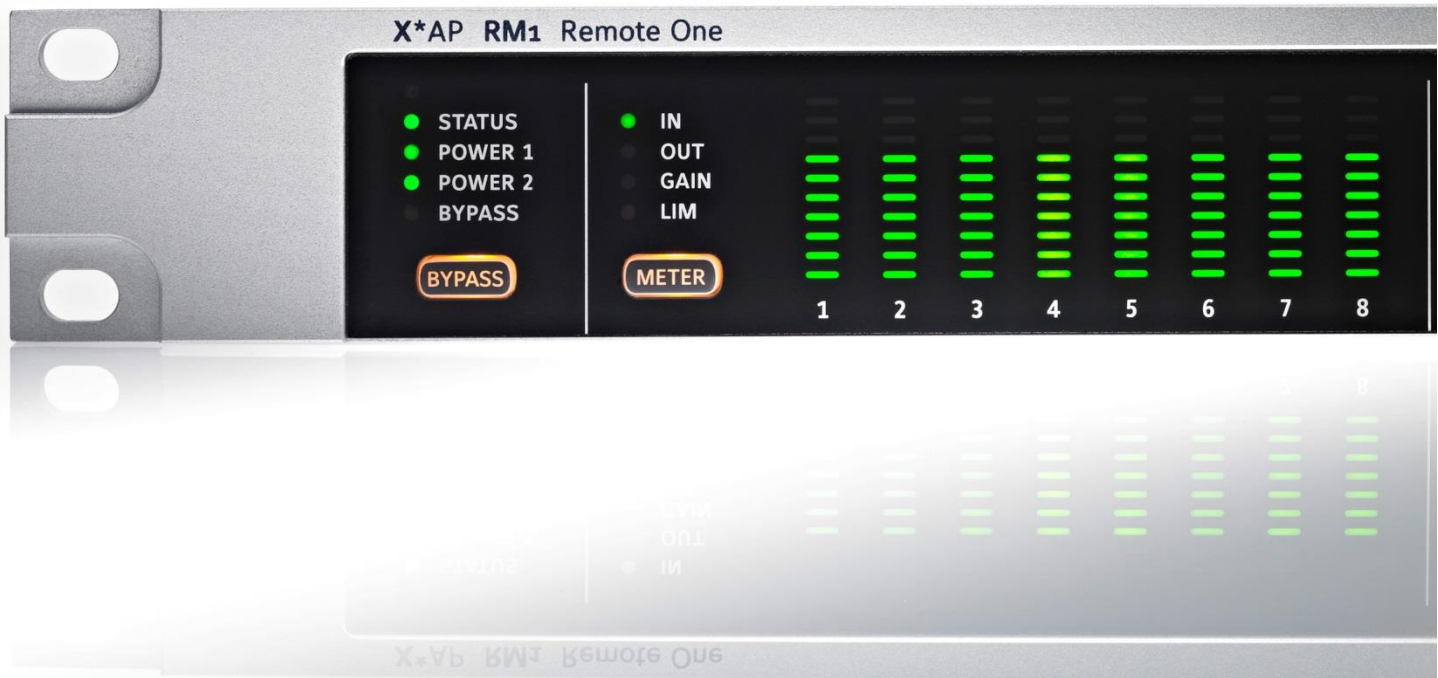
jünger

X*AP

X*AP

RM1 – Remote One Panel

Manual



Hardware features

• **1RU remote panel**	detachable panel with case, powered by POE (Power Over Ethernet)
• **Rotary encoder (turn&push)**	high resolution encoder for parameter settings, volume control etc. with push function, e.g. for confirmation of settings
• **8 Function Keys**	F-Keys - function assigned by the application Hot-Keys – function assigned by the user
• **MENU** button	for menu control
• **ESC** button	for menu navigation
• **PAGE** button	may swap displays
• **METER** control button	selection of the display of the LED bar graphs
• **BYPASS** button	initiates a bypass function of the attached base unit
• **OLED** display	graphical display
• **8 LED** bar graphs	16 segment multicolor bar graph display
• **Status LED**	shows the device summary status provided by the attached device
• **Power 1/2 LED**	status of the two power supplies of a attached base unit
• **BYPASS LED**	shows the active bypass status of the attached base unit
• **RJ45 POE** connector	RJ45 rear connector for Power Over Ethernet connection
• **USB-B** connector	built in USB < > serial adapter to access the service port

