Quick Start Guide
TouchMonitor TM7/TM9

Software Version 8-04 and higher | 04.2020

RTW
EYES ON YOUR AUDIO

Quick Start Guide for

RTW TouchMonitor TM7/TM9 series

Manual Version: 4.5
Issued: August 21st, 2023
Software Version: 8-04 (04.2020) and higher

© **RTW** 08/2023 | Technical changes without prior notice!
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sales@rtw.dcom | www.rtw.com

WEEE Reg.-no.:   DE 90666819
RoHS Conformity: These instruments comply with and fall under
                            category 9 Monitoring and control equipment of
                            the regulations of the Directive 2011/65/EU on
                            the restriction of the use of certain hazardous sub-
                            stances in electrical and electronic equipment of
                            the European Parliament and Council from June
                            8th, 2011.

$C \epsilon$

▪ TouchMonitor has been KC certified for Korea:
    Reg.-no. TM7:   KCC-REI-LA1-TM7
    Reg.-no. TM9:   KCC-REI-LA1-TM9

Please carefully **read** the safety instructions, **understand** them and **act** as requested to prevent any hazards or not to violate any laws.

Please note:
The external power supply is UL Listed for CAN/US, model ATS 065T-P/A240, manufactured by Adapter Technology Co Ltd. (RTW 1178-R), Class II double insulated, rated:
Input: 100 - 240 V, 47 - 63 Hz, 1 A max.
Output: 24 Vd.c., 2.71 A, 65 W.

The figures in this operating manual are carefully created and are used to illustrate the descriptions. However, they may differ a little bit from the displays of your unit.

The current version of this manual and the available firmware/firmware updates can be found under Audio Monitors/TouchMonitor TM7 resp. Audio Monitors/TouchMonitor TM9 in the download area of our web site: https://www.rtw.com/en/support/manuals-software-downloads.html.

The package contains a USB flash device source by a third party company, certifying to be CE conform and RoHS compliant.
A detailed RoHS declaration of conformity about TouchMonitor TM7/TM9 series will be found in the appendix.

Safety Instructions

The following symbols may be marked on the panels or covers of equipment or module and are used in this manuals with these terms:

⚠ **WARNING!**

This symbol alerts you to a potentially hazardous condition, such as the presence of dangerous voltage that could pose a risk of electrical shock. Refer to the accompanying Warning Label or Tag, and exercise extreme caution.

⚠ **ATTENTION!**

This symbol alerts you to important operating considerations or a potential operating condition that could damage equipment. If you see this marked on equipment, consult the operating manual for precautionary instructions.

⚠ **NOTE**

This symbol points your attention to specific characteristics that are no malfunctions.

Important Safety Instructions

- Read these instructions. Study carefully and understand all safety and operating instructions before you install and operate the unit!
- Keep these instructions. Keep all safety and operating instructions for future reference!
- Heed all warnings on the unit and in the safety and operating instructions before you install and operate the unit!
- Follow all instructions to ensure against injury to yourself and damage to the unit or other objects connected to the unit.

To prevent possible electrical shock, death, fire, injuries and malfunctions, use this product only as specified.
Only use attachments and accessories specified by the manufacturer. The units of the TouchMonitor series are designed for indoor use only and may only be operated with a power supply unit provided for it.

⚠️ WARNING!

Always follow the safety precautions below to avoid the possibility of serious injury or even death from electrical shock, short-circuiting, damages, fire, or other hazards. These precautions include, but are not limited to, the following:

- Do not open the housing. Inside, there are no user-serviceable parts. Any necessary servicing shall be performed by a properly qualified technician.
- Do not attempt to repair any part of the unit. Repairs shall only be carried out by qualified personnel.
- Never remove any parts from the unit and do not make any modifications to the unit without the express written consent of RTW. Modifications can cause both safety hazards and affect the unit's conformity and certifications.
- Only use the power cord and power supply specified for this product and certified for the country of use.
- Use with power supply model ATS 065T-P/A240, manufactured by Adapter Technology Co Ltd. (RTW 1178-R).
- The power cord of the external power supply disconnects the product from the power source. Do not block the power cord or power supply; it must remain accessible to the user at any time.
- Connect and disconnect properly. Use only connectors specified for this product and fix them tight before use.
- Observe all terminal ratings and markings on the product. Consult the operating manual for further ratings information before making connections to this product.

- Do not apply a potential to any terminal that exceeds the maximum rating of that terminal.
- Avoid exposed circuitry. Do not touch exposed connections and components when power is present.
- Turn off and disconnect the power supply immediately it the unit produces unusual smells, noises or smoke, or if foreign substances (e. g. liquids) or foreign objects enter the unit.
- Because of the installed battery the unit shall not be exposed to excessive heat such as sunshine, fire, or similar.
- Caution: Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type.
- Do not cover the unit and do not place any objects or anything containing liquids on it.
- Do not insert your fingers or any other objects into the housing.
- Do not operate without cover plates or panels.
- Do not operate with suspected failures. If you suspect there is damage to the unit, have it inspected by qualified service personnel.
- Do not use this apparatus near water.
- Do not operate in wet/damp conditions.
- Do not operate in explosive atmosphere.
- Do not operate in dusty environments.

⚠ ATTENTION!

Always follow the safety precautions below to avoid the possibility of physical injury to you or others, or damage to the unit or other property. These precautions include, but are not limited to, the following:

- Do not block any ventilation openings. Install in accordance with the manufacturer's instructions to prevent the internal temperature from becoming too high.
- Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
- Also keep away the unit from direct incident solar radiation.
- Keep product surfaces clean and dry. Clean only with dry cloth.
- Never use any solvent based liquids for cleaning the housing surfaces and the display.
- Do not place the unit in an unstable position where it might accidently fall over.
- Before connecting any devices to the unit make sure that the power supply is disconnected.

- Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
- Unplug this apparatus during lightning storms or when unused for long periods of time.
- Before moving the unit, remove all connected cables.
- When transporting or moving the unit, always take care not to scratch or damage the housing surfaces and the display.
- 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.

Information on installed battery

The pcb features a battery socket with a 3 V Li∕Mn coin cell battery, type CR 1225. It must be inserted from the side with its positive pole on top and its negative pole towards the pcb surface.

Environmental Considerations

Observe the following information about the environmental impact of the product and the following guidelines when recycling an instrument or component (product end-of-life handling):

- **Equipment Recycling**
  Production of this equipment required the extraction and use of natural resources. The equipment may contain substances that could be harmful to the environment or human health if improperly handled at the product's end of life. In order to avoid release of such substances into the environment and to reduce the use of natural resources, we encourage you to recycle this product in an appropriate system that will ensure that most of the materials are reused or recycled appropriately.

- **Battery Recycling**
  This product contains a lithium manganese dioxide (Li/Mn) battery, which must be recycled or disposed of properly according to your local government regulations.

- **Restriction of Hazardous Substances**
  These instruments comply with and fall under category 9 Monitoring and control equipment of the regulations of the Directive 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment of the European Parliament and Council from June 8th, 2011. This product may contain lead, cadmium and/or mercury in slight quantities. Please dispose of or recycle the electronic parts or devices according to your local government regulations.

Additional Instructions for AoIP

Additional instructions shall be followed for the following devices:

RTW TouchMonitor TM7

20700 with HW20717	20700OEM with HW20718
20700 with HW20718	TM7-Dante
20700OEM with HW20717	TM7-RAV

RTW TouchMonitor TM9

20900 with HW20917	20900OEM with HW20918
20900 with HW20918	TM9-Dante
20900OEM with HW20917	TM9-RAV

⚡ **WARNING -** In order to observe the EMC values, a **CAT-7 S/FTP** cable with an **etherCON connector NE8MX-6-T or NE8MX6** shall mandatory be used. According to the assembly instructions of the connector, the **cable shield** shall be wired in the way that it has **connection to the connector housing**!

⚠ **ATTENTION -** TouchMonitor devices with **Ravenna/AES67** or **Dante™** interfaces contain corresponding network boards each with its **own firmware**!
Therefore, when updating your device with a new TM software release, always also check whether a new firmware is available for the network card contained in the device and then also execute this update!

Index of Content

Before You Begin

Introduction

Thank you for purchasing a model of the TouchMonitor series. With the TouchMonitor range you are able to meet the growing require-ments in today's production, post-production, and broadcast world. Equipped with high-grade 7" or 9" touch screens and an easy-to-use GUI, TouchMonitor enters a new level of professional audio metering in terms of precision, performance, efficiency and flexibility.

Simple and flexible

The graphical user interface used in the TouchMonitor range is controlled simply by using your finger or a mouse. Instruments can be scaled, randomly positioned and combined in almost every way for optimized use of available screen space. Even multiple instruments of the same type, assigned to different input channels and configurations, can be displayed simultaneously. A context-sensitive, on-screen help feature and the intuitive operatable menu system supports the user, allowing him to make setup changes with ease.

Audio I/O options

The TouchMonitor perfectly integrates into today's analog and digital audio and video studio environments. It handles input signals of various formats: analog, AES3, and AES3id. TouchMonitor units can be equipped with an interface to accept 3G SDI signals. This interface works as an audio deembedder for mixed use with other audio interfaces displaying additional input channels simultaneously. And with the TM-Dante models you are able to measure up to 32 audio channels in a corresponding AoIP network.

