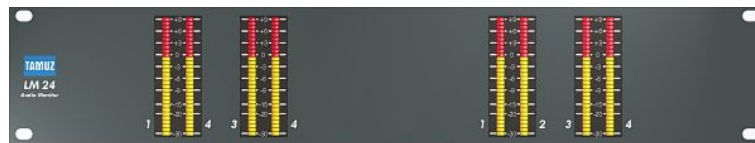


Handbuch und Bedienungsanleitung Operation Manual



LM 24 / 34 / 44 A
LM 24 / 34 / 44 D
Audio Level Meter



a division of

*PTV Professional TeleVision Vertriebsgesellschaft für Audio- und Video-Technik mbH
D-24558 Henstedt-Ulzburg ~ Telefon: ..49 - 4193 - 99780 ~ Telefax: ..49 - 4193 -997811*

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I. Issue Audio Level Meter LM 24 / 34 / 44

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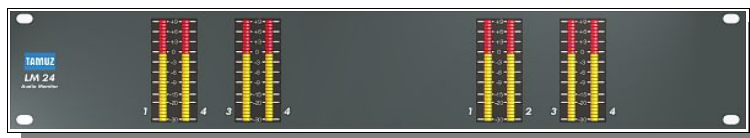
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Introduction

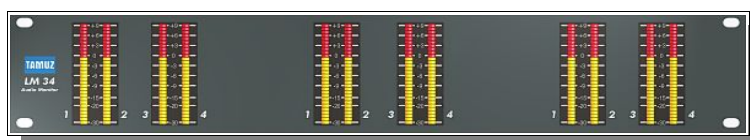
Audio Level Monitor

The **LM 24 / 34 / 44** is a DSP-controlled Audio Level Meter for MultiChannel applications designed as a counterpart to the TAMUZ MultiScreen LCD Video Monitor series LVM. A 40 dB-range scale allows monitoring of audio sources in any broadcast or studio environment.

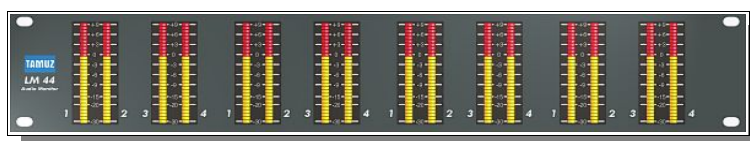
The Audio Level Monitor are available as version A for balanced analog signals or digital signals conforming the AES/EBU regulation as version D. The D version converts the digital signal and offers an analog output of the source at a separate analog out for each channel.



Level meters for two times four audio channels as model LM 24.

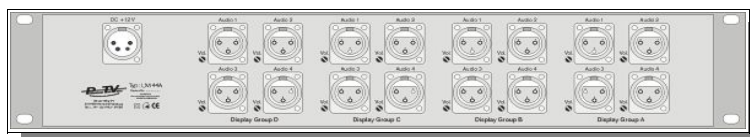


Level meters for three times four audio channels as model LM 34.



Level meters for four times four audio channels as model LM 44.

The operation of the system was formed simply and user friendly. Each channel has his own input port, made with standardized XLR connectors. Levelalignment to define the analog output is possible with multi-turn trimming pots.



All I/O ports are placed at the rear of the monitor, even the DC power connector. The characteristic and the brightness of the LED scales can be set by the user individual.

General Safety Instructions

Duty of care of the user

The **LM 24 / 34 / 44** 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 **LM 24 / 34 / 44** user, to plan these measures and check their explanation.

The user must guarantee particularly, that

- *the **LM 24 / 34 / 44** is only used as agreed (cf. chapter product specification)*
- *the **LM 24 / 34 / 44** is operated only in faultless, working condition and particularly the safety facilities are checked for their function efficiency regularly*
- *the **LM 24 / 34 / 44** 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 **LM 24 / 34 / 44***
- *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 **LM 24 / 34 / 44***

Constructive changes at the **LM 24 / 34 / 44** 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 **LM 24 / 34 / 44** 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 **LM 24 / 34 / 44** 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 **LM 24 / 34 / 44** 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 **LM 24 / 34 / 44** 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 **LM 24 / 34 / 44** 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 **LM 24 / 34 / 44** appreciates, that in the **LM 24 / 34 / 44** 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 does not purchase this with the acquisition or the use of the **LM 24 / 34 / 44** system by any time. The user gets rather merely the right for the exclusive use of the **LM 24 / 34 / 44**.

In the **LM 24 / 34 / 44** 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 **LM 24 / 34 / 44** the user recognizes these license and use conditions.



Note: *The LM 24 / 34 / 44 system contains copyright protected software and documentation's.*

Guarantee agreement:

The in the **LM 24 / 34 / 44** system contained software and the instructions are leave to the user as they are. This means, the author of the software or the instructions does not assume any liability for the suitability of the software or the documentation to any special purpose. He particularly is not liable for damages or sequential damages which indirectly deliberately or unintentionally arise from the use of the **LM 24 / 34 / 44** or the documentation directly.