Software features

• **Web server**	http connection with the device for setup and firmware update
• **SNMP agent**	SNMP v1 get (no set) and configurable traps (see TAP-MIB)
• **EmBER protocol**	communication layer for connection with a base unit or 3rd party applications

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Introduction

At the heart of the **X*AP RM1** works a high power 32bit embedded micro controller.

It runs a web server for browser based settings and firmware updates.

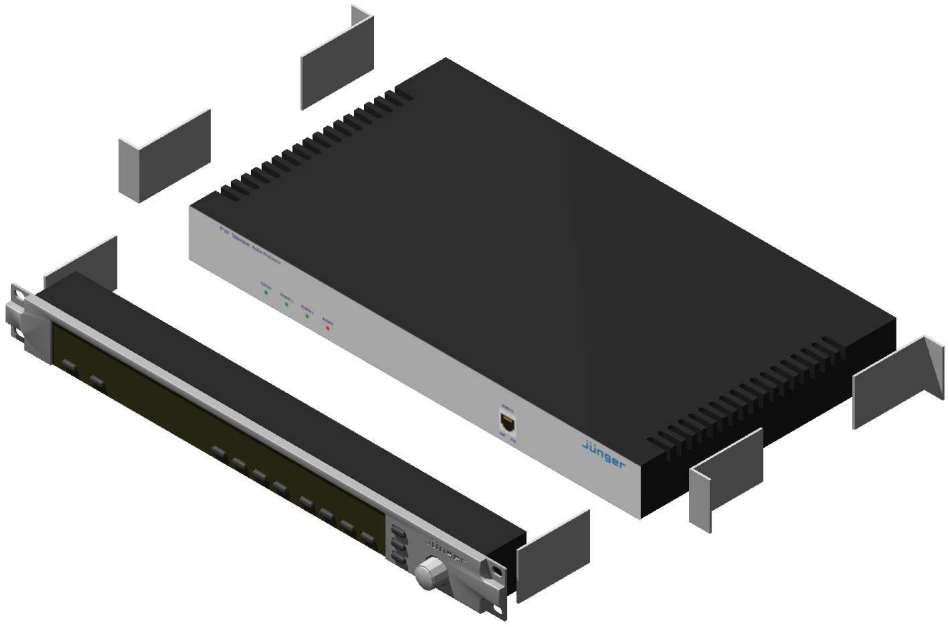
The communication protocol is EmBER+. So any device that speaks this protocol may easily be controlled by the **X*AP RM1**.

In the devices routing paths, the enabling and disabling of audio processing blocks and the setting of processing parameters can be pre configured by individual presets dedicated to each function block. These presets may either be recalled on demand by the operator via the GUI, the **X*AP RM1** remote panel Hot Keys or play-out automation systems.

The **X*AP RM1** remote panel functions are for now limited to operating needs rather than setting up a device.

Beside the pre-configured key functions like loudness measurement or speaker control, the 8 Hot-Keys may be programmed by the administrator.

Hardware concept



The **X*AP RM1** remote panel may be used stand alone or may be attached to a 1RU device that has a front panel RJ45 socket. E.g. older versions of the D*AP8 base unit have such a socket. If it is attached to a dedicated device by brackets it is highly recommend to support the chassis by additional brackets screwed to the rear as shown above or by metal angles supporting the device from the bottom.