Licences

A totally modular software concept means that you only have to purchase features that you actually require. This puts you in control, defining the functionality of a TouchMonitor that suits your needs best. New instruments and functions can be added as software modules to the device at any time. Simply purchase and activate the corresponding licence.
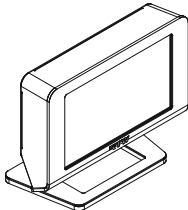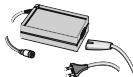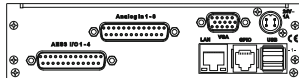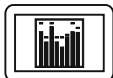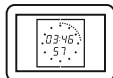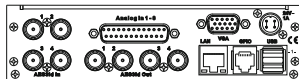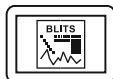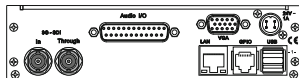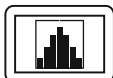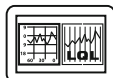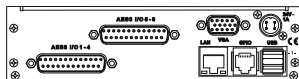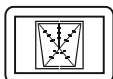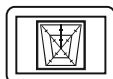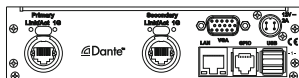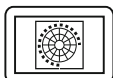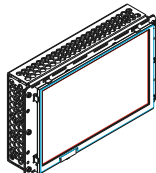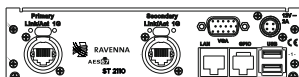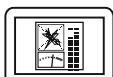
Many display functions are available to choose from: the unique RTW Surround Sound Analyzer, the Real-Time Analyzer (RTA), loudness meters compliant to all relevant loudness standards, the Radar Loudness display acc. to the Loudness Radar Meter of TC electronic®, Loudness Logging and Loudness Chart and the Immersive Sound Analyzer for monitoring immersive surround formats.

Scope of Delivery

Unpack the instrument, find your version, and check, if you received all items listed. If components are missing, please contact your dealer. Recommended accessories, options and software licences are also listed.
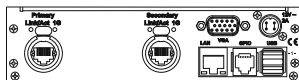
TouchMonitor TM7

Table-top unit 20700 **>**

OEM version 20700OEM **>**

> Audio Interface as ordered

4 x AES3
8 x analog
HW20711

4 x AES3id
8 x analog
HW20712

4 x AES3
3G-SDI
HW20714

8 x AES3

HW20715

32 ch. via
Dante™ AoIP
HW20717

32 ch. via
Ravenna AoIP
HW20718

> Software Licence, if ordered

Multichannel mode
SW20001

Loudness and SPL display
SW20002

RTA - Real Time Analyzer
SW20003

SSA - Surround Sound Analyzer
SW20004

Radar Display

SW20005

Premium PPM + Vectorscope
SW20006

Timecode Reader
SW20008

BLITS

SW20013

Logging Data Server (+ Chart)
SW20014

ISA - Immersive Sound Analyzer
SW20015

TC - RTW Conversion Kit
SW20021

Power supply

USB flash drive

> Short manual

USB flash drive

> Short manual

Preconfigured TM7 Models

Table-top unit TM7-RAV > Audio interface with 32 ch. via Ravenna AoIP >

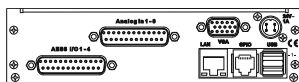**Table-top unit TM7-Dante** > Audio interface with 32 ch. via Dante™ AoIP >

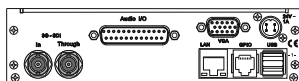**Table-top unit TM7-Video** > Audio interface with 4 x AES3, 3G-SDI >
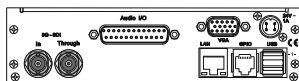
Table-top unit TM7-Studio > Audio interface with 4 x AES3, 8 x analog >

Mounting unit TM7-Rack > Audio interface with 4 x AES3, 3G-SDI >

Mounting unit TM7-Mount > Audio interface with 4 x AES3, 8 x analog >

> Software Licence, if ordered
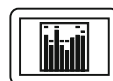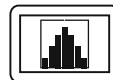
Multichannel mode
SW20001

Loudness and SPL display
SW20002

RTA - Real Time Analyzer
SW20003

SSA - Surround Sound Analyzer
SW20004
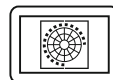
Radar Display
SW20005
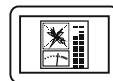
Premium PPM + Vectorscope
SW20006
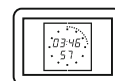
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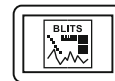
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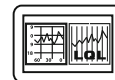
Logging Data Server (+ Chart)
SW20014
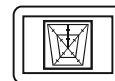
ISA - Immersive Sound Analyzer
SW20015

TC - RTW Conversion Kit
SW20021
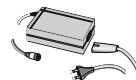
Power supply

USB flash drive

> Short manual

USB flash drive

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TouchMonitor TM9
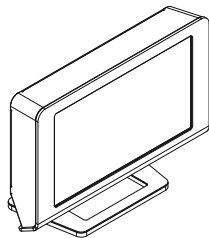
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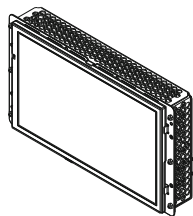
OEM version 20900OEM **>**

> Audio Interface as ordered

4 x AES3
8 x analog
HW20911

4 x AES3id
8 x analog
HW20912

8 x AES3
HW20913

8 x AES3id
HW20914

16 x analog
HW20915

3G-SDI-
Option
HW20930

32 ch. via
Dante™ AoIP
HW20917

32 ch. via
Ravenna AoIP
HW20918

> Software Licence, if ordered

Multichannel
mode
SW20001

Loudness and
SPL display
SW20002

RTA - Real Time
Analyzer
SW20003

SSA - Surround
Sound Analyzer
SW20004

Radar Display
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Premium PPM
+ Vectorscope
SW20006

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SW20008

BLITS
SW20013

Logging Data
Server (+ Chart)
SW20014

ISA - Immersive
Sound Analyzer
SW20015

TC - RTW
Conversion Kit
SW20021

Power supply

USB stick

> Short manual

USB stick

> Short manual

EN

Preconfigured TM9 Models
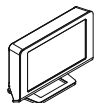
Table-top unit TM9-RAV > Audio interface with 32 x Ravenna AoIP
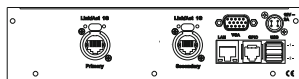
Table-top unit TM9-Dante > Audio interface with 32 x Dante™ AoIP
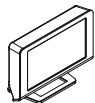
Table-top unit TM9-Video > Audio interface with 8 x AES3, 3G-SDI
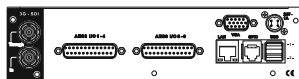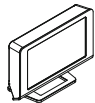
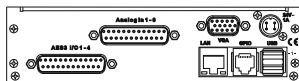Table-top unit TM9-Studio > Audio interface with 4 x AES3, 8 x analog
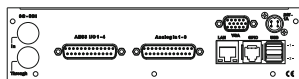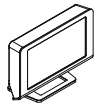
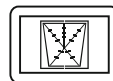Table-top unit TM9-AES16 > Audio interface with 8 x AES3
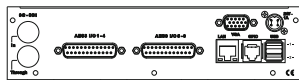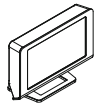
Table-top unit TM9-BNC > Audio interface with 8 x AES3id
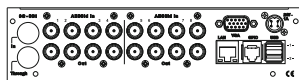
> Software Licence, if ordered
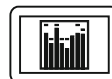
Multichannel mode
SW20001

Loudness and SPL display
SW20002

RTA - Real Time Analyzer
SW20003

SSA - Surround Sound Analyzer
SW20004
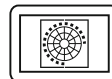
Radar Display
SW20005
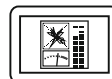
Premium PPM + Vectorscope
SW20006
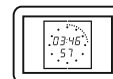
Timecode Reader
SW20008
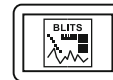
BLITS
SW20013
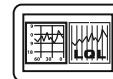
Logging Data Server (+ Chart)
SW20014
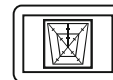
ISA - Immersive Sound Analyzer
SW20015

TC - RTW Conversion Kit
SW20021

Power supply

USB flash drive

> Short manual

Installation

The TouchMonitor **TM7** and **TM9** table-top units (**20700**, **20900**) are designed for free positioning on tables, desks, et. al. The **OEM** versions (**20700OEM**, **20900OEM**) are designed for panel-mounting e. g. into mixing consoles. The **20700OEM** version also can be mounted into common 19"/3U racks using optional mounting adapter **TM7-MA3U** or into standard 19" rack-mount cabinets for video racks using optional mounting adapter **TM7-MAVID**. And with the optional mounting frame **TM9-MA4U** you can integrate **20900OEM** into 19" environments. All necessary power supply voltages are supplied through a four pin DC input connector. Use with power supply model ATS 065T-P/A240, manufactured by Adapter Technology Co Ltd. (which is the external power supply unit RTW **1178-R** wide voltage power supply, included in 20700 and 20900 packages, optional for 20700OEM and 20900OEM). The units feature a 7" resp. 9" VGA 16 : 9 touch screen.

Optional an external standard 16 : 9 VGA monitor can be connected for external reading of the display.

Optional an external computer mouse or a Wacom® graphics tablet can be connected to one of the USB interfaces.

The other ports and interfaces are connected with the appropriate standard connection cables.

⚠ **ATTENTION – Please read before installing:**

▪ Before installing the unit please study the safety instructions and the information on connection and pin assignment.

▪ An external overcurrent protective device (2 A max.) shall be installed when using an external DC power supply!

▪ Make sure that the delivered power supply unit is not connected.

▪ Place the unit at a suited place or mount it acc. to the system requirements.

▪ Connect your signal sources and all your other components to the appropriate connectors, using the correct standard connection cables for the components. Take care about the pin assignment and the notes about the connection cables!

▪ Optionally, connect an external standard 16 : 9 VGA monitor to the VGA output, using a standard VGA connection cable. The VGA cable shall be of 15 m maximum length.

▪ Finally, connect the locking 4-pin low voltage connector of the external power supply to the +24 V DC - 1 A/+12 V - 2 A connector on the rear. Connect the external power supply to mains.

▪ The TouchMonitor will initiate its system startup sequence. After the boot-up the unit is ready for use.