The **LM 24 / 34 / 44** system and the documentation can be changed and enlarged without previous announcement at any time and there does not exist it any right for updates free of charge.

Guarantee period

The manufacturer of the **LM 24 / 34 / 44** 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 LM 24 / 34 / 44 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, Neuer Weg 24, D-24558 Henstedt-Ulzburg**) or your local dealer.

Garantie Registrierungskarte - Warranty Registration Card		
Model:	TAMUZ LM 24 / 34 / 44	Type:
Seriennummer:		Serial Number:
<i>Dieses Gerät wurde gekauft bei: - The Unit was purchased from:</i>		
<i>Händler:</i>		<i>Dealer:</i>
<i>Ort:</i>		<i>City:</i>
<i>Land:</i>		<i>Country:</i>
<i>Verkaufsdatum:</i>		<i>Purchase Date:</i>
<i>Dieses Gerät wurde gekauft von: - The Unit was purchased by:</i>		
<i>Kunde:</i>		<i>Customer:</i>
<i>Ansprechpartner:</i>		<i>Contact Person:</i>
<i>Firma:</i>		<i>Company:</i>
<i>Strasse:</i>		<i>Street:</i>
<i>PLZ:</i>		<i>Zip Code:</i>
<i>Ort:</i>		<i>City:</i>
<i>Land:</i>		<i>Country:</i>
<i>Telefon:</i>		<i>Phone:</i>
<i>Telefax:</i>		<i>Fax:</i>
<i>Email:</i>		<i>Email:</i>
<i>Dieses Gerät wird eingesetzt im: - This Unit will be used at:</i>		
<i>Regieraum:</i>		<i>Control Room:</i>
<i>Schaltraum:</i>		<i>Distribution:</i>
<i>Studio:</i>		<i>Studio:</i>
<i>Ü-Wagen:</i>		<i>OB-Truck:</i>
<i>Kopieranlage:</i>		<i>VTR-Dubbing:</i>
<i>Schnittplatz:</i>		<i>Editing:</i>
<i>Sprecher-Raum:</i>		<i>Off-Room:</i>
<i>Andere:</i>		<i>Other:</i>
<p><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><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 **LM 24 / 34 / 44** 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 **LM 24 / 34 / 44** 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 LM 24 / 34 / 44 to the avoidance of persons and damages to property.

Packing

The **LM 24 / 34 / 44** 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. In case of a return to the manufacturer don't forget to ask for a RMA number.

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 LM 24 / 34 / 44 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
Neuer Weg 24
D-24558 Henstedt-Ulzburg*

declares hereby, that the product:

Product name: Audio Level Meter

Model number: LM 24 / 34 / 44

Year of construction: 2001

corresponds to the regulations of the guidelines described above:

The following harmonized norms were used:

EN 55011	ISM Equipment, Group 1, Class A
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
--------------------	--

Henstedt-Ulzburg, 12.11.2001

The Management

Technical Data

System Hardware

The hardware of the Audio Level Meter consists of the following components which are installed in an elegant and emission shielded steel system-unit cover of high quality:

System Frame:	PTV LM 24 / 34 / 44
Display Type:	LED chain, 30 elements, tri-color* ¹
Luminance:	user adjustable
Viewing Angle:	±90° horizontal, ±90° vertikal
Audio Input:	analog balanced, serial digital AES/EBU* ²

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

System Features

The video monitor LM 24 / 34 / 44 D is designed and equipped for the following requests, tasks and applications :

Application:	Control Monitor für audio signals,
Audio Format:	AES/EBU
Resolution:	30 elements, 20x 1 dB per element, 10x 2 dB per element
Scale Format:	Peak, VU, DIN, selectable
Video Input I/O:	BNC 75 Ohm
Signal Format:	4 channel analog balanced as LM 24 / 34 / 44 A 2x 2 channel serial digital AES/EBU as LM 24 / 34 / 44 D
DC Power I/O:	±12 V / + 5 DC via XLR 4pol male
Power Consumption:	0,9 / 1,3 / 1,7 A as LM 24 / 34 / 44 A 1,0 / 1,4 / 1,8 A as LM 24 / 34 / 44 D
Environment Temperature:	-10°C to +40°C at max. 70% humidity
Dimensions:	485 mm width, 104 mm height, 90 mm depth (without handles, incl. XLR connectors)
Weight:	1,8 / 2,1 / 2,4 kg
Power Supply	
Power Supply:	PowDec WP30120I* ¹
Line Voltage:	110-240 V 50-60 Hz, 1.5 A, short-circuit proofed
Main Input I/O:	IEC 3pin connector
DC Voltage:	±12 / +5 V DC
DC Output I/O:	XLR4F, cable type

*¹ = or similar alternative

Installation

First putting into Operation

The audio monitor **LM 24 / 34 / 44** 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 **LM 24 / 34 / 44** 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 monitor **LM 24 / 34 / 44** is prepared for mounting in standard 19" racks.

