

APPENDIX - CONTENTS

Safety, Licenses etc

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IMPORTANT SAFETY INSTRUCTIONS



The lightning flash with an arrowhead symbol within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product.

- 1 Read these instructions.
- 2 Keep these instructions.
- 3 Heed all warnings.
- 4 Follow all instructions.
- 5 Do not use this apparatus near water.
- 6 Clean only with dry cloth.
- 7 Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
- 8 Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
- 9 Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
- 10 Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
- 11 Only use attachments/accessories specified by the manufacturer.
- 12  Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
- 13 Unplug this apparatus during lightning storms or when unused for long periods of time.
- 14 Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

Warning

- To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture and objects filled with liquids, such as vases, should not be placed on this apparatus.
- This apparatus must be earthed.
- Use a three wire grounding type line cord like the one supplied with the product.
- Be advised that different operating voltages require the use of different types of line cord and attachment plugs.
- Check the voltage in your area and use the correct type. See table below:

Voltage	Line plug according to standard.
110-125V	UL817 and CSA C22.2 no 42.
220-230V	CEE 7 page VII, SR section 107-2-D1/IEC 83 page C4.
240V	BS 1363 of 1984. Specification for 13A fused plugs and switched and unswitched socket outlets.

- This equipment should be installed near the socket outlet and disconnection of the device should be easily accessible.
- Do not install in a confined space.
- Do not open the unit - risk of electric shock inside.

Caution:

- You are cautioned that any change or modifications not expressly approved in this manual could void your authority to operate this equipment.
- Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type.
- Ventilation should not be impeded by covering the ventilation openings with items, such as newspapers, tablecloths, curtains, etc.

Service

- There are no user-serviceable parts inside.
- All service must be performed by qualified personnel.

This equipment has been tested and found to comply with the limits for a Class B Digital device, pursuant to part 15 of the FCC rules.

These limits are designed to provide reasonable protection against harmful interference in a residential installations.

This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

The user may find the following booklet, prepared by the Federal Communications Commission, helpful:

"How to identify and Resolve Radio/TV interference Problems."

This booklet is available from the US. Government Printing Office, Washington, DC 20402, Stock No. 004-000-0034-4.

For the customers in Canada:

This Class B Digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations. Cet appareil numérique de la classe B respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

TC ICON & REMOTE CPU - LICENSE AGREEMENT

End Users License Agreement (EULA) for TC ICON OS (Operating System) contained in the TC Electronic A/S embedded system: TC ICON/Remote CPU.
The TC ICON operating system is based on Microsoft NT.

Refund

If you do not agree to the terms of this EULA, TC Electronic A/S and Microsoft are unwilling to license the TC ICON OS to you. In such event, you may not use the TC ICON/Remote CPU, and you should promptly contact TC Electronic A/S for instructions on return of the unused products for a refund.

Client Access Licenses

If you use the TC ICON/Remote CPU to access or utilize the services or functionality of Microsoft Windows NT Server (all editions) or use the TC ICON/Remote CPU to permit workstation or computing devices to access or utilize the services or functionality of Microsoft Windows NT Server, you may be required to obtain a Client Access License for the TC ICON/Remote CPU and/or each such workstation or computing device. Please refer to the end user license agreement for Microsoft Windows NT Server for additional information.

No Warranties

EXCEPT AS EXPRESSLY PROVIDED IN THE LIMITED WARRANTY SECTION ABOVE, THE TC ICON Operating System IS PROVIDED TO YOU "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, WARRANTIES OF NON-INFRINGEMENT, MERCHANTABILITY, AND/OR FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK OF THE QUALITY AND PERFORMANCE OF THE TC ICON OS IS WITH YOU.

