of these damages if necessary.

24 Month Limited Warranty

What does the Limited Warranty cover?

This Limited Warranty applies only to TAMUZ equipment (hereinafter “product”) purchased from TAMUZ or from a TAMUZ Authorized Dealer.

TAMUZ warrants that the product you have purchased is free from defects in materials or workmanship under normal use for a period of twenty-four month from date of purchase if the product is registered.

This Limited Warranty extends only to the original purchaser and cannot be transferred to anyone. This warranty applies only to products that are in cartons, which are unopened on the date of purchase. This warranty does not cover expendable parts.

To the extent that it is not precluded by statute, this warranty is in lieu of all other warranties express or implied, including without limitation, any warranties of merchantability and fitness for a particular purpose.

If a product proves to be defective in material or workmanship during the warranty period, TAMUZ will, at its sole option, repair or replace the product with a similar product. Replacement products or parts may include remanufactured or refurbished parts or components.

When becomes the 24 Month Limited Warranty valid?

The warranty period begins with the day of delivery to the customer. The 24 month limited warranty period becomes valid only when the product is registered by the customer / end-user. This has to be happen at least 21 days after delivery.

If the product did not become registered by the customer, the warranty period is limited to 12 month, beginning with the day of delivery.

Only products registered in the TAMUZ warranty database will get the 24 Month Limited Warranty.

How long the Limited Warranty is effective?

1. TAMUZ equipment are warranted for twenty-four month for parts, labour and LCD back light, but subject to the usage time being 12.000 hours or less from the date of purchase.
2. The warranty period for the LCD panel and backlight is limited to twenty-four month from the date of purchase except with the following cases, but brightness deterioration is not covered: For all monitors the warranty period of the backlight system and lamps is warranted only if the monitors are used within the recommended brightness (80 up to 300 cd/m²) and color temperature (6.500 K) and limited to twenty-four month from the date of purchase subject to the usage time being less than or equal to 12,000 hours.
3. For the **IMPERIAL EAGLE** series monitors the warranty period of the backlight system and lamps is warranted only if the monitors are used within the recommended brightness (80 cd/m²) and color temperature (6.500 K) and limited to twenty-four month from the date of purchase subject to the usage time being less than or equal to 10,000 hours.
4. TAMUZ Receiver products are warranted for twenty-four month parts and labour.
5. TAMUZ Generator products are warranted for twenty-four month Return-To-Base replacement warranty.
6. All other TAMUZ products are warranted for twelve month for parts and labour.

All warranties are valid only in countries or territories where TAMUZ authorized distributors are located. Upon received, the product will either be repaired or replaced with similar model.

Who the Limited Warranty protects?

This Limited Warranty is valid only for the first purchaser.

What the Limited Warranty protects?

This Limited Warranty is valid only for the TAMUZ products distributed by authorized distributors or dealers.

What the Limited Warranty does not cover?

The TAMUZ Limited Warranty does not covers as follow:

1. Any product on which the serial number has been defaced, modified or removed.
2. Damage, deterioration or malfunction resulting from: (e.g. broken LCD panel)
 - a. Accident, misuse, neglect, fire, water, lightning, or other acts of nature, unauthorized product modification, or failure to follow instructions supplied with the product.
 - b. Repair or attempted repair by anyone not authorized by TAMUZ.
 - c. Any damage of the product due to shipment.
 - d. Removal or installation of the product.
 - e. Causes external to the product, such as electric power fluctuations or failure.
 - f. Use of supplies or parts not meeting TAMUZ's specifications.
 - g. Normal wear and tear. Routine cleaning, or normal cosmetic and mechanical wear.
 - h. Any other cause which does not relate to a product defect.
3. Removal, installation, and set-up service charges
4. Mechanically broken CFFL lamps inside the backlight system of an LCD monitor.
5. Image Sticking on the LCD-Panel, which is caused by permanent pictures as well as Gap Mura on the LCD-Panel. However, image sticking can occur and can be considered undesirable in certain applications where 24/7 display of static images is required.
6. Service made necessary by use of incompatible third party products
7. Damage or loss during transit to Authorized Service Partner

Critical Applications

The product you have purchased is not designed for any “critical applications.”