Ventilation

The equipment is self ventilated and has therefore on the back air ventilation openings. There is no integrated fans producing a continuous stream of cooling air. The ventilation openings aren't provided with an air filter.



Note: When required check the fans for faultiness and clean them and the ventilation openings regularly.

Cleaning

Remind that the LED 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.

Switching the Monitor on

Guarantee the connection with the external power supply unit at the rear XLR connector indicated as ± 12 V DC input. The monitor thereupon starts test routines automatically and then represents the audio on his display. For switching the monitor **LM 24 / 34 / 44** off, you have to disconnect the external power at the rear.




Note: The audio monitor **LM 24 / 34 / 44** becomes current supplied with an external power supply.

Connecting the Monitor

Groups of 4-Channel Meters

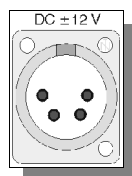
The audio monitor **LM 24** contains two, the audio monitor **LM 34** contains three and the audio monitor **LM 44** contains four, individual working meter groups. Each of them displays four audio signals with two sets of dual-channel LED bargraphs. The following using instructions and steps apply to the each segment.



Note: All features and operation modes of the monitor LM 24 / 34 / 44 are independent from each other for each group.

DC Voltage

The multi voltage DC power to operate the audio monitors **LM 24 / 34 / 44** 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	- 12 V DC
3	+ 5 V DC
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.

Audio Level Meter Analog Version

Inputs at Version A

The version **A** of the monitor **LM 24 / 34 / 44 A** was designed for analog balanced audio signals with studio level niveau.



Connect your audio source using standard symmetrically XLR cables to the input ports at the rear of the monitor **LM 24 / 34 / 44 A**. The inputs have a high impedance load and must not be terminated. Details see the table below or at the rear of the monitor.

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

Model / Interface Type	Frequency range Hz	I/O Level nominal	Impedance	Audio Signal @ Port #			
				Port 1	Port 2	Port 3	Port 4
LM 24 / 34 / 44 A	20 - 20k	+ 6 dBm	20 kOhm	analog 1	analog 2	analog 3	analog 4

Signal Format

The audio monitors **LM 24 / 34 / 44 A** are designed to be used with analog balanced signals. The pin-out of the XLR3F port is shown in following table:

Pin	Function
1	Ground
2	audio -
3	audio +

Usually the monitor shows a 0 dB scale level when a nominal signal is feed in every time.

LED Scale

The 40 dB range LED scale of the audio monitors **LM 24 / 34 / 44 A** are normalized to correspond to the studio level +6 dBm. The upper section of the scale has a resolution of 1 dB per LED, the lower third has a resolution of 2 dB per LED. If the user want to align a different scaling, each channel has his own multi-turn trimming pot at the rear. The maximum input voltage may be +20 dBm.

See the allocation in the following table.

Scale	Input Level	Scale	Input Level	Scale	Input Level
+6	+11 dBm	-4	+1 dBm	-15	-10 dBm
+5	+10 dBm	-5	+0 dBm	-17	-12 dBm
+4	+9 dBm	-6	-1 dBm	-19	-14 dBm
+3	+8 dBm	-7	-2 dBm	-21	-16 dBm
+2	+7 dBm	-8	-3 dBm	-23	-18 dBm
+1	+6 dBm	-9	-4 dBm	-25	-20 dBm
0	+5 dBm	-10	-5 dBm	-27	-22 dBm
-1	+4 dBm	-11	-6 dBm	-29	-24 dBm

Scale	Input Level	Scale	Input Level	Scale	Input Level
-2	+3 dBm	-12	-7 dBm	-31	-26 dBm
-3	+2 dBm	-13	-8 dBm	-33	-28 dBm

Level Meter Characteristic

To cover different applications the characteristic of the DSP-controlled signal processing for the audio signal can be selected individually. Once the VU (volume unit) characteristic is selectable with different sample and hold parameters, confirming the VU metering standards. Next the Peak characteristic is selectable with different sample and hold parameters, confirming the Peak metering standards. Both metering methods can have a Peak hold function added to, where the maximal level is hold for about 3 seconds before it falls.

Therefore the user will find at the rear of the audio monitors **LM 24 / 34 / 44 A** a HEX-switch in the upper left corner to select the characteristic. This switch works for all display groups simultaneously.

See the allocation in the following table.

HEX Position	Function
0	Level Meter off
1	VU Meter, slow rise time, 300 ms, Peak hold, fall time 3 s
2	VU Meter, slow rise and fall time, 300 ms
3	VU Meter, fast rise time, 100 ms, Peak hold, fall time 3 s
4	VU Meter, fast rise and fall time, 100 ms
5	Peak Meter, medium rise time, 20 ms, Peak hold, fall time 3 s
6	Peak Meter, medium rise and fall time, 20 ms
7	Peak Meter, fast rise time, 1 ms, Peak hold, fall time 3 s
8	Peak Meter, fast rise and fall time, 1 ms
9	Display test, flashing
A	no function
B	no function
C	no function
D	no function
E	no function
F	Display test, running light

Some HEX switch positions are prepared for future features.