No Liability for Consequential Damages

TC Electronic A/S's SOFTWARE SUPPLIERS SHALL NOT BE HELD TO ANY LIABILITY FOR ANY DAMAGES SUFFERED OR INCURRED BY YOU (INCLUDING, BUT NOT LIMITED TO, GENERAL, SPECIAL, CONSEQUENTIAL OR INCIDENTAL DAMAGES INCLUDING DAMAGES FOR LOSS OF BUSINESS PROFITS, BUSINESS INTERRUPTION, LOSS OF BUSINESS INFORMATION AND THE LIKE), ARISING FROM OR IN CONNECTION WITH THE DELIVERY, USE OR PERFORMANCE OF TC ICON OS.

Customer Remedies

TC Electronic A/S's suppliers entire liability and your exclusive remedy shall be, at TC Electronic A/S's option, either (a) return of the price paid, or (b) repair or replacement of the TC ICON/Remote CPU that does not meet the above Limited Warranty and which is returned to TC Electronic A/S with a copy of your receipt. This Limited Warranty is void if failure of the TC ICON/Remote CPU has resulted from accident, abuse, or misapplication. Any replacement TC ICON/Remote CPU will be warranted for the remainder of the original warranty period or thirty (30) days, whichever is longer.

Limitations on Reverse Engineering, Decompilation and Disassembly

You may not reverse engineer, decompile, or disassemble the TC ICON OS, except and only to the extent that such activity is expressly permitted by applicable law notwithstanding this limitation.

Separation of Components

The TC ICON OS is licensed as a single product. Its component parts may not be separated for use on more than one TC ICON/Remote CPU.

Single TC ICON/Remote CPU

The TC ICON OS is licensed with the TC ICON/Remote CPU as a single integrated product. The TC ICON OS may only be used with the TC ICON/Remote CPU as set forth in these licensing terms.

Rental

You may not rent, lease or lend the TC ICON OS.

TC ICON OS transfer

You may permanently transfer all of your rights set forth in these licensing terms only as part of a permanent sale or transfer of the TC ICON/Remote CPU, provided you retain no copies, you transfer all of the TC ICON OS (including all component parts, the media and printed materials, any upgrades, these licensing terms, and, if applicable, the Certificate(s) of Authenticity), and the recipient agrees to these licensing terms. If the TC ICON OS is an upgrade, any transfer must also include all prior versions of the TC ICON OS.

Back-up Copy

If TC Electronic A/S has not included a back-up copy of the TC ICON OS with the TC ICON/Remote CPU, you may make a single back-up copy of the TC ICON OS. You may use the back-up copy solely for archival purposes. Except as expressly provided in these licensing terms, you may not otherwise make copies of the TC ICON OS.

NOT FAULT TOLERANT

THE TC ICON OS MAY CONTAIN TECHNOLOGY THAT IS NOT FAULT TOLERANT AND IS NOT DESIGNED, MANUFACTURED, OR INTENDED FOR USE OR RESALE AS ON-LINE CONTROL EQUIPMENT IN HAZARDOUS ENVIRONMENTS REQUIRING FAIL-SAFE PERFORMANCE, SUCH AS IN THE OPERATION OF NUCLEAR FACILITIES, AIRCRAFT MACHINES, OR WEAPONS SYSTEMS, IN WHICH THE FAILURE OF LICENSED SOFTWARE COULD LEAD DIRECTLY TO DEATH, PERSONAL INJURY, OR SEVERE PHYSICAL OR ENVIRONMENTAL DAMAGE.

Termination

Without prejudice to any other rights, TC Electronic A/S may terminate this license if you fail to comply with the licensing terms. In such event, you must destroy all copies of the TC ICON OS and all of its component parts.

Note on Java Support

The TC ICON OS may contain support for programs written in Java. Java technology is not fault tolerant and is not designed, manufactured, or intended for use or resale as online control equipment in hazardous environments requiring fail-safe performance, such as in the operation of nuclear facilities, aircraft navigation or communication systems, air traffic control, direct life support machines, or weapons systems, in which the failure of Java technology could lead directly to death, personal injury, or severe physical or environmental damage. Sun Microsystems, Inc. has contractually obligated Microsoft Corporation to make this disclaimer.