The **X*AP RM1** remote panel is powered by **POE** (Power Over Ethernet). If it must be connected via a router of the network, this router must have a free **POE** (Power Over Ethernet) port. If this is not the case, you must use the wall plug **POE** power supply that comes with the **X*AP RM1**.

Control concept

The communication between the **X*AP RM1** remote panel, devices, setup and operating tools, is based on **TCP/IP over Ethernet**.

The setup **GUI** utilizes web technology. The functionality of the web GUI is developed for Mozilla Firefox > 10 and Google Chrome > 15.

An **SNMP** agent is also available on the device and may be explored by a monitoring system.

Getting started – IP setup in general

The **X*AP RM1** remote panel as well as the remote unit (e.g. D*AP8, V*AP, M*AP) must have unique IP addresses and the same network mask in order to "talk" to each other as well as to other devices / PCs within a Local Area Network segment. If the **X*AP RM1** sits in an other network segment a suitable gateway address is mandatory. The **X*AP RM1** remote panel may (for now) control up to 4 units, one at a time.

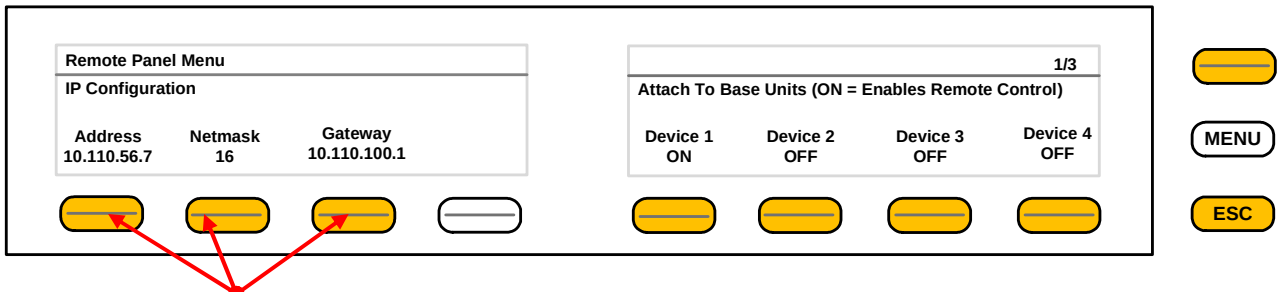
The process of installing a **X*AP RM1** into an **IP network** is as follows :

1. Ask the system service people for a unique IP addresses of the network, the netmask and the gateway address.
2. Assign the **X*AP RM1** remote panel an IP address the netmask and if necessary a gateway address.
4. Attach a device to the **X*AP RM1** remote panel.

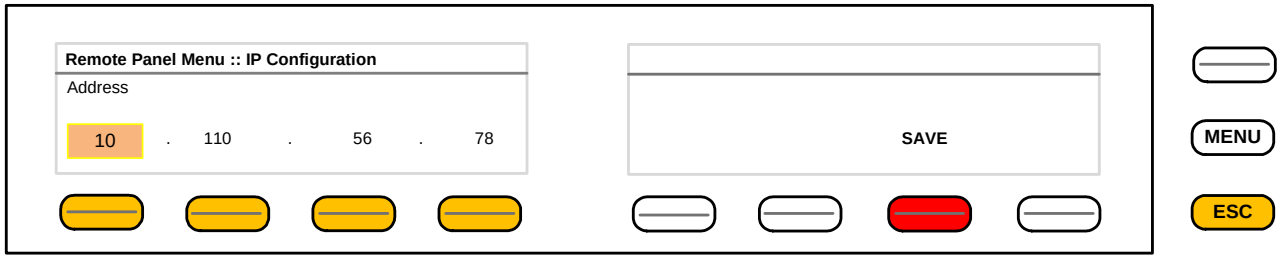
! Important Note: If you are not familiar with setting up devices for IP communication, we highly recommend to consult your system service or IT department to assist you.