Level Meter Brightness

The brightness of the LED meter scale is individually adjustable. Therefore the user will find at the rear of the audio monitors **LM 24 / 34 / 44 A** a multi-turn trimming pot in the upper left corner left beside the characteristic HEX switch. This adjustment works for all display groups simultaneously.



Note: If the LED's are operated with high brightness, the power consumption increases and leads to an increased warming.

Audio Level Meter Digital Version

Inputs at Version D

The version **D** of the monitor **LM 24 / 34 / 44 D** was designed for digital AES/EBU audio signals.



Connect your audio source using standard symmetrically XLR cables to the input ports at the rear of the monitor **LM 24 / 34 / 44 D**. The inputs have the standard 110 Ohm impedance load and must not be terminated. The D version converts the digital signal and offers an analog output of the source at a separate analog out for each channel. Details see the table below or at the rear of the monitor.

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

Model / Interface Type	Frequency range Hz	I/O Level nominal	Impedance	Audio Signal @ Port #			
				Port 1	Port 2	Port 3	Port 4
LM 24 / 34 / 44 D	20 - 20k	0 dB FS	110 Ohm	AES 1	AES 2		
	20 - 20k	+6 dBm	30 Ohm			analog 1/2 out	analog 3/4 out

Signal Format

The audio monitors **LM 24 / 34 / 44 D** are designed to be used with digital AES/EBU signals. The pin-out of the XLR3F port is shown in following table:

Pin	Function
1	Ground
2	digital +
3	digital -

Usually the monitor shows a 6 dB scale level when a 0 dB FS signal is feed in every time.

Analog Output

A helpful feature for monitoring the measured digital signals with speakers the audio monitors **LM 24 / 34 / 44 D** are equipped with an D/A-converter, which offers a balanced analog signal as output. The pin-out of the XLR5F port is shown in following table:

Pin	Function
1	Audio 2 -
2	Audio 2 +
3	Ground
4	Audio 1 -
5	Audio 1 +

Usually the analog output is a +6 dBm signal when a 0 dB FS signal is feed in every time. If the user want to align a different level, each channel has his own multi-turn trimming pot at the rear. The maximum output voltage may be +20 dBm.

LED Scale

The 40 dB range LED scale of the audio monitors **LM 24 / 34 / 44 D** are normalized to correspond to the (analog) studio level +6 dBm. The upper section of the scale has a resolution of 1 dB per LED, the lower third has a resolution of 2 dB per LED.

See the allocation in the following table.

Scale	Input Level	Scale	Input Level	Scale	Input Level
+6	0 dB FS	-4	-10 dB FS	-15	-21 dB FS
+5	-1 dB FS	-5	-12 dB FS	-17	-23 dB FS
+4	-2 dB FS	-6	-12 dB FS	-19	-25 dB FS
+3	-3 dB FS	-7	-13 dB FS	-21	-27 dB FS
+2	-4 dB FS	-8	-14 dB FS	-23	-29 dB FS
+1	-5 dB FS	-9	-15 dB FS	-25	-31 dB FS
0	-6 dB FS	-10	-16 dB FS	-27	-33 dB FS
-1	-7 dB FS	-11	-17 dB FS	-29	-35 dB FS
-2	-8 dB FS	-12	-18 dB FS	-31	-37 dB FS
-3	-9 dB FS	-13	-19 dB FS	-33	-39 dB FS

Level Meter Characteristic

To cover different applications the characteristic of the DSP-controlled signal processing for the audio signal can be selected individually. Once the VU (volume unit) characteristic is selectable with different sample and hold parameters, confirming the VU metering standards. Next the Peak characteristic is selectable with different sample and hold parameters, confirming the Peak metering standards. Both metering methods can have a Peak hold function added to, where the maximal level is hold for about 3 seconds before it falls.

Therefore the user will find at the rear of the audio monitors **LM 24 / 34 / 44 D** a HEX-switch in the upper left corner to select the characteristic. This switch works for all display groups simultaneously.

See the allocation in the following table.

HEX Position	Function
0	Level Meter off
1	VU Meter, slow rise time, 300 ms, Peak hold, fall time 3 s
2	VU Meter, slow rise and fall time, 300 ms
3	VU Meter, fast rise time, 100 ms, Peak hold, fall time 3 s
4	VU Meter, fast rise and fall time, 100 ms
5	Peak Meter, medium rise time, 20 ms, Peak hold, fall time 3 s
6	Peak Meter, medium rise and fall time, 20 ms
7	Peak Meter, fast rise time, 1 ms, Peak hold, fall time 3 s
8	Peak Meter, fast rise and fall time, 1 ms
9	Display test, flashing
A	no function
B	no function
C	no function
D	no function
E	no function

HEX Position	Function
F	Display test, running light

Some HEX switch positions are prepared for future features.