“Critical applications” means life support systems, medical applications, connections to implanted medical devices, commercial transportation, nuclear facilities or systems or any other applications where product failure could lead to injury to persons or loss of life or catastrophic property damage. ACCORDINGLY, TAMUZ, ITS AFFILIATES AND SUPPLIERS DISCLAIM ANY AND ALL LIABILITY ARISING OUT OF THE USE OF THE PRODUCTS IN ANY CRITICAL APPLICATIONS. IF YOU USE THE PRODUCTS IN A CRITICAL APPLICATION, YOU, AND NOT TAMUZ, ASSUME FULL RESPONSIBILITY FOR SUCH USE.

Limitation of implied Warranties

THERE ARE NO WARRANTIES, EXPRESS OR IMPLIED, WHICH EXTEND BEYOND THE DESCRIPTION CONTAINED HEREIN INCLUDING THE IMPLIED WARRANTY OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

Exclusion of Damages

TAMUZ'S LIABILITY IS LIMITED TO THE COST OF REPAIR OR REPLACEMENT OF THE PRODUCT. TAMUZ SHALL NOT BE LIABLE FOR:

- DAMAGE TO OTHER PROPERTY CAUSED BY ANY DEFECTS IN THE PRODUCT, DAMAGES BASED UPON INCONVENIENCE, LOSS OF USE OF THE PRODUCT, LOSS OF TIME, LOSS OF PROFITS, LOSS OF BUSINESS OPPORTUNITY, LOSS OF GOODWILL, INTERFERENCE WITH BUSINESS RELATIONSHIPS, OR OTHER COMMERCIAL LOSS, EVEN IF ADVISED OF THEIR POSSIBILITY OF SUCH DAMAGES.
- ANY OTHER DAMAGES, WHETHER INCIDENTAL, CONSEQUENTIAL OR OTHERWISE
- ANY CLAIM AGAINST THE CUSTOMER BY ANY OTHER PARTY

Effect of state law

This warranty gives you specific legal rights, and you may also have other rights which vary from country to country. Some countries do not allow limitations on implied warranties and/or do not allow the exclusion of incidental or consequential damages, so the above limitations and exclusions may not apply to you.

Hardware and Software Telephone Support

During the warranty period, telephone support for the product hardware will be available to you.

For European customers call:	+49 – 4193 – 99 780
For German customers call:	0700 – TAMUZLCD (826 895 23)
For US customers call:	1 – 877 – TAMUZ 11 (826 89 11)
For all other international customers:	+49 – 4193 – 99 780

Requesting a RMA Form

Return under Warranty or Repairs, request for an RMA (Return Material Authorisation) number first. Get your RMA Number online at <http://rma.tamuz.tv>

In order to return a TAMUZ product for in-warranty service or for normal repairs, the RMA procedure should be used. Fill all fields correctly

- Include your personal data (Name, full address, telephone, email address, etc.).
- Indicate the model(type) and serial number of the device, as well as date of purchase.
- Give a complete fault description, preferable in the English or German language.
- Select the procedure of your choice (Return for Repair, Return for Exchange).

By using the RMA request, the user confirms to understand and accept the terms and conditions as described in the Service Policy.

IMPORTANT: TAMUZ will not accept any returns without RMA Number.

TFT Color Display Technology

TAMUZ is committed to customer satisfaction by providing the highest quality products in the industry. The Thin Film Transistor (TFT) Colour Display Technology used in many of TAMUZ's products is the most advanced display technology in the world today.

A pixel or picture element, is composed of three sub-pixels in the primary colors of red, green, and blue. At each pixel position in an AMLCD (active matrix liquid crystal display) flat screen monitor, three cells of liquid crystal material form the red, green and blue sub-pixels that together allow the full range of colors to be displayed. Individual transistors are arranged in an array on the rear glass to control each sub-pixel.

A single UXGA panel has 6.912.000 individual color transistors sandwiched between two wafer-thin glass sheets which are separated from each other by a mere 0.0006mm and make up a total of 2.304.000 pixels. These displays are a manufacturing marvel, however, given the enormous number of transistors involved, it is possible for a small number of non-performing pixels to occur. A non-performing pixel is a transistor that is either turned on all the time so a small color dot may appear, or is turned off all the time so no color dot will appear. These anomalies generally occur only during manufacturing, and additional bright or dark pixels should not appear over time.

To ensure the highest performing displays, TAMUZ sets limits as to the allowable number of pixel anomalies. TAMUZ has adopted the ISO 13406-2 pixel criteria to supplement our existing twenty-four month limited warranty. This policy applies to all TAMUZ LCD displays during the warranty period.