Connection

TouchMonitor TM7

External:
VGA monitor 16 : 9

VGA

4-pin locking low voltage connector

24 V/12 V DC, 1 A/2 A

HW20711 (pictured):	AES3 In/Out 1 - 4 (Sub-D) (24 V)	Analog In 1 - 8 (Sub-D) (24 V)			
HW20712:	AES3id In/Out 1 - 4 (8 x BNC) (24 V)	Analog In 1 - 8 (Sub-D) (24 V)			
HW20714:	3G-SDI In/Through (2 x BNC) (24 V)	Audio I/O (Sub-D) (24 V)			
HW20715:	AES3 In/Out 1 - 4 (Sub-D) (24 V)	AES3 In/Out 5 - 8 (Sub-D) (24 V)			
HW20717/ HW20718:	Link/Act 1G Primary AoIP (RJ-45) (12/24 V)	Link/Act 1G Secondary Dante™ (RJ-45) (12/24 V)	LAN (RJ-45)	GP IO (RJ-12)	USB A 2.0 (Full Speed)

External:
USB mouse, Wacom® graphics tablet

TouchMonitor TM9

Optional:
3G-SDI interface HW20930 (for HW20911 to HW20915)

3G-SDI: In Through

External:
VGA monitor 16 : 9

VGA

4-pin locking low voltage connector

24 V/12 V DC, 1 A/2 A

HW20911 (pictured):	AES3 In/Out 1 - 4 (Sub-D) (24 V)	Analog In 1 - 8 (Sub-D) (24 V)			
HW20912:	Analog In 1 - 8 (Sub-D) (24 V)	AES3id In/Out 1 - 4 (8 x BNC) (24 V)			
HW20913:	AES3 In/Out 1 - 4 (Sub-D) (24 V)	AES3 In/Out 5 - 8 (Sub-D) (24 V)			
HW20914:	AES3id In/Out 1 - 4 (8 x BNC) (24 V)	AES3id In/Out 5 - 8 (8 x BNC) (24 V)			
HW20915:	Analog In 1 - 8 (Sub-D) (24 V)	Analog In 9 - 16 (Sub-D) (24 V)			
HW20917/ HW20918:	Link/Act 1G Primary AoIP (RJ-45) (12/24 V)	Link/Act 1G Secondary AoIP (RJ-45) (12/24 V)	LAN (RJ-45)	GP IO (RJ-12)	USB A 2.0 (Full Speed)

External:
USB mouse, Wacom® graphics tablet

etherCON NE8MX-6-T/ NE8MX6 + wired CAT-7 S/FTP shield

Pin Assignment

Analog In 1 -8, Analog In 9 - 16 (electr. bal., 25-pin Sub-D-F)

Pin:	Function:
1	Analog input 8 resp. 16 (+, hot)
14	Analog input 8 resp. 16 (–, cold)
2	Shield/chassis
15	Analog input 7 resp. 15 (+, hot)
3	Analog input 7 resp. 15 (–, cold)
16	Shield/chassis
4	Analog input 6 resp. 14 (+, hot)
17	Analog input 6 resp. 14 (–, cold)
5	Shield/chassis
18	Analog input 5 resp. 13 (+, hot)
6	Analog input 5 resp. 13 (–, cold)
19	Shield/chassis
7	Analog input 4 resp. 12 (+, hot)
20	Analog input 4 resp. 12 (–, cold)
8	Shield/chassis
21	Analog input 3 resp. 11 (+, hot)
9	Analog input 3 resp. 11 (–, cold)
22	Shield/chassis
10	Analog input 2 resp. 10 (+, hot)
23	Analog input 2 resp. 10 (–, cold)
11	Shield/chassis
24	Analog input 1 resp. 9 (+, hot)
12	Analog input 1 resp. 9 (–, cold)
25	Shield/chassis
13	not used

Pin 1, Pin 2, Pin 3, Pin 4, Pin 5, Pin 6, Pin 7, Pin 8, Pin 9, Pin 10, Pin 11, Pin 12, Pin 13
Pin 14, Pin 15, Pin 16, Pin 17, Pin 18, Pin 19, Pin 20, Pin 21, Pin 22, Pin 23, Pin 24, Pin 25
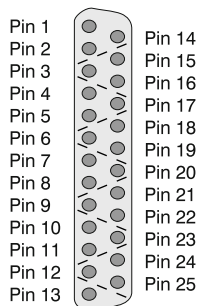
(External view of the connector)

AES3 I/O 1 - 4, AES3 I/O 5 - 8, Audio I/O (transf.-bal., 25-pin Sub-D-F)

Pin:	Function:
1	Digital output 4 resp. 8 (+, hot)
14	Digital output 4 resp. 8 (–, cold)
2	Shield/chassis
15	Digital output 3 resp. 7 (+, hot)
3	Digital output 3 resp. 7 (–, cold)
16	Shield/chassis
4	Digital output 2 resp. 6 (+, hot)
17	Digital output 2 resp. 6 (–, cold)
5	Shield/chassis
18	Digital output 1 resp. 5 (+, hot)
6	Digital output 1 resp. 5 (–, cold)
19	Shield/chassis
7	Digital input 4 resp. 8 (+, hot)
20	Digital input 4 resp. 8 (–, cold)
8	Shield/chassis
21	Digital input 3 resp. 7 (+, hot)
9	Digital input 3 resp. 7 (–, cold)
22	Shield/chassis
10	Digital input 2 resp. 6 (+, hot)
23	Digital input 2 resp. 6 (–, cold)
11	Shield/chassis
24	Digital input 1 resp. 5 (+, hot)
12	Digital input 1 resp. 5 (–, cold)
25	Shield/chassis
13	not used

Pin 1, Pin 2, Pin 3, Pin 4, Pin 5, Pin 6, Pin 7, Pin 8, Pin 9, Pin 10, Pin 11, Pin 12, Pin 13
Pin 14, Pin 15, Pin 16, Pin 17, Pin 18, Pin 19, Pin 20, Pin 21, Pin 22, Pin 23, Pin 24, Pin 25
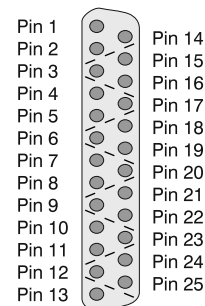
(External view of the connector)

⚠ **NOTE -** The AES3 inputs are permanently terminated with 110 Ω.

Pin Assignment (continued)

AES3id In/Out 1 - 4, AES3id In/Out 5 - 8, 3G-SDI (unbal., BNC-F)

Pin: Function:

Pin: Signal
Ring: Shield/chassis

(External view of the AES3id connector)

(External view of the 3G-SDI connector)

⚠ **NOTE -** The AES3id inputs and the 3G-SDI inputs are permanently terminated with 75 Ω.

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24 V - 1 A/12 V - 2 A (4-pin locking low voltage connector, Typ Binder 710)

Pin: Function:

1 - 2   +24 V DC/+12 V DC
3 - 4   0 V

Pin 3   Pin 2
Pin 4   Pin 1

(External view of the mounted connector)

⚠ **NOTE -** An external overcurrent protective device (2 A max.) shall be installed when using an external DC power supply!

GP IO (RJ-12 6P6C socket)

External control of functions defined in the Global Keyboard menu. The inputs defined as „active low" have to be switched against 0 V (Pin 1).

Pin: Function:

1   GND (0 V)
2 - 6   Function acc. to definition in the menu

6 5 4 3 2 1

(External view of the connector)

„Link/Act 1G" (RJ-45 NE8FBV-C5-LED1-S connector)

RJ-45 AoIP network connection (Primary/Secondary)

⚠ **NOTE -** etherCON NE8MX-6-T/NE8MX6 connector with CAT-7-S/FTP cable and wired shield shall be used!

VGA (15-pin Sub-D-F)

Pin:	Function:			
1	R	| Video signal		
2	G	|		
3	B	|		
4 - 8	GND			
9	+5 V			
10 - 11	GND			
12	SDA		14	V-sync
13	H-sync		15	SCI

Pin 1   Pin 6   Pin 11
Pin 2   Pin 7   Pin 12
Pin 3   Pin 8   Pin 13
Pin 4   Pin 9   Pin 14
Pin 5   Pin 10   Pin 15

(External view of the connector)

⚠ **NOTE -** The VGA cable shall not exceed 15 m lenght!

USB-A

2 Full Speed USB 2.0 connectors for USB sticks (Licence handling, presets, updates) and external mouse or Wacom® tablet.

LAN

RJ-45 standard network connector (10/100 MBit)

Getting Started

System Start-up

Before connecting the TouchMonitor to the power supply, please make sure, that the following connections are made according to your unit (TM7, TMR7, TM9, or corresponding models) and to your individual needs:

- Analog and/or digital audio input signals (depending on the hardware configuration of your unit)
- Digital outputs (if available)
- Optional external standard 16 : 9 VGA monitor (not TMR7 Smart)
- Optional USB mouse
- LAN/Ethernet (if needed)
- Power supply

When the TouchMonitor is connected to the power supply, it will initiate its system startup sequence. After the boot-up the unit is ready for use.

We assume that you are starting your TouchMonitor for the first time. You now should make some global settings to adopt the unit to your audio system. After this short procedure you can create your first preset to work with.

⚠ **NOTE -** The figures in the following paragraphs may show some options that are not available on your unit. The scope of available options depends on model (TM7, TMR7, TM9, or corresponding models), hardware configuration, and activated licences resp. installed software.

Adapt the TouchMonitor to your Audio System

The description below leads you through the main steps of the global settings to configure the TouchMonitor once for the use with your audio system. These settings are not altered by loading new presets.