Level Meter Brightness

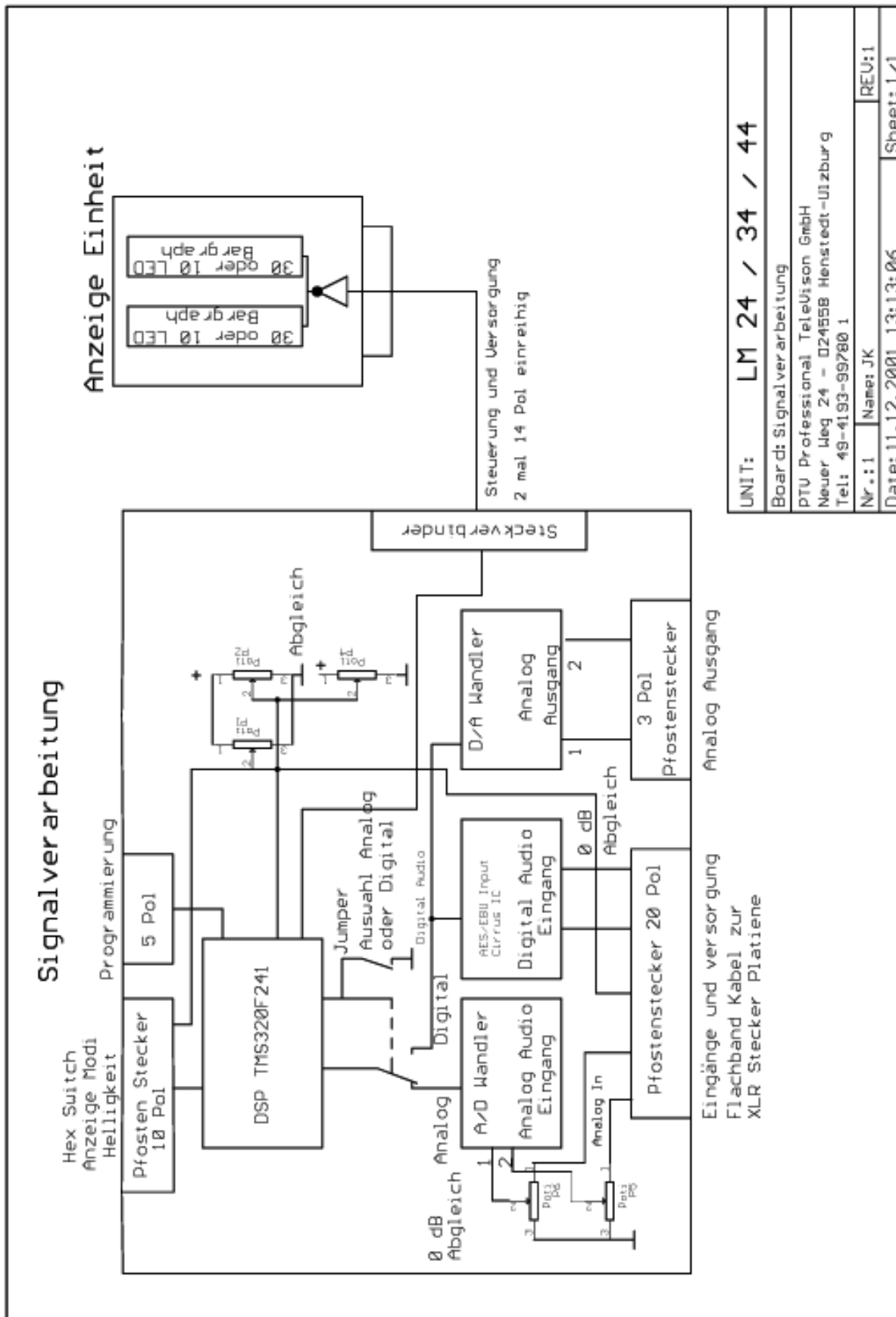
The brightness of the LED meter scale is individually adjustable. Therefore the user will find at the rear of the audio monitors **LM 24 / 34 / 44 D** a multi-turn trimming pot in the upper left corner left beside the characteristic HEX switch. This adjustment works for all display groups simultaneously.



Note: If the LED's are operated with high brightness, the power consumption increases and leads to an increased warming.