Pixel Errors

Following limited values which may not exceed are valid.

ISO 13406-2	Typ 1	Typ 2	Typ 3	max. Distance	connected Defects
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.

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.

The listed numbers stays for errors per million.

Are Pixel Errors Visible?

Non-conforming pixels are barely visible to the naked eye and will have very little or no impact on image quality. As a TAMUZ customer, what does this mean to you?

With a small number of non-performing pixels, your display will provide excellent image quality.

It is TAMUZ's policy that TFT displays, which exhibit more than 0,0002% non-performing pixels, or 0,0005% or more no-conforming pixels in a cluster, and are still covered under the TAMUZ Limited Warranty, will be replaced under the warranty repair program.

Image Sticking or Temporary Image Retention

What is Temporary Image Retention?

One of the advantages of LCD displays (compared to Plasma) is the fact that LCD do not suffer the problem of permanent burn-in when a static picture is displayed for a long time (for example a company logo that is always present at a particular spot on the screen).

But you may have heard that LCD displays also suffer from a similar type of image retention or image sticking or image persistence. The image retention that may appear on LCD displays is called Temporary Image Retention, and as the term implies, it is a condition that is not permanent (unlike the image burn-in that is experienced with Plasma and CRT displays).

The mechanism of TIR involves the chemistry and drive signals of the LCD, where slight DC components of the drive signals for static displays induce a migration of ions in the Liquid Crystal material to one side of the LCD glass. This migration of ions, given sufficient time, will cause a slight drop in the drive voltage in the pattern of the static image, causing a temporary "ghost" of the image to stick. Thankfully, when the image is changed, these ions diffuse back into the Liquid Crystal and the "stuck" image disappears.

TIR occurs on LCD displays when ionic contaminants in the panel migrate to the surface (usually caused by electromagnetic interference) and accumulate to areas in the panel where a static image is displayed. This will cause a drop in the drive voltage in that area and the static image remains visible even after the particular image is changed. Once the image is changed, the impurities will, with time, migrate out of the area and the TIR image should disappear. The time it takes for the TIR image to disappear depends on how severe it was in the first place, and in some cases it takes so much time and effort that for all practical purposes it could be called permanent.

The process of ion migration is something like sedimentation in a wine bottle. Over time, if the wine bottle is left in the same position (a static image is displayed), sediment will appear at the bottom of the bottle (the ions). If, however, the bottle is periodically turned or shaken (a non-static image), then the sediment will remain in solution.

Temporary image retention can occur on any LCD display. However, the quality of the panel (MVA technology is the best for reducing TIR occurrence), and the careful selection and placement of the electronics (magnetic interference is a major cause) that drive it have a significant effect on the occurrence of TIR, and of the time and effort required to get rid of TIR once it happens. In other words, once it occurs, TIR is very difficult to remove from some panels, and much easier from others.

Cautions to prevent image sticking for LCD products

- *Avoid high contrast image with fixed pattern in one period for more than one hour.*
- *Fixed images should not be displayed for long periods of time (prefer to change video pattern frequently)*
- *Encourage to change images for short image cycles (versus long cycles)*
- *Side border color function to reduce risk of image sticking for long periods of usage*
- *To maintain the requirement of point one a screen saver is recommended. The switch-off period should be at least the same time than switch-on period. E. g. half an hour on- and half an hour off-time.*
- *Allow adequate ventilation around the LCD Monitor so heat can properly dissipate*
- *Don't block ventilation openings or place the LCD Monitor near a radiator or other heating sources*
- *Power off the LCD Monitor for the same length of time the LCD Monitor has been powered on*

- *In some applications a simple screen saver isn't possible. In such case it's possible to alternate the normal pattern picture with an inverted pattern picture, to maintain the requirement of point 1. E. g. half an hour normal picture and half an hour inverted picture.*
- *If simple screen saver and inverted picture is not suitable for an application, there is another possibility. It might be possible to shift the picture in that way that no pattern is fixed with high contrast colour for more than one hour. E. g. shift the picture every half hour, so that every pattern can recover from high contrast image on dark image at least for half an hour.*
- *Image sticking can only be observed easily on dark or lower grey level image after long term operation with fixed pattern. If only high contrast image is used after such long-term operation, image sticking won't be much visible. In case of grey levels are needed after long term operation, dithering of full brightness and low brightness pattern is recommended.*



Note: *Image sticking is no matter of warranty although customers showed some efforts to prevent it.*