1. If not visible, touch the empty space of the screen to display the control bar.

2. Touch the **Menu** key in the right section of the control bar to access the menu system showing the **Main Menu**.
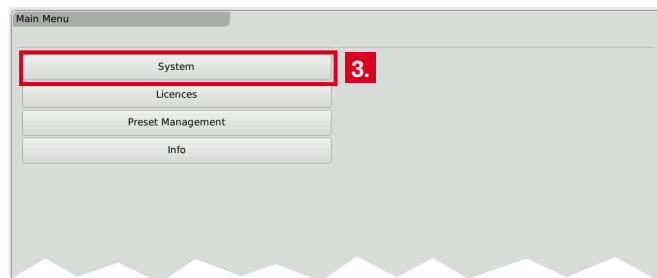
3. Touch the **System** key. This will access the **System Menu**. The **General** sub menu will be active (marked in the control bar).

4. If needed, touch **Language** and select your language in the right half of the menu. The selection will be shown on the **Language** key.
    ℹ The new language will be available after reboot.
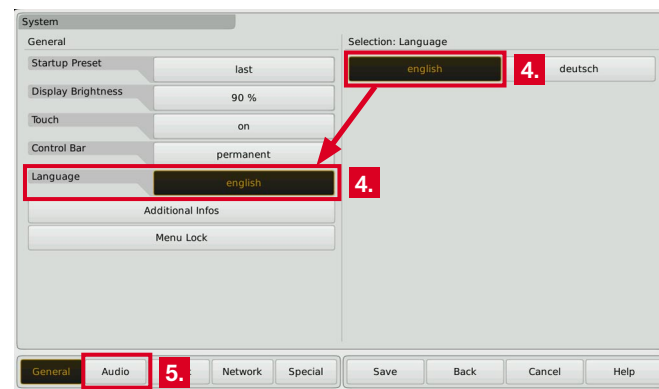
5. Touch the **Audio** button in the left section of the control bar to open the **Audio** sub menu.

6. If your TM unit should use a defined reference source, touch the **Sync Reference** key and select from the items in the right half of the menu.

ℹ Number and type of available sync reference sources depends on model and scope of the installed audio interfaces.
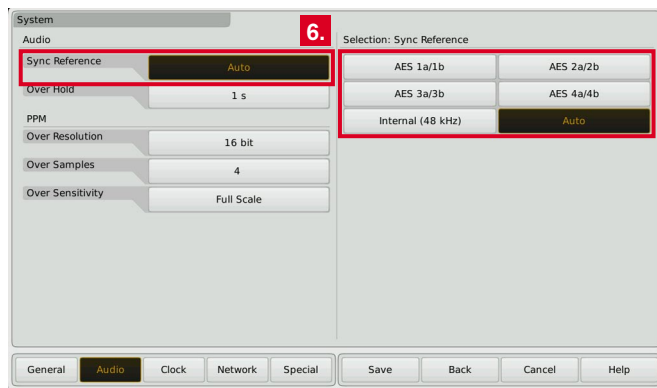
7. Touch the **Clock** key, if you want to set the current date and time. Start the internal clock with touching the **Set time** key.
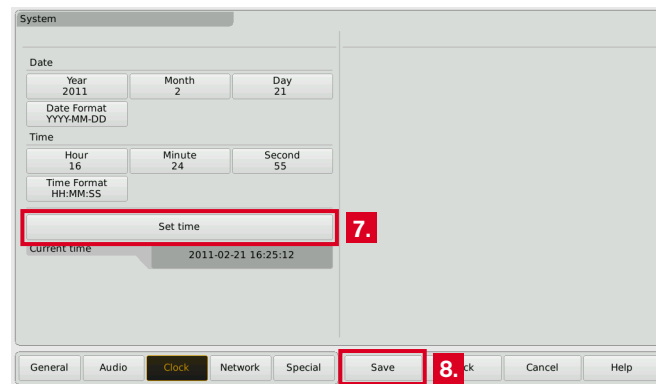
8. Touch the **Save** key to store your global settings. The unit turns back to normal display mode.

Create Your Own Preset

Presets are used to define and edit all the specific settings for your work flow. So you can create audio groups containing a defined signal source selection and one or more instruments sharing this domain and showing parameters of audio signals. Also you can create non-audio groups containing intruments, that are not related to audio input signals, like clock, hardware status monitor, or global keyboard.

If you want to create a preset from scratch, please proceed as follows:

1. If not visible, touch the empty space of the screen to display the control bar.

2. Touch the **Menu** key in the right section of the control bar to access the menu system starting with the **Main Menu**.

3. Touch the **Preset Management** key. The **Internal Presets** menu appears.

4. Touch the **New** button to create a new preset. A preset with an editable default name is created (see next figure, touch Preset Name to edit).
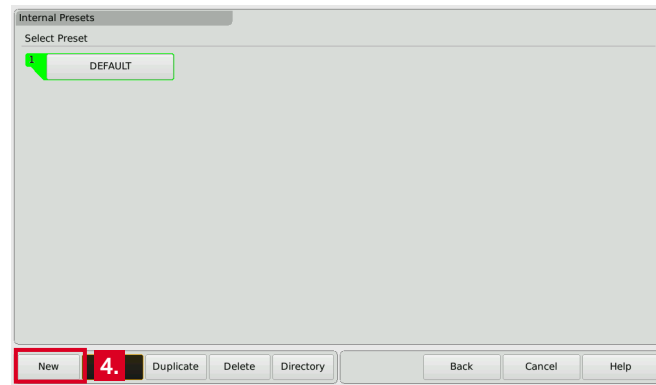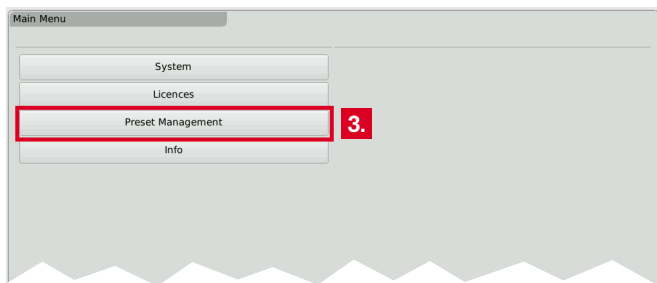
5. Touch the **New Audio** key to create the first audio group.
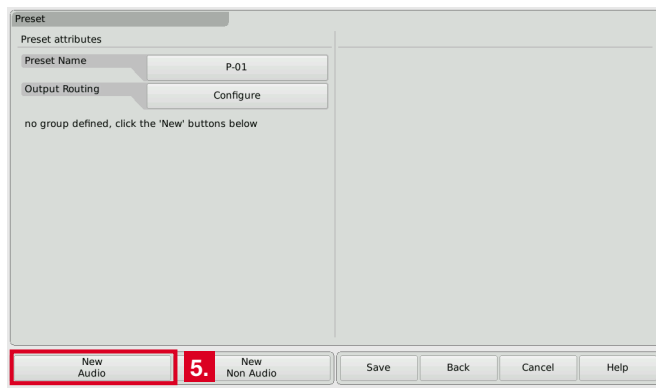
6. The **Domain** key is marked, select the domain of the required signal source in the right half of the menu.
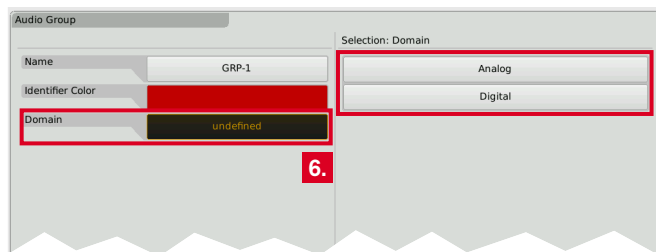
7. The **Mode** key appears and is marked, select your channel mode in the right half of the menu.
   ℹ The number of modes depends on your model and the activated software licences.

EN
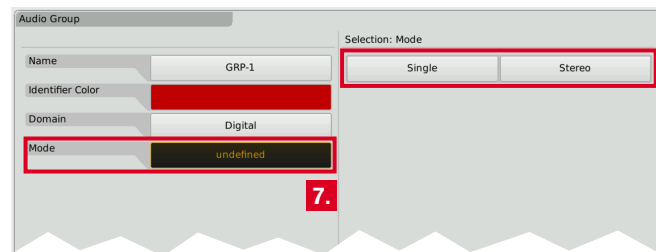
8. If the **Loudness and SPL display** software licence (SW20002) is activated resp. the unit is a TMR7 Smart, the **Select Loudness** sub menu appears. Select the loudness type you prefer.
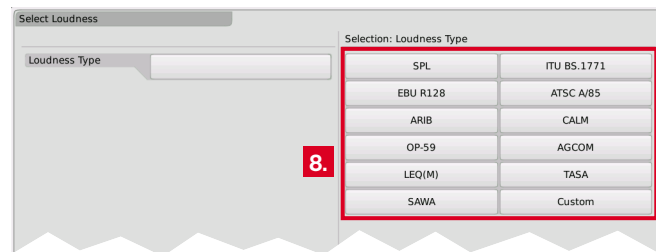
9. The **Instruments** field appears on the left, and a list of the available instruments is shown on the right.

ℹ️ The number of instruments depends on the activated software licences.
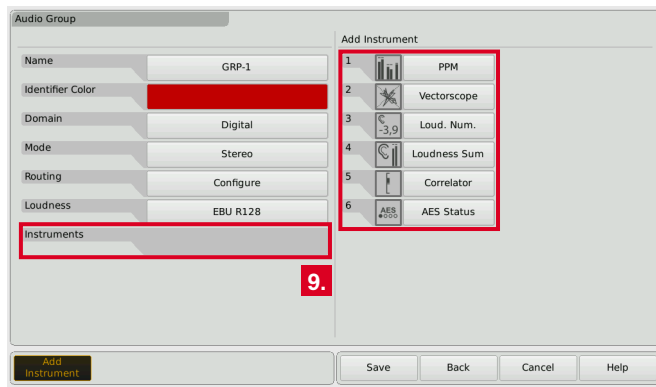
10. Touch the keys of the instruments you want to use. The icon of every selection is placed on the **Instruments** field on the left.
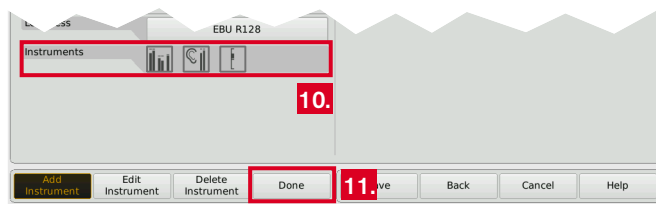
11. If you have done all your selections, touch the **Done** key. This returns you to the **Preset** menu.