Block Diagramms

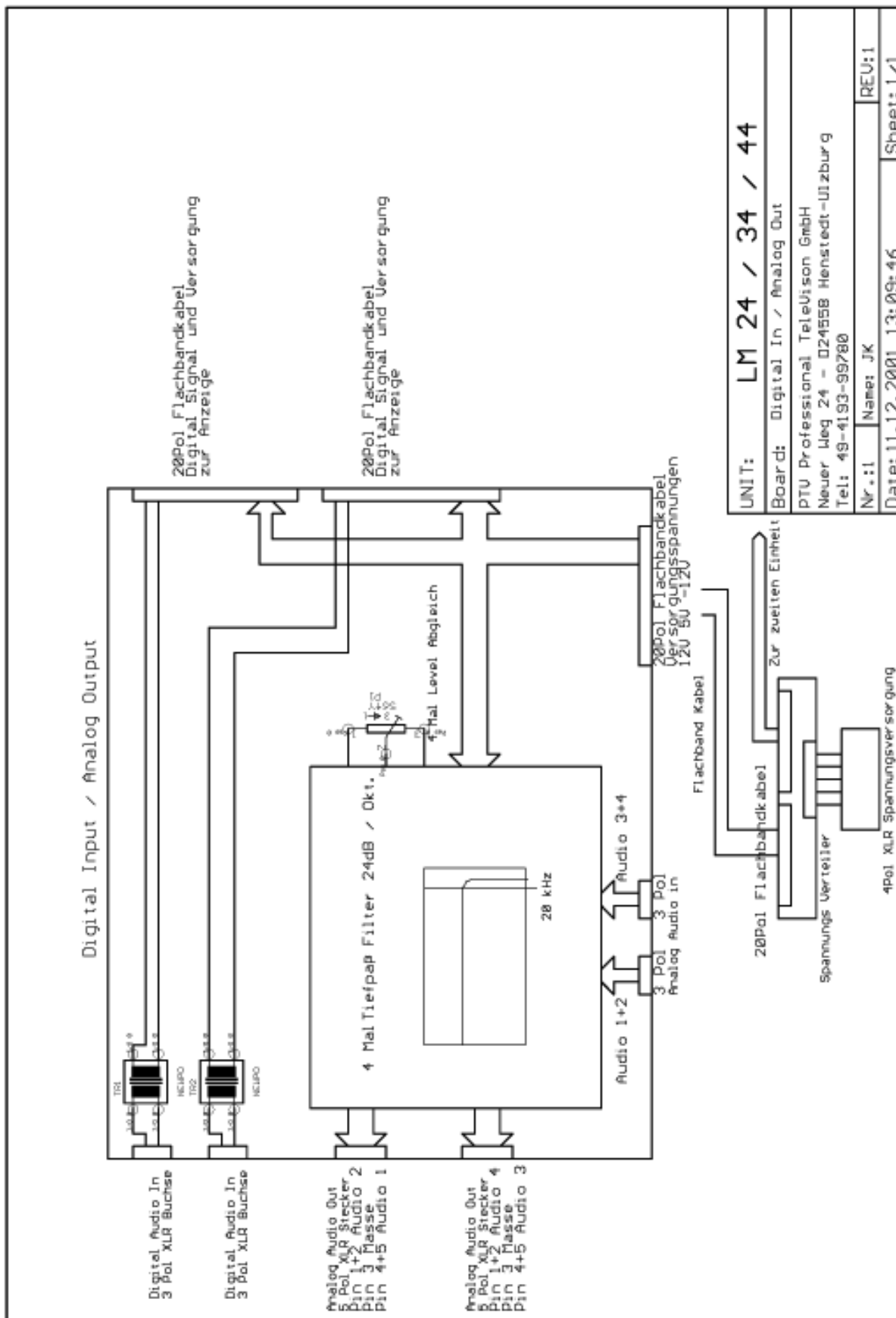
Signal Processing



UNIT:	LM 24 / 34 / 44
Board:	Signalverarbeitung
PTU:	Professional Television GmbH
Neuer Weg 24 -	024558 Henstedt-Ulzburg
Tel:	49-4193-99780 1
Nr.:	1
Name:	JK
Date:	11.12.2001 13:13:06
Sheet:	1/1