EXPORT RESTRICTIONS

Export of the TC ICON OS from the United States is regulated by the Export Administration Regulations (EAR, 15 CFR 730-744) of the U.S. Commerce Department, Bureau of Export Administration (BXA). You agree to comply with the EAR in the export or re-export of the TC ICON OS: (i) to any country to which the U.S. has embargoed or restricted the export of goods or services, which as of May 1999 include, but not necessarily limited to Cuba, Iran, Iraq, Libya, North Korea, Sudan, Syria, and the Federal Republic of Yugoslavia (including Serbia, but not Montenegro), or to any national of any such country, wherever located, who intends to transmit or transport the TC ICON OS back to such country; (ii) to any person or entity who you know or have reason to know will utilize the TC ICON OS or portion thereof in the design, development or production of nuclear, chemical or biological weapons; or (iii) to any person or entity who has been prohibited from participating in U.S. export transactions by any federal agency of the U.S. government. You warrant and represent that neither the BXA nor any other U.S. federal agency has suspended, revoked or denied your export privileges. For additional information see <http://www.microsoft.com/exporting>.

CERTIFICATE OF CONFORMITY

Certificate Of Conformity

TC Electronic A/S, Sindalsvej 34, 8240 Risskov, Denmark, hereby declares on own responsibility that following product:

DB8 - Mainframe

- that is covered by this certificate and marked with CE-label conforms with following standards:

EN 60065 (IEC 60065)	Safety requirements for mains operated electronic and related apparatus for household and similar general use
EN 55103-1	Product family standard for audio, video, audio-visual and entertainment lighting control apparatus for professional use. Part 1: Emission.
EN 55103-2	Product family standard for audio, video, audio-visual and entertainment lighting control apparatus for professional use. Part 2: Immunity.

With reference to regulations in following directives:
73/23/EEC, 89/336/EEC

Issued in Risskov, October 2001

Anders Fauerskov
Chief Executive Officer

Certificate Of Conformity

TC Electronic A/S, Sindalsvej 34, 8240 Risskov, Denmark, hereby declares on own responsibility that following product:

DB4 - Mainframe

- that is covered by this certificate and marked with CE-label conforms with following standards:

EN 60065 (IEC 60065)	Safety requirements for mains operated electronic and related apparatus for household and similar general use
EN 55103-1	Product family standard for audio, video, audio-visual and entertainment lighting control apparatus for professional use. Part 1: Emission.
EN 55103-2	Product family standard for audio, video, audio-visual and entertainment lighting control apparatus for professional use. Part 2: Immunity.

With reference to regulations in following directives:
73/23/EEC, 89/336/EEC

Issued in Risskov, March 2005

Mads Peter Lübeck
Chief Executive Officer

CERTIFICATE OF CONFORMITY

Certificate Of Conformity

TC Electronic A/S, Sindalsvej 34, 8240 Risskov, Denmark, hereby declares on own responsibility that following product:

Remote CPU & TC Icon

- that is covered by this certificate and marked with CE-label conforms with following standards:

EN 60065 (IEC 60065)	Safety requirements for mains operated electronic and related apparatus for household and similar general use
EN 55103-1	Product family standard for audio, video, audio-visual and entertainment lighting control apparatus for professional use. Part 1: Emission.
EN 55103-2	Product family standard for audio, video, audio-visual and entertainment lighting control apparatus for professional use. Part 2: Immunity.