ℹ️ The Preset menu now shows the audio group you just created, marked with a small colored triangle in the upper left edge. In normal operation, all instruments of this group will always be identified by this color. The identifier colors make it easy to distinguish the group an instrument belongs to, if you have created several groups.

12. Touch the **View** key to start arranging the instruments on the screen. The defined groups containing the instruments are shown on the left (see next figure).
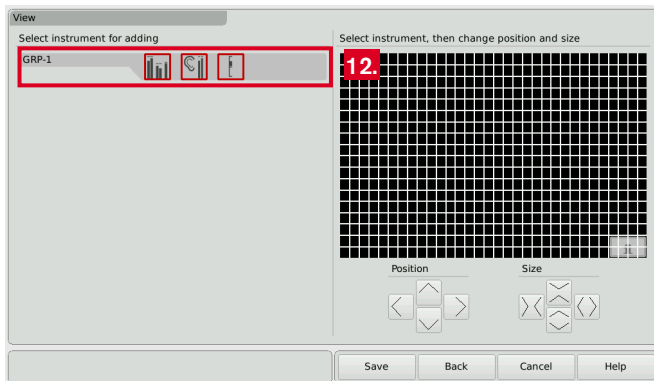
ℹ The View Screen is a comprehensive editor used to position and size the instruments defined in the current preset. All instruments needed must be positioned before you can watch them in normal display mode.

13. Touch an instrument icon. It will be applied to the upper left edge of the graphical screen representation.
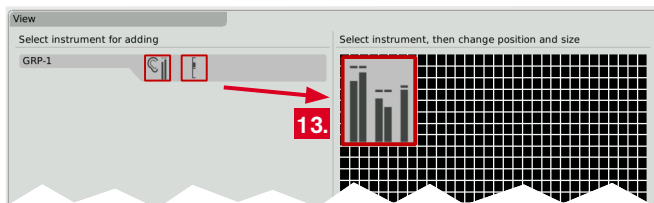
14. Use the **Position** and **Size** keys to resize the instrument and place it to another position.
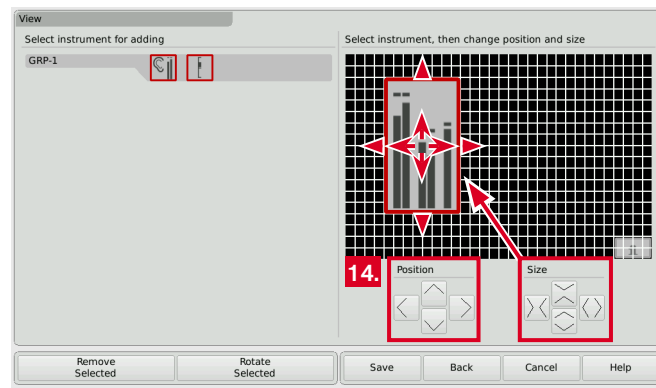
15. Do so with the other instrument icons.

ℹ In case of two or more instruments overlapping, a warning will be displayed. Move the overlapping instrument icon to an unused area. Use the **Position** and **Size** keys.
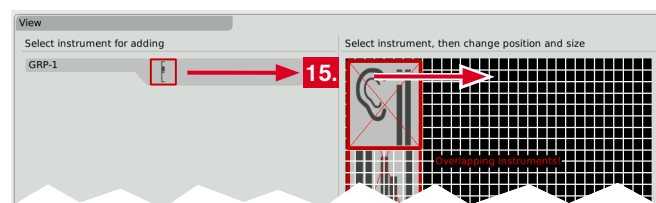
16. When the screen layout satisfies your demands (you also can rotate instruments), touch the **Save** key below in the control bar.

17. This will return you to normal display mode showing the new screen layout resp. the new preset you created.
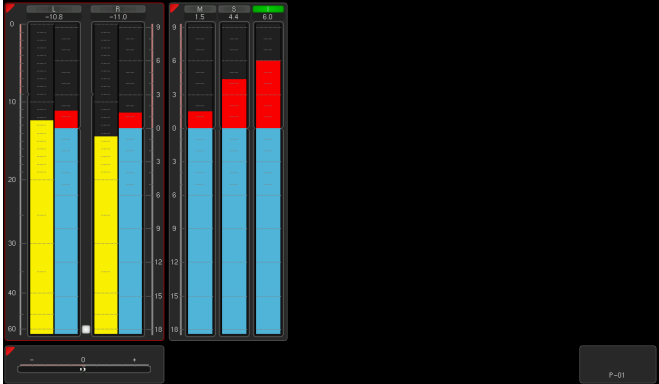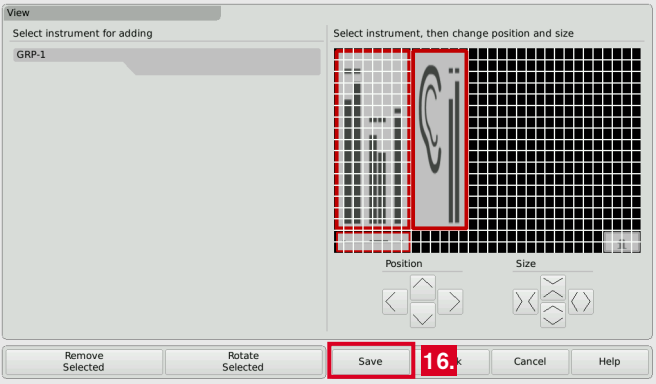
Working with Instruments and Presets

In normal display mode the TouchMonitor shows the instruments and the screen layout defined in the currently loaded preset. You can use the control bar keys to operate a selected instrument or to load a new preset.

ℹ️ If the control bar is not visible, just touch the screen. Then it will be displayed for some seconds to make your selection.

If you want to use the functions of an instrument, please proceed as follows:

1. Touch the screen area of the instrument you want to use. It will be put into focus. The left section of the control bar now shows the specific functions of the focused instrument.

   ℹ️ The current selected instrument is marked with a colored frame around. It represents the identifier color like the colored triangle.

2. Select the desired function.

   ℹ️ If there are more than 6 functions, use the **More** key.
   If a function key opens another level of functions, then use the **Close** key to get back to the previous level.
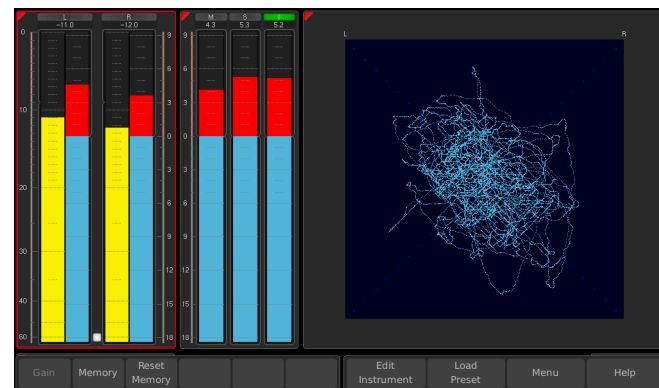
If you want to load another preset, please proceed as follows:
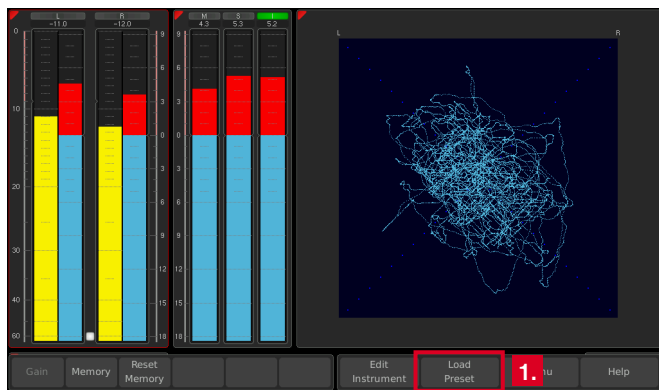
1. Touch the **Load Preset** key in the right section of the control bar. A menu page with a list of presets available is shown.

2. Touch the preset you want to use.

   ℹ The current selected and used preset is marked with green color as active. In normal display mode, the name of the active preset is displayed in the lower right edge of the screen.

3. The selected preset is loaded. The unit automatically switches back to normal display mode and displays the selected preset.
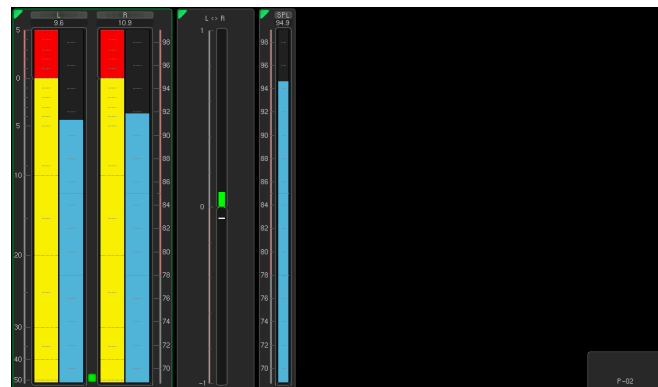
ℹ Depending on the unit's type (except TMR7 Smart) the functions like Loudness or Vectorscope shown on the screenshots require further software licences being activated.