Getting started – IP setup of the **X*AP RM1** remote panel

By pressing the red **<ESC>** button from the main display, you will enter the **X*AP RM1** **"Remote Panel Menu"** page 1/3 to set up the IP configuration of the **X*AP RM1** Remote panel and to attach up to 4 devices to this remote panel :



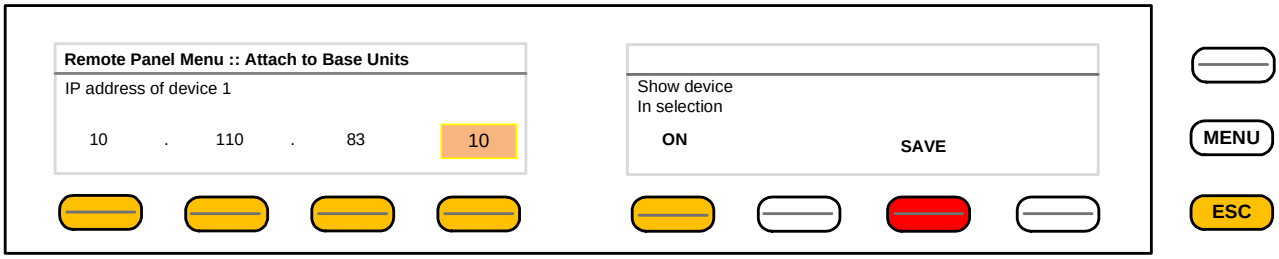
You may press the respective **<F-Keys>** and a separate windows will appear for comfortable set up of that part of the IP configuration. Here an example for the IP address field :



Here you must press one of the respective **<F-Keys>** and that field will be highlighted as well as the Rotary Encoder. Now you can change the value by turning the knob. When the setting of all fields is finished, you must press **<SAVE>**. The display will return to the initial "**Remote panel Menu"** page 1/3.

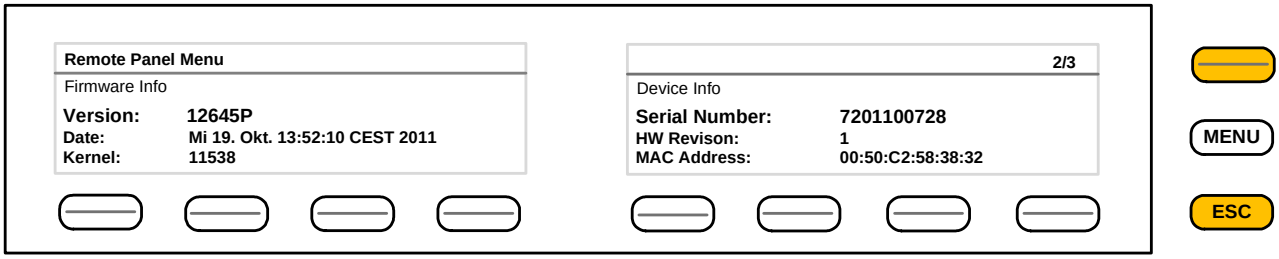
Getting started – attach a device to a **X*AP RM1** remote panel

You must press one of the **"Device x" <F-Keys>** of the **"Remote Panel Menu"** and a different window will open :



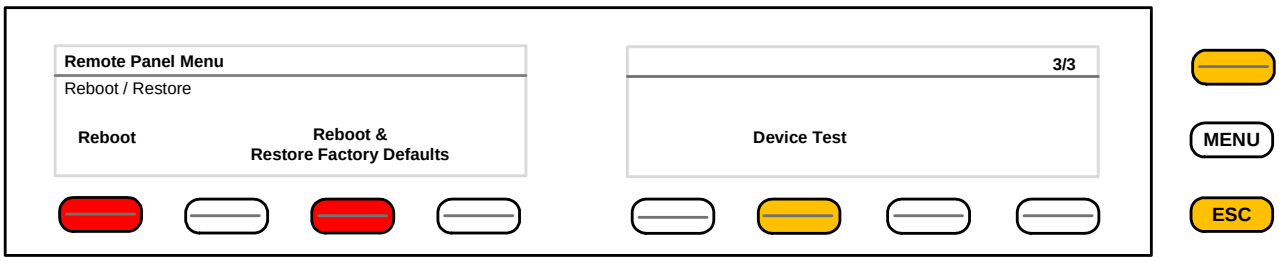
Same procedure: Set up the IP address of the device you are about to attach.
You must turn "**Show device in selection**" to **ON** in order to reach the device via the initial display later on.
Pressing **<SAVE>** will return to the **"Remote Panel Menu"** menu page 1/3.