With reference to regulations in following directives:
73/23/EEC, 89/336/EEC

Issued in Risskov, October 2001

Anders Fauerskov
Chief Executive Officer

TECHNICAL SPECIFICATIONS - MAINFRAME

Mainframe DB8

Digital Inputs and Outputs

Connector	SUB-D, 25 pole (8 channels AES/EBU in/out)
Formats	AES/EBU (24 bit)
Word clock Input	BNC, 75 Ohm or Hi-Z, 0.6 to 10 Vpp
Internal sample rate	48.0 kHz, 44.1 kHz
Internal clock precision	+/- 30 ppm
Jitterrejection at external sample rates	30 to 34 kHz, 42.5 to 45.5 kHz, 46.5 to 48.5 kHz
Rejection filter (4'th order)	< -3 dB @ 50 Hz < -65 dB @ 500 Hz < -100 dB @ 1.4 kHz < 1 dB @ 2 Hz
Rejection filter peak (jitter gain)	< 1 dB @ 2 Hz
Intrinsic interface jitter	< 1 ns peak, BW : 700 Hz to 100 kHz
Digital output phase	< 3 % of sample period
Input variation before sample slip	+27 % / -73 % of sample period
Output Dither	HPF/TPDF dither 8-24 bit, mono
Processing Delay	0.15 ms + 0.21 ms per engine @ 48 kHz,
Frequency Response DIO	DC to 23,9 kHz ± 0,01 dB @ 48 kHz,

PCMCIA Interface

Connector	PC Card, 68 pin type 1 cards
Standards	PCMCIA 2.0, JEIDA 4.0
Card Format	Supports up to 2 MB SRAM

Floppydrive	DOS compatible, 3½", 1.44 Mb
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Control Interface

MIDI	In/Out/Thru: 5 Pin DIN
GPI, Pedal, Fader	¼" phone jack, 0 ohm to 50 kohm
Remote	Custom MIDI In & Out
SMPTE	Input for Cuelist Management
Ethernet	10/100 Mbits/s, Base-T

EMC

Complies with	EN 55103-1 and EN 55103-2, FCC part 15 class B, CISPR 22 class B
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Safety

Certified to	IEC 60065, EN 60065, UL 6500 and CSA E65
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Environment

Operating Temperature	32° F to 122° F (0° C to 50° C)
Storage Temperature	-22° F to 167° F (-30° C to 70° C)
Humidity	Max. 90 % non-condensing

General

Finish	Anodized aluminum face plate Painted and plated steel chassis
Dimensions:	3 1/2 x 19 x 12 inches
Weight:	19 lbs. (8.6 kg)
Mains Voltage:	100 to 240 VAC, 50 to 60 Hz (auto-select)
Power Consumption:	45 watts
Backup Battery Life:	>10 years

Warranty

Parts and labor:	1 year
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Technical Specifications are subject to change without notice !

TECHNICAL SPECIFICATIONS - TC ICON

These specifications cover the optional TC Icon remote control

TC Icon

Display Type	6.5" TFT active matrix color LCD display, 640 x 480 pixels resolution. High luminance (300 cd/m2, typ.)
Touch screen	Resistive, 20 gram activation force
Faders	Six (6), 90mm motorized with touch sensitivity
Connection	36-pin MDR connection for Remote CPU
EMC Complies with	EN 55103-1 and EN 55103-2, FCC part 15 class B, CISPR 22 class B
Safety Certified to	IEC 60065, EN 60065, UL 6500 and CSA E65
Environment Operating Temperature Storage Temperature Humidity	32° F to 122° F (0° C to 50° C) -22° F to 167° F (-30° C to 70° C) Max. 90 % non-condensing
General Finish	Black anodized aluminum Stand plate in brushed stainless steel
Dimensions Weight	D: 279mm W: 198mm Hfront: 33mm Hback: 100mm 5.56 lb (2.51 kg)
Warranty Parts and labor	1 year

Remote CPU

CPU	Embedded Cyrix GXM-200 processor
System disc System Memory Operating system	32MB CompactFlash Card 32MB SODIMM Ram Windows NT embedded version 1.0
Connections Ethernet interface	10/100 Mbps/s, Base-T, IEEE 802.3 pico protocol compatible. RJ-45 connector
USB interface	Two Universal Serial Bus ports, USB 1.0 compliant
Keyboard/Mouse	Mini-DIN connector supports standard PC/AT keyboard and a PS/2 mouse.
Remote	36-pin connection for TC Icon
EMC Complies with	EN 55103-1 and EN 55103-2, FCC part 15 class B, CISPR 22 class B
Safety Certified to	IEC 60065, EN 60065, UL 6500 and CSA E65
Environment Operating Temperature Storage Temperature Humidity	32° F to 122° F (0° C to 50° C) -22° F to 167° F (-30° C to 70° C) Max. 90 % non-condensing
General Finish	Black anodized aluminum face plate Painted and plated steel chassis
Dimensions	1.75" x 19" x 8.2" inches (483 x 44 x 195 mm)
Weight Mains Voltage	4.7 lb. (2.13 kg) 100 to 240 VAC, 50 to 60 Hz (auto-select)
Power Consumption Backup Battery Life	50 watts >10 years
Warranty Parts and labor	1 year

Technical Specifications are subject to change without notice !