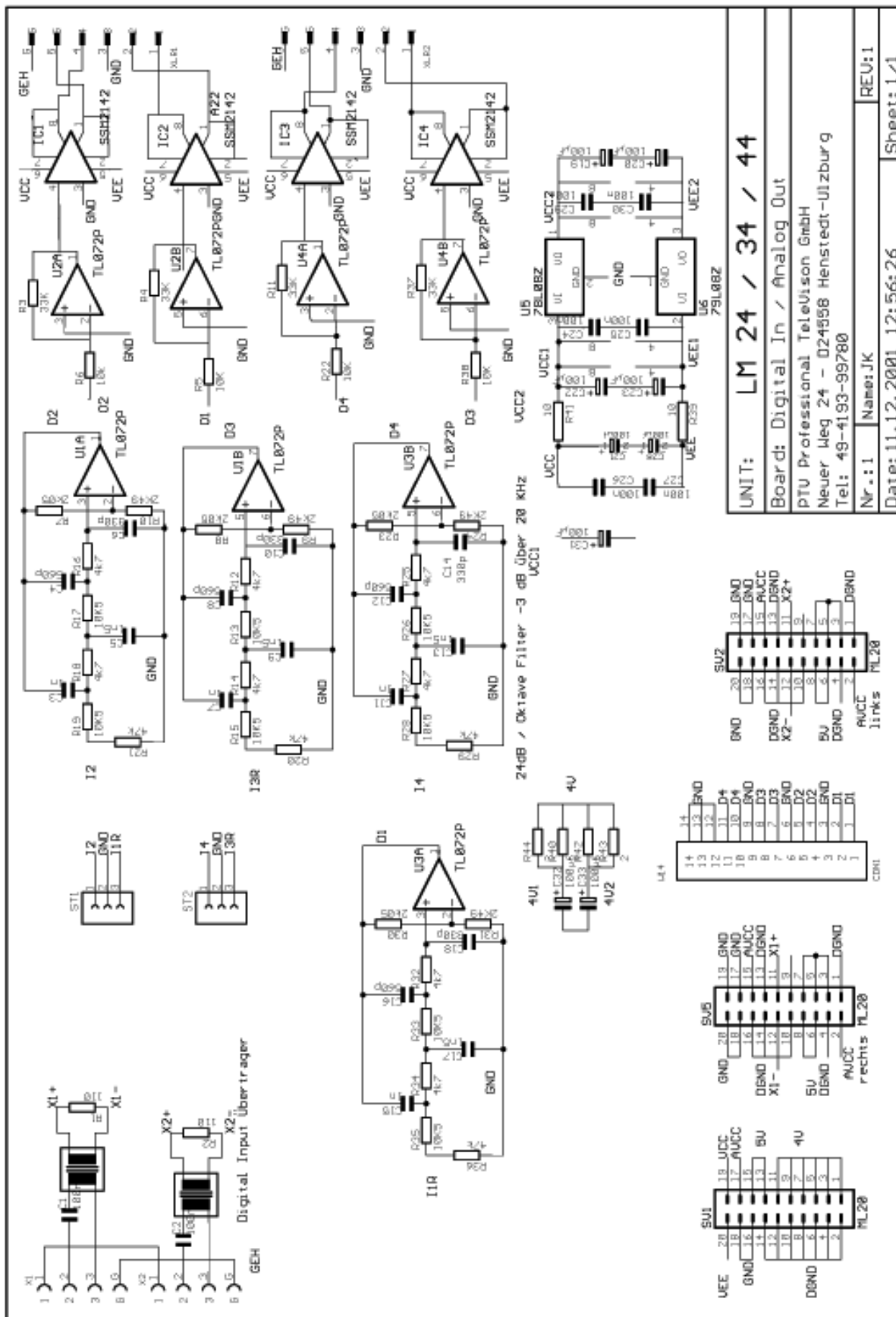
Digital Input

In the version D of the audio monitors **LM 24 / 34 / 44 D** a digital I/O is equipped.



Digital Input

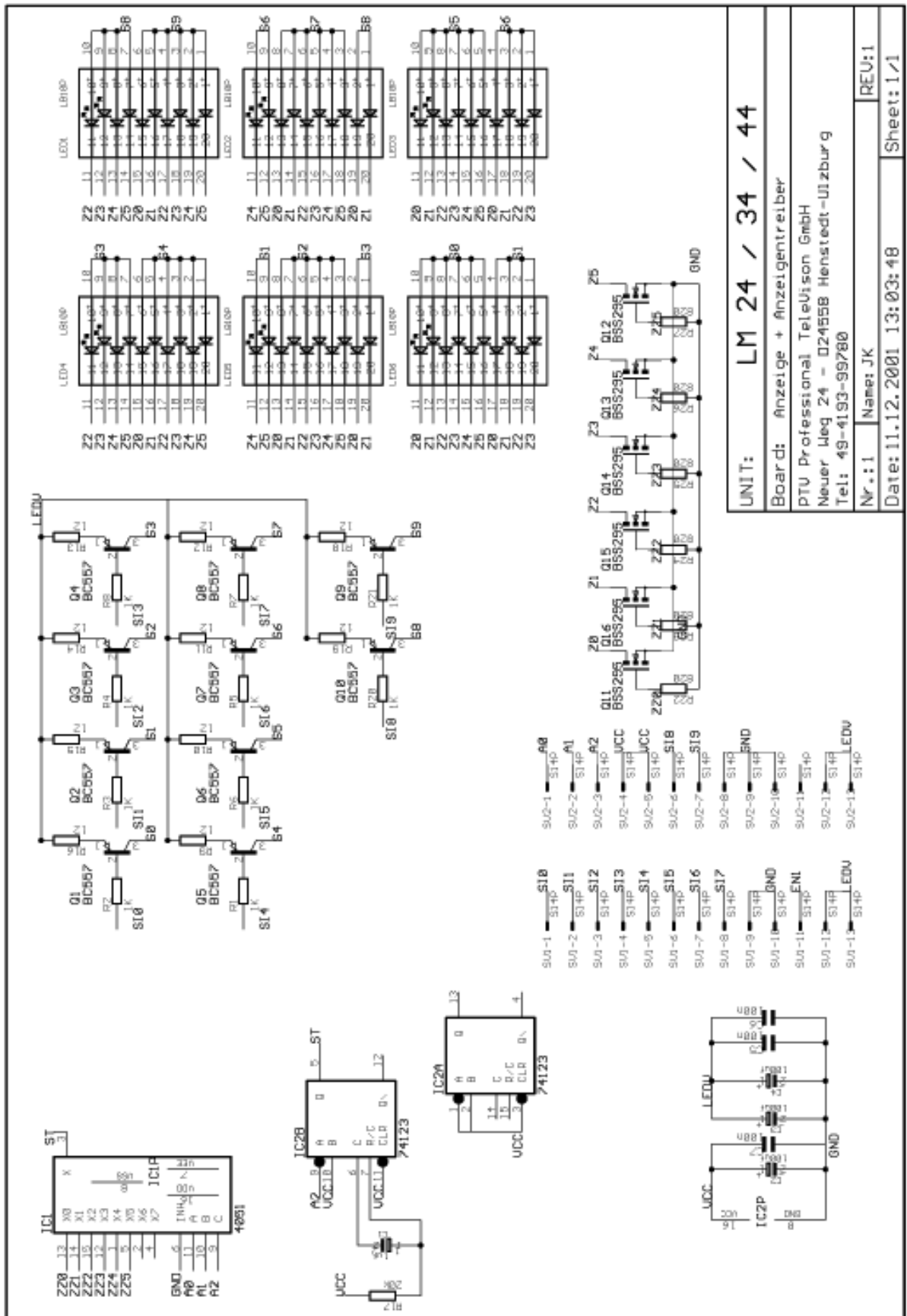
The electronic schematics of the digital I/O at the audio monitors **LM 24 / 34 / 44 D**.