Getting started – **X*AP RM1** remote panel menu page 2/3 – **firmware display**



This page shows static information regarding firmware versions and device information.

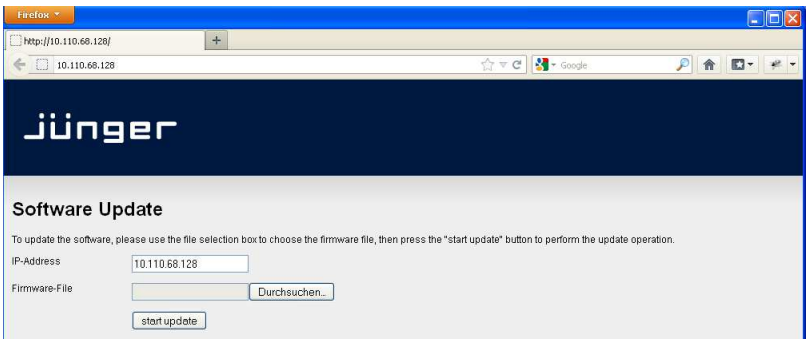
Getting started – **X*AP RM1** remote panel menu page 3/3 – **reboot, restore factory default, device test**



Page 3 allows for reboot, restoring of factory defaults and function test of the **X*AP RM1** remote panel LEDs, buttons and the rotary knob. Pressing the Device Test button opens up further menus to test the respective items.

Browser based set up – **firmware update of the X*AP RM1 remote panel**

You must open a browser and enter the **IP address** of the **X*AP RM1** remote panel into the **URL** field :

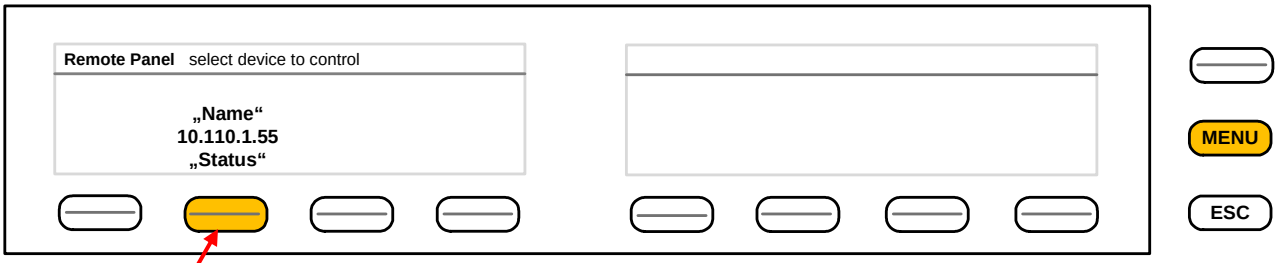


You must select the respective file and press :