Software Modules (Licences Handling)

The TouchMonitor features a modular software concept that enables you to add new functions and instruments to your unit at any time. The **Licences** menu is used to view the licences currently installed on the TouchMonitor and to acquire new licences. Instruments and functions already activated are marked with an **Installed** sign. Instruments and functions that are not installed have an **order** key. On the **Licences** menu you only will find licencing options that are provided for your model and were already available at the release date of the software version installed on the unit.

⚠ **NOTE -** Some licences require others to be installed first before you can aquire them. Please note the corresponding information while purchasing licences.

⚠ **NOTE -** The figures in the following paragraphs may show licences that are not available on your unit depending on model (TM7, TMR7, TM9), and hardware configuration.

If you want to acquire new licences, please proceed as follows:

1. Insert a USB 2.0 flash drive to one of the USB ports on the rear panel.

2. Touch the empty space of the screen or one of the displayed instruments, the control bar appears.

3. Touch the **Menu** key in the right section of the control bar to access the menu system showing the **Main Menu**.
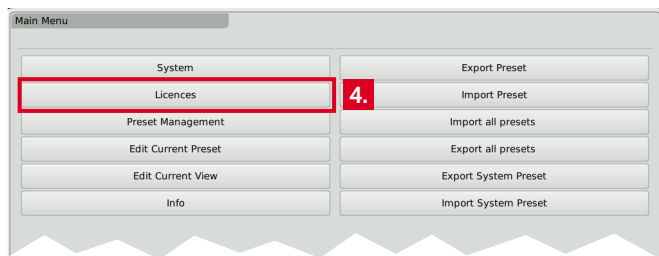
4. Touch the **Licences** key. The available software licences are displayed, the activated ones marked with **Installed**.
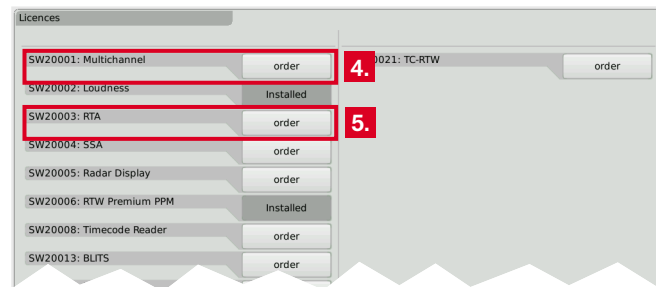
5. Touch the **order** keys of the licences you want to acquire.
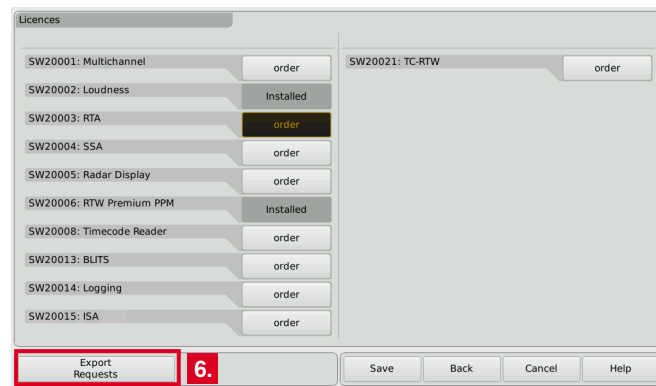
6. Touch the **Export Requests** key displayed in the left section of the control bar.
   > ℹ The TouchMonitor will establish a folder structure on the USB 2.0 flash drive named **/rtw/licence**. An encrypted licence request file (nnn_nn.lrf) depending on the individual serial number of the hardware unit is stored to this folder.

7. Wait until the menu page confirming the successful export of the licence request file is displayed.

Export successful, proceed file to dealer.

| | Done | **8.** |
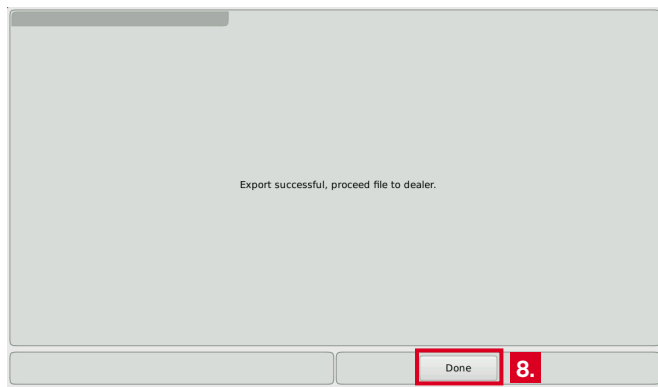
8. Touch the **Done** key. This turns you back to the **Main Menu**.
   > ℹ With the USB 2.0 flash drive inserted, there are additional keys on the right to export or import individual presets or the global settings to the resp. from the USB flash drive.

Main Menu

System	Export Preset	**8.**
Licences	Import Preset	
Preset Management	Import all presets	
Edit Current Preset	Export all presets	
Edit Current View	Export System Preset	
Info	Import System Preset	

9. **Wait some seconds in order not to damage the licence request file!**
   Not until then remove the USB 2.0 flash drive from the TouchMonitor, insert it to a USB port of your computer and upload the licence request file to our web shop: https://www.rtw.com/en/shop.html. You can also send the file to your sales representative.
   > ℹ Alternatively to the information of step 6, in single cases this file may also be found in folder **/rtw/tm7h/licence** resp. **/rtw/tm9h/licence**.

10. After purchasing the licence, a new file (nnn_nn.lf) containing the licence request file will be sent to you.
    > ℹ The returned licence file is only valid for the individual unit on which the licence request file was created.

11. The licence file (nnn_nn.lf) shall be stored to the same folder as the licence request file on the USB flash drive.

12. **Unmount** the USB 2.0 flash drive from the computer system! Not till then remove it from your computer!

⚠️   **ATTENTION! -** Unmounting from the computer system shall be performed to avoid damage of the copied update file!

13. Remove the unmounted USB 2.0 flash drive from your computer and insert it to one of the USB ports on TouchMonitor's rear panel.

14. Access the **Licences** menu as described in steps 2. to 4.

15. The licence file will be recognized, and an **Import Licences** key will be shown in the left section of the control bar.
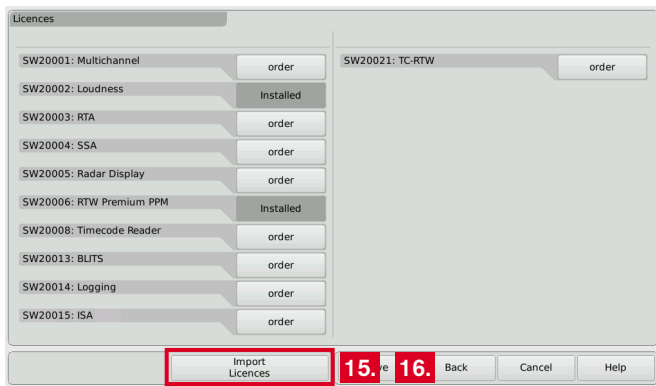
16. Touch the **Import Licences** key to import the licence file to the unit.

17. When the import is finished, reboot the TouchMonitor by touching the **Back** key.
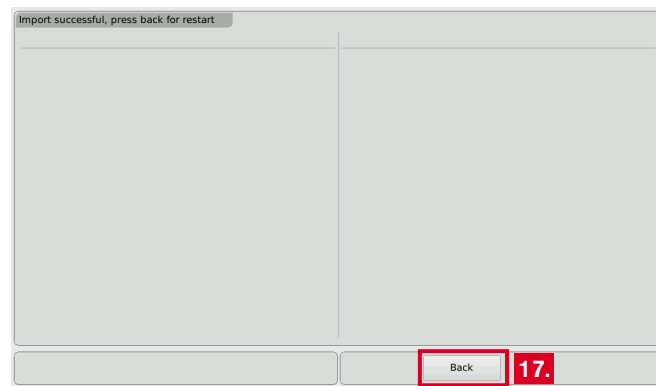
18. The licenced instrument or function is now permanently available.

19. If you have converted a TM7 or TM9 from TC electronic® to an RTW unit with licence SW20021, please repeat a software update (can be done with the same firmware as running on the device). Then, the unit will start up with the RTW boot screen.

Software Update

If you want to add new functions and instruments to your unit at any time, periodic maintenance of the system software (firmware) is necessary, because you only will find options and licences that were provided for your model and were already available at the release date of the software version installed on the unit.

Software updates are available from your sales partner or the download area of our web site (https://www.rtw.com/en/support/manuals-software-downloads.html). There, click „Audio Monitors", then choose the option corresponding to your model.

If you want to update your software, please proceed as follows:

1. Copy the update file (rtw-tm-fw-n-n.bin, n-n: firmware version) into the main directory of a USB 2.0 flash drive.

2. **Unmount** the USB 2.0 flash drive from the computer system! Not till then remove it from your computer!

   ⚠️ **ATTENTION! -** Unmounting from the computer system shall be performed to avoid damage of the copied update file!

3. Remove the unmounted USB 2.0 flash drive from your computer and insert it to one of the USB ports on TouchMonitor's rear panel.
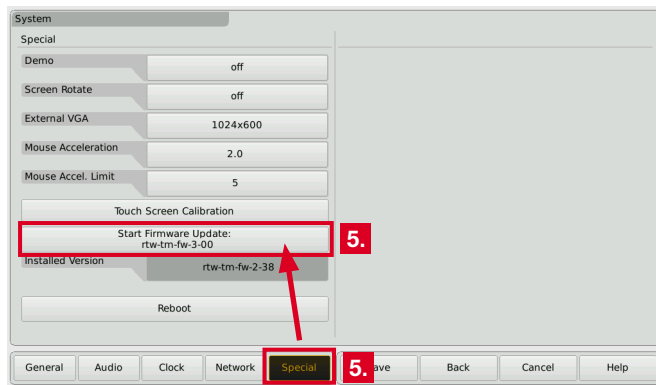
4. If not visible, touch the empty space of the screen to display the control bar.