UNIT:	LM 24 / 34 / 44
Board:	Digital In / Analog Out
PTU Professional TeleUision GmbH	
Neuer Weg 24 - 02459B Henstede-Ullzburg	
Tel: 49-4193-99780	
Nr.: 1	Name: JK
Date: 11.12.2001	12:56:26
Sheet: 1/1	

Display Unit

The electronic schematics for the LED display unit.



UNIT: LM 24 / 34 / 44	
Board: Anzeige + Anzeigentreiber	
PTU Professional Television GmbH	
Neuer Weg 24 - D24558 Henstedt-Ulzburg	
Tel: 49-4193-99780	
Nr.: 1	Name: JK
Date: 11.12.2001 13:03:48	Sheet: 1/1
REV: 1	

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 de 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 soldadura 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

- Apparats 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.
- Väggtuttaget för strömförsörjningen resp. en extern frånskiljaranordning 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 apparats kåpa.
- Spänningsfrikopplingen sker genom att dra ut nätkontakten resp. genom att frånkoppla den externa frånskiljaranordningen.
- 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 apparats öppningar. Apparats 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 sähkökuluttajien 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.*
- *Kytkeä jännitteettömäksi tapahtuu vetämällä verkkopistoke tai irtikytkemällä ulkoinen erotuslaitteisto.*
- *Laitteen vaaraton käyttö ei mitä todennäköisemmin 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 iskuilt 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

- Tækjaparlf vera þannig staðsett aekki stafi hætta af því þegar geisladrifur opnað eða þastendur opið.
- Vinotkun á vélknúnu útgáfunni má alls ekki grípa inn í þegar sjálfvirki búnaðurinn rennur út eða dregst saman.
- Notendur mega ekki opna tækid, 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.
- Sjáitil þess auppgefin rafspenna í tækinu sé í samræmi við spennu sem er til staðar þar sem tengja á tækid.
- Nauðsynlegt er arafmagnsinnstunga eða rofi sé staðsett á aðgengilegum stavið tækjapannig aauðvelt sé arjúfa strauminn atækinu.
- Notieinungis kapalinn sem fylgir tækinu og tengií (löglega) jarðtengda innstungu.
- Forðist anota fjöltengi meðörum orkufrekum tækjum. Notiekki framlengingarkapal.
- Óheimilt er arjúfa jarðtengingu innan eða utan tækisins. Pagetur haft hætta í för með sér.
- Allar tengingar á köplunum verða avara skrufaðar eða festar á tryggan hátt viumgjörð tækisins.
- Spenna er rofin með því ataka klóna úr sambandi eða slökkva á rofanum.
- Gangiút frá því aekki sé hægt astarfrækja tækian áhættu ef þahafur orðifyrir sjáanlegum skemmdum eða þavirkar ekki. Þá ber aslökkva á tækinu, taka þaúr sambandi og koma í veg fyrir aþaverði sett í gang aóvörum.
- 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. Sjáitil þess anægjanlegt loft leiki um tækid.
- Gætiþess aengir kaplar, sérstaklega ekki rafmagnskaplar séu leiddir yfir gólfþar sem fólk gengur og getur fest sig í þeim.
- Ef flytja þarf tækiaetti aflytja þaí upprunalegu þakningunni. Einungis á þann hátt er hægt atryggja atækiverði ekki fyrir hnjaski viflutning.
- Áður en tækier tekií notkun skal gengiúr skugga um aumhverfi tækisins uppfylli þær kröfur sem gerðar eru.
- Takitækíúr sambandi áður en þær 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 geaarde 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 aardekabel 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 terecht komt. De binnenzijde van het apparaat mag slechts door door geautoriseerde vakbekwaam personeel*