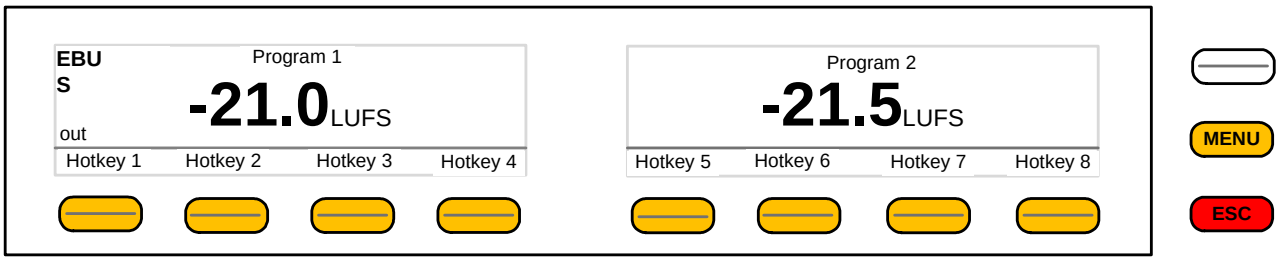
After finishing the procedure the **X*AP RM1 remote panel** will reboot and you must manually reconnect the device you are about to control.

Getting started – basic **X*AP RM1** remote panel operation

After power up and booting is finished, the **X*AP RM1** remote panel shows the remote units which are "attached" to it. The display shows the respective device **"Name"**, its **IP address** and the connect **"Status"**. Options are "connect", "can't connect" and "unknown device". In case of "connect" you may press one of the highlighted buttons.



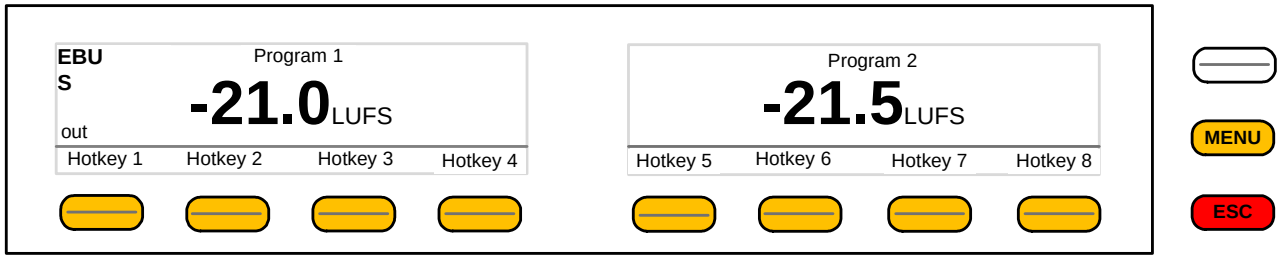
If you press the **<F-Key>** the **X*AP RM1** remote panel will connect with that unit.
(The above example has just one unit attached for remote control). Now the **X*AP RM1** remote panel will gather all necessary information from that unit (it may take a few seconds) and open up the **main display** :



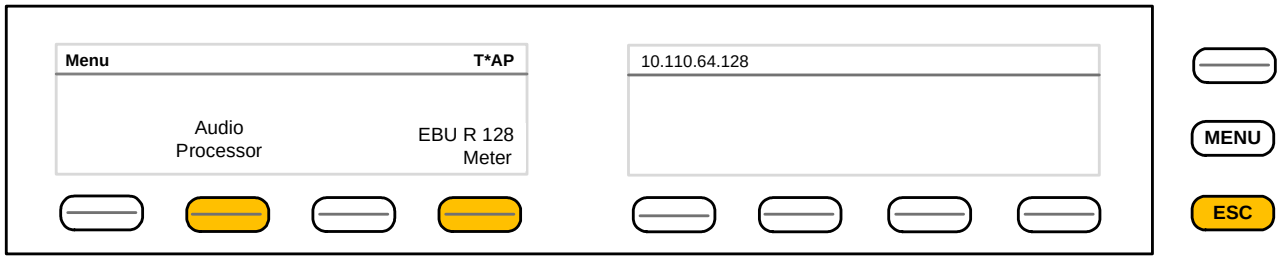
Because this is the **main display**, the **<ESC>** button light **red** to indicate that the power up display is directly below the **main display**. Pressing **<ESC>** returns you back to the device selection.