5. Touch the **Menu** key in the right section of the control bar, then the **System** key in the **Main Menu**.

6. Touch the **Special** key. The additional **Start Firmware Update: rtw-tm-fw-n-n** key is displayed.

7. Touch the key. The update starts and takes about 10 minutes.
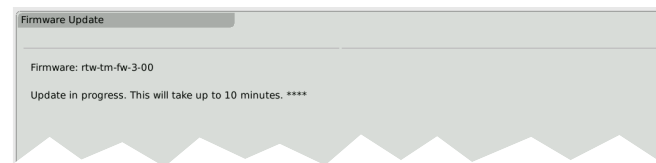
8. When the update is finished, the TouchMonitor reboots automatically.

9. Touch the **Menu** key in the right section of the control bar, then the **Info** key in the **Main Menu**.

10. Check the **Software Version** (the designation of the update file should be displayed), the Serial Number and the Model Number.

Specifications (Extract)

System

General

Power requirements:	+24 V DC (2 A overcurrent protective device shall be installed!) Some devices may have a DC input connector marked +12 V DC. These units may be operated with a nominal DC voltage in the range of +12 V to +24 V DC.
Current drain:	1 A nominal current, 2.5 A power-up current (10 µsec.)
Power dissipation:	TM7: appr. 8.5 W/11 W; TM9: appr. 12.5 W/15 W (w/o/with SDI)
Display:	7" (TM7) or 9" (TM9) TFT touch screen 16 : 9
Connectors:	1 x 15-pin Sub-D-F; VGA output with 800 x 480 pixel (TM7)/ 1024 x 600 pixel (TM9), 65,536 colors, 60 Hz
	1 x 4-pin locking low voltage typ 710 (DC)
	2 x USB A; USB 2.0 Full Speed connectors for:
	▪ USB sticks for licence handling, preset export and import, software updates
	▪ external computer mouse or Wacom® graphics tablet
	1 x GPIO (RJ-12-6P6C, for remote control of defined functions)
	1 x LAN (RJ-45)
with HW20711:	2 x 25-pin Sub-D-F (analog and digital)
with HW20712:	1 x 25-pin Sub-D-F (analog), 8 x BNC-F (digital)
with HW20714:	1 x 25-pin Sub-D-F (digital), 2 x BNC-F (3G-SDI)
with HW20715:	2 x 25-pin Sub-D-F (digital)
with HW20717:	2 x RJ-45 AoIP (Dante™)
with HW20718:	2 x RJ-45 AoIP (Ravenna, AES67, ST 2110)
with HW20911:	2 x 25-pin Sub-D-F (analog and digital)
with HW20912:	1 x 25-pin Sub-D-F (analog), 8 x BNC-F (digital)
with HW20913:	2 x 25-pin Sub-D-F (digital)
with HW20914:	16 x BNC-F (digital)
with HW20915:	2 x 25-pin Sub-D-F (analog)
with HW20917:	2 x RJ-45 AoIP (Dante™)
with HW20918:	2 x RJ-45 AoIP (Ravenna, AES67, ST 2110)
Dimensions TM7:	Table-top: 198 x 163 x 46 mm/OEM: 188 x 109 x 45 mm
Dimensions TM9:	Table-top: 245 x 185.5 x 46.5 mm/OEM: 235 x 135 x 45 mm
Weight:	approx. 2,7 kg (TM9 table-top unit without power supply)
Operating temperature:	in the range from +5° to +40° C

Functions (with all licences activated)

- Operating using a finger (touch screen), mouse, or tablet
- Instruments can be freely scaled and randomly positioned
- PPM: Surround (3.1, 5.0, 5.1, 7.1), 2-channel, multichannel
- Loudness Meter: EBU, ITU, ATSC, ARIB, CALM, AGCOM, OP-59, LEQ(M), TASA, SAWA, and customer specific, SPL meter
- Loudness Range instrument (LRA)
- Logging Data Server with Chart instrument
- Timecode Reader
- Radar Loudness Meter (TC electronic®)
- Moving Coil instrument (BR, VU, Loudness scales, BBC mode)
- Surround Sound Analyzer
- Immersive Sound Analyzer
- 10-fold Multi-Correlator with LFE mode, Stereo correlator
- 31, 61, and 122 band spectrum analyzer
- 2-channel audio vectorscope (up to 4 in each preset)
- BLITS
- Gain reduction instrument
- AES3 statusmonitor, Numerical displays, Timecode

EN

Analog Inputs

HW20711:	8 analog inputs, 25-pin Sub-D-F connector
HW20712:	8 analog inputs, 25-pin Sub-D-F connector
HW20911:	8 analog inputs, 25-pin Sub-D-F connector
HW20912:	8 analog inputs, 25-pin Sub-D-F connector
HW20915:	16 analog inputs, 2 x 25-pin Sub-D-F connectors
Reference level:	adjustable in the range from 0 dBu to +10 dBu
Max. input level:	+24 dBu
Impedance:	> 10 kΩ, electronically balanced
Frequency range:	20 Hz to 22 kHz at 48 kHz

Digital Inputs

HW20711:	4 AES3 inputs (transformer balanced, 110 Ω), 25-pin Sub-D-F connector with 4 inputs and 4 outputs
HW20712:	4 AES3id inputs (unbalanced, 75 Ω), 8 BNC-F connectors with 4 inputs and 4 outputs
HW20714:	4 AES3 inputs (transformer balanced, 110 Ω), 25-pin Sub-D-F connector with 4 inputs and 4 outputs and 3G-SDI interface with BNC-F connectors In and Through
HW20715:	8 AES3 inputs (transformer balanced, 110 Ω), 2 x 25-pin Sub-D-F connector with 4 inputs and 4 outputs each
HW20911:	4 AES3 inputs (transformer balanced, 110 Ω), 25-pin Sub-D-F connector with 4 inputs and 4 outputs
HW20912:	4 AES3id inputs (unbalanced, 75 Ω), 8 BNC-F connectors with 4 inputs and 4 outputs
HW20913:	8 AES3 inputs (transformer balanced, 110 Ω), 2 x 25-pin Sub-D-F connector with 4 inputs and 4 outputs each
HW20914:	8 AES3id inputs (unbalanced, 75 Ω), 16 BNC-F connectors with 8 inputs and 8 outputs
HW20930:	3G-SDI interface with BNC-F connectors In and Through
Sampling rates:	44.1, 48, 96 kHz, synchronisation via digital input signal

Digital Outputs

HW20711:	4 AES3 outputs, 25-pin Sub-D-F connector (4 in, 4 out)
HW20712:	4 AES3id outputs, 8 BNC-F connectors (4 in, 4 out)
HW20714:	4 AES3 outputs, 25-pin Sub-D-F connector (4 in, 4 out) and 3G-SDI interface with BNC-F connectors In and Through
HW20715:	8 AES3 outputs, 2 x 25-pin Sub-D-F connector (4 in, 4 out each)
HW20911:	4 AES3 outputs, 25-pin Sub-D-F connector (4 in, 4 out)
HW20912:	4 AES3id outputs, 8 BNC-F connectors (4 in, 4 out)
HW20913:	8 AES3 outputs, 2 x 25-pin Sub-D-F connector (4 in, 4 out each)
HW20914:	8 AES3id outputs, 16 BNC-F connectors (8 in, 8 out)
Sampling rates:	referenced to digital inputs or internal clock

AoIP

HW20717:	32-ch. Dante™, 2 x RJ-45 connector (Pri., Sec.)
HW20718:	32-ch. Ravenna/AES67/ST 2110, 2 x RJ-45 connector (Pri., Sec.)
HW20917:	32-ch. Dante™/Ravenna, 2 x RJ-45 connector (Pri., Sec.)
HW20918:	32-ch. Ravenna/AES67/ST 2110, 2 x RJ-45 connector (Pri., Sec.)

Basic 4-Channel PPM (Standard Software)

General

Input sources:	analog, digital, 3G-SDI, AoIP, depending on audio interface
4-ch. peakmeter:	up to 4 x Mono, 2 x Stereo, 1 x Stereo and up to 2 x Mono
Displays:	▪ maximum of 4 channels total in max. 4 groups
	▪ Peak level, Peak hold, numerical value of the display
Functions:	▪ Gain (+20 dB, +40 dB depending on selected standard)
	▪ Peak hold on/off, Memory, Reset

Analog Peakmeter

Analog scales:	• DIN5: +5 .. -50 dB,
	• Nordic: +12 .. -42 dB,
	• BR IIa: 7 .. 1, BR IIa ext: 7 .. 1 (British),
	• BR IIb: +12 .. -12 dB, BR IIb ext: +12 .. -12 dB (British),
Integration time:	according to standard or 20 ms, 10 ms, 1 ms, 0.1 ms additional 150 mx for British scales
Peak hold display:	1 s, 2 s, 4 s, 10 s, 20 s, 30 s, manual reset or off

Digital Peakmeter

Word width: 24 bit

Digital scales:	• TP60: +3 .. −60 dB
	• Dig60: 0 .. −60 dB
	• DIN5: +5 .. -50 dB,
	• Nordic: +12 .. -42 dB,
	• BR IIa: 7 .. 1, BR IIa ext: 7 .. 1 (British),
	• BR IIb: +12 .. -12 dB, BR IIb ext: +12 .. -12 dB (British),
Headroom/Headr. Ref:	adjustable in 1 dB steps in the range from 0 to −20 dB
Operation range:	adjustable in 1 dB steps in the range from 0 to −20 dB
Attack time:	as standard or selectable: Sample, 20, 10, 1, 0.1 ms (BR: 150 ms)
Gain:	+20 dB, +40 dB depending on selected standard
High-pass filter:	Off, 5 Hz, 10 Hz, 20 Hz
Peak hold display:	1 s, 2 s, 4 s, 10 s, 20 s, 30 s, manual reset or off
Over display hold time:	1 s or manual
PPM Over threshold:	Full Scale, Full Scale -1LSB, Full Scale -2LSB, −0.1 dBFS, −0.5 dBFS, −1 dBFS, −2 dBFS, −3 dBFS
PPM Over attack time:	1 to 15 samples
PPM Over word width:	16 to 24 Bit, selectable
TruePeak Over thresh:	−1.0 dBTP, −2.0 dBTP, −3.0 dBTP, −4.0 dBTP