TECHNICAL SPECIFICATIONS - ADA 24/96

Analog Input

Connectors XLR balanced (pin 2+, pin 3-)
Impedance 10/3 kohm (Balanced/unbalanced):

Selectable Full Scale Input level 6, 12, 18, 24, 30 dBu

Dynamic Range (A-In 12, 18, 24, 30 dBu) > 113 dB (unweighted), BW: 20-20 kHz
THD+N < -105 dB @ 1 kHz, -3 dBFS

Frequency Response

Output Sample Rate (* with linear filter)	@32 kHz	@44.1* kHz	@48* kHz
+0/-0.1 dB	1.2 Hz-14.8 kHz	1.2 Hz-19.9 kHz	1.2 Hz-20.3 kHz
+0/-3 dB	0.2 Hz-15.6 kHz	0.2 Hz-20.6 kHz	0.2 Hz-21.2 kHz

Crosstalk < -120 dB, 20 Hz to 20 kHz

CMRR (A-In 24 dBu, Rs 2 x 20 ohm) > 80 dB @ 50/60 Hz & > 90 dB @ 1 kHz

A to D Conversion 24 bit (Dual bit Delta Sigma sampling at 4.1/5.6/6.1/6.1 MHz)

A to D Delay @32 kHz @44.1 kHz @48 kHz
1.21 ms 1.56 ms 1.44 ms

Analog Output

Connectors XLR balanced (pin 2+, pin 3-)
Impedance 40/20 ohm (Balanced/unbalanced)
Impedance Balance > 60 dB, @ 20-20 kHz
Signal Balance > 40 dB, @ 20-20 kHz

Selectable Full Scale Output level 6/0, 12/6, 18/12, 24/18 dBu (Balanced/unbalanced)

Dynamic Range (A-Out 18, 24 dBu) > 113 dB (unweighted), BW: 20-20 kHz
THD+N < -95 dB @ 1 kHz, -3 dBFS

Frequency Response

Input Sample Rate (* with linear filter)	@32 kHz	@44.1* kHz	@48* kHz
+0/-0.3 dB	4.6 Hz-14.8 kHz	4.6 Hz-19 kHz	4.6 Hz-19 kHz
+0/-3 dB	0.7 Hz-15.6 kHz	0.7 Hz-20.5 kHz	0.7 Hz-21.2 kHz

Crosstalk < -110 dB, 20 Hz to 20 kHz

D to A Conversion 24 bit (Multi-bit delta sigma sampling at 4.1/5.6/6.1/6.1 MHz)

D to A Delay @32 kHz @44.1 kHz @48 kHz
0.88 ms 1.44 ms 1.32 ms

Selectable Sample conversion filters

In/out Sample Rate 32 kHz Fixed filter
In/out Sample Rate 44.1 and 48 kHz Filter choices: Linear, Natural, Vintage, Bright and Standard

General

EMC Complies with EN 55103-1, EN 55103-2, FCC rules, part 15, Class A
Safety Certified to IEC65, EN 60065, UL 1419, CSA E65
Operating/Storage Temperature 0° C to 50° C (32° F to 122° F) / -30° C to 70° C (-22° F to 167° F)
Humidity Max. 90 % non-condensing
Dimensions, Weight Europe-card (200 x 100 x 35 mm), 1.16 lbs (0.525 kg)
Power Consumption < 5 W
Warranty Parts and Labor 1 year

Technical Specifications are subject to change without notice !