Stereo Correlator

Display:	Bargraph, additional spot indicator between PPM bargraphs
Scale range:	-1 r to 0 to +1 r
Standard color setting:	• red: -1 r to -0.1 r
	• white: 0 r (-0.1 r to +0.1 r)
	• green: +0.1 r to +1 r
Attack/release time:	1.0 s/2.5 s

AES3 Status Monitor

Display:	• Channel data are displayed as plain text, hex or binary
	• Channel selectable
	• Audio bit activity
	• Hardware status

Gain Reduction

(Operation only with connection to Studer® Vista consoles)

Display:	1 bargraph for Stereo and Surround formats, up to 8 bargraphs in optional multi-channel mode
Input:	Data stream via TCP/IP and LAN (ethernet) interface
Input routing:	external featured streams selectable
Marker:	adjustable threshold for the definition of upper and lower display section
Colors:	32 colors for each bargraph section

Global Keyboard

The Global Keyboard is used for simultaneous control of defined functions in multiple instruments, and for preset recall. It also allows the external control with the integrated GP IO interface.

EC Declaration of Conformity

EC Declaration of Conformity | Directive 2004/108/EG and Directive 2006/95/EG

We, RTW GmbH & Co. KG, Am Wassermann 25, 50829 Köln, Germany, declare under sole responsibility that the products of the

RTW TouchMonitor 20900, 20901LW and 20700 Series w/o AoIP connection (OEM units/table-top and plug-in units)

meet the intend of the Directive 2004/108/EG and the Directive 2006/95/EG. Compliance was demonstrated to the following speci-fications as listed in the official Journal of the European Communities:

EMC 2004/108/EG
EN 61000-6-3: 2012-11 Emissions:
     EN 55022: 2011-12 Class B, radiated
     EN 55022: 2011-12 Class B, conducted

EN 61000-6-1: 2007-12-01 Immunity:
     EN 61000-4-2 + A1 + A2: 2002-02-01

     EN 61000-4-4: 2005-09-01
     EN 61000-4-5: 2007-08-01

Safety 2006/95/EG
     EN 60950-1: 2007-01-01

Tested and documented by the following companies:

steep GmbH, Bonn, accredited EMC laboratory
RTW GmbH & Co.KG, Cologne

Date and signature of the responsible person:

2017-06-02

     on behalf of RTW

EC Declaration of Conformity | Directive 2004/108/EG and Directive 2006/95/EG

We, RTW GmbH & Co. KG, Am Wassermann 25, 50829 Köln, Germany, declare under sole responsibility that the products of the

RTW TouchMonitor devices with AoIP connection
(Table-top and plug-in units with Primary/Secondary connectors)

meet the intend of the Directive 2004/108/EG and the Directive 2006/95/EG. Compliance was demonstrated to the following specifications as listed in the official Journal of the European Communities:

EMC 2004/108/EG
EN 61000-6-3: 2012-11 Emissions:
      EN 55032: 2015 Class B, radiated
      EN 55032: 2015 Class B, conducted

EN 61000-6-1: 2007-12-01 Immunity:
      EN 61000-4-2 + A1 + A2: 2002-02-01

      EN 61000-4-4: 2005-09-01
      EN 61000-4-5: 2007-08-01

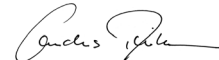**Safety 2006/95/EG**
      EN 60950-1: 2007-01-01

Tested and documented by the following companies:

Applus 3C Test Limited, Silverstone, UK, accredited EMC laboratory
RTW GmbH & Co.KG, Cologne

Date and signature of the responsible person:

2020-03-17

      on behalf of RTW

RoHS Declarations of Conformity

RoHS Declaration of Conformity for TM7 | Directive 2011/65/EU

We, RTW GmbH & Co. KG, Am Wassermann 25, 50829 Köln, Germany, declare under sole responsibility that the products of the

RTW TouchMonitor TM7 Series

consisting of the components:
- 20700 (TM7 main unit in a table-top frame)
- 20700OEM (TM7 main unit, OEM)
- 20700-3U (TM7 main unit in a 19"/3U/42HP rack-mount frame)
- 20700VID (TM7 main unit in a half-19"/3U module for video racks)
- HW20711 (Audio interface: analog/digital AES3)
- HW20712 (Audio interface: analog/digital AES3id)
- HW20714 (Audio interface: digital AES3/3G-SDI)
- HW20715 (Audio interface: digital AES3)
- HW20717 (Audio interface: Dante™ AoIP)
- HW20718 (Audio interface: Ravenna AoIP)

- TM7-MA3U (Mounting adapter: OEM in 19"/3U/42HP)
- TM7-MAVID (Mounting adapter: OEM in 19" video racks)
- TM7-MADT (Mounting adapter: OEM in table-top frame)

meet the intend of the Directive 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment of the European Parliament and Council from June 8th, 2011.

Tested and documented by the following companies:

RTW GmbH & Co.KG, Cologne

Date and signature of the responsible person:

2019-11-21

on behalf of RTW

RoHS Declaration of Conformity for TM9 | Directive 2011/65/EU

We, RTW GmbH & Co. KG, Am Wassermann 25, 50829 Köln, Germany, declare under sole responsibility that the products of the

RTW TouchMonitor TM9 Series

consisting of the components:
- 20900 (TM9 main unit in a table-top frame)
- 20900OEM (TM9 main unit, OEM)
- HW20911 (Audio interface: analog/digital AES3)
- HW20912 (Audio interface: analog/digital AES3id)
- HW20913 (Audio interface: digital AES3)
- HW20914 (Audio interface: digital AES3id)
- HW20915 (Audio interface: analog)
- HW20917 (Audio interface: Dante™ AoIP)
- HW20918 (Audio interface: Ravenna AoIP)
- HW20930 (Audio interface: 3G-SDI)
- HW20930UPG (Retrofittable Audio interface: 3G-SDI)
- TM9-MADT (Mounting adapter: OEM in table-top frame)

meet the intend of the Directive 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment of the European Parliament and Council from June 8th, 2011.
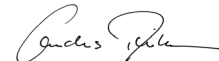
Tested and documented by the following companies:

RTW GmbH & Co.KG, Cologne

Date and signature of the responsible person:

2019-11-21

on behalf of RTW

CE and RoHS of Third Party Components

Further components of the TouchMonitor TM7 and TM9 units are delivered from third party companies, which declare the EC and RoHS conformity of these products:

- 1167 (snake cable, 4 m, 25p. Sub-D to 4 x XLR-F/4 x XLR-M)
  Supplier: Nies Electronic

- 1178-R (power supply 100 - 240 V AC/24 V DC, 2,71 A)
  Supplier: Dehner-Elektronik
  Manufacturer: Adpater Technology Co., Ltd.
  CE Certificate No. T150115D02-E
  RoHS conformity is declared together with EC declaration.
  UL reference TH/SPC-1411065-SPC

  This external power supply is UL Listed for CAN/US, model
  ATS 065T-P/A240, manufactured by Adapter Technology Co Ltd.
  (RTW 1178-R), Class II double insulated, rated:
  Input: 100 - 240 V, 47 - 63 Hz, 1 A max.
  Output: 24 Vd.c., 2.71 A, 65 W.

- 1186 (snake cable, 4 m, 25p. Sub-D to 8 x XLR-F)
  Supplier: Nies Electronic

- Attached USB flash drive
  Supplier: Blue Chili
  EC conformity registration no. ATE20151921
  RoHS conformity no. DGC150824011G02

Licenses of the Implemented Software

In addition to the hardware the RTW TouchMonitor 7" and 9" Series products also include a software package for which a variety of licenses apply. Detailed information and the licenses can be found in the **Info** menu of your device (**Menu** -> **Info** -> **License Informationen**) or in the detailed operating manual, which is stored to the attached USB flash drive. Below a short overview:

1. Software produced by RTW GmbH & Co. KG.
   This software may only be used for the proper operation of the product as described in the documentation (application, DSP programs, boot loader). This software is the property of RTW GmbH & Co. KG and is protected by German and international copyrights.

2. Open source software, released under the GPL and LGPL of the Free Software Foundation (FSF).

3. Software, released under the LGPL of the Free Software Foundation (FSF), but with specific exceptions

4. Software, released under the MIT license.

5. Special licenses

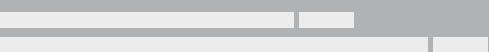6. Further license information

7. Source Code Offer / GPL
   The software included in the product contains copyrighted software that is licensed under the GPL. A copy of that license is included in this document below. You may obtain the complete Corresponding Source code from us for a period of three years after our last shipment of this product by sending us an email to support@rtw.com. This offer is valid to anyone in receipt of this information.

8. No Warranty GPL

Cologne, November 20th, 2019

Depending on the model the start screen of the TouchMonitor contains an adapted image based on the photography "Cologne_CathedralNight-6.jpg" of Lukasz Kryger, Edingburgh, Scotland. The images fall under the Creative Commons Attribution 2.0 Generic License (http://commons.wikimedia.org/wiki/File:Cologne_CathedralNight-6.jpg, http://creativecommons.org/licenses/by/2.0/deed.en).

RTW

EYES ON YOUR AUDIO