Operating - menu structure of the **X*AP RM1** remote panel

This example assumes that the X*AP is attached to a Television Audio Processor **T*AP** (other devices will appear differently) :



When pressing the **<MENU>** button, the **main operating menu** opens up:



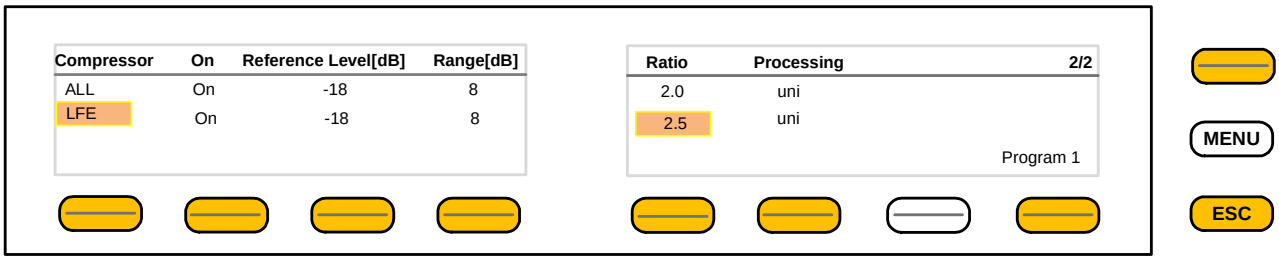
The Audio Processor has the following functions available which you can reach by the F-Keys :
#1<Input> #**2**<Upmix> #**3**<Equalizer> #**4**<Spectral Signature>
#**5**<Dynamics> #**6**<Level Magic> #**7**<Output> #**8**<Monitor>

Operating – menu structure of the **X*AP RM1** remote panel - **principle of operation**

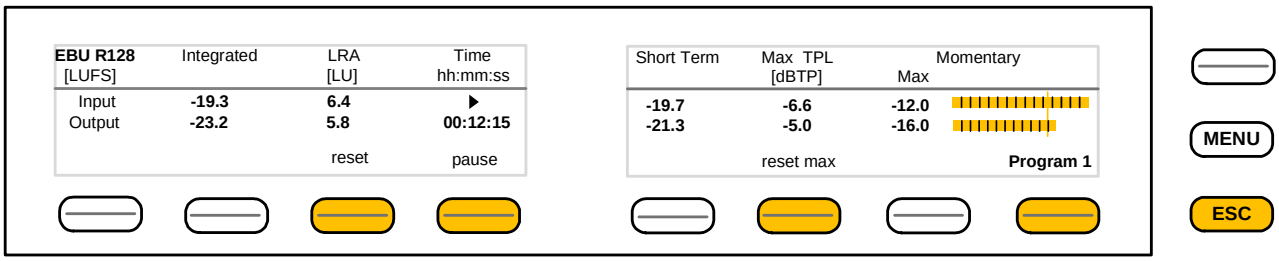
If you are in a specific parameter menu the display structure may change due to the program configuration of the **T*AP**. Below is an example for setting the parameters for the **Dynamics** (F-Key #5) while the **T*AP** is in **5.1 + 2** program configuration and operates in **ITU** mode. In this case you have two parameter sets for the first program: **ALL** and **LFE** (if the **LFE** is not linked**)**.
Since the Dynamics have two subsections: **Expander** and **Compressor**, this menu has two pages, indicated by the number in the top right hand corner :

You may switch between both pages with the **<page>** button
<F-Key 1> toggles between the two parameter sets ALL / LFE. The parameter set under control is highlighted. If for example you now press **<F-Key 5>,** the **Release** setting for the **LFE** will be enabled and the **Rotary Encoder** is also illuminated. You may now change the **Ratio** by turning the knob.
<F-Key 8> toggles between **Program 1** (5.1) and **Program 2** (1x2).

Next page shows the **Compressor** parameters



Here another example for **<EBU Meter>**



In this case the **<F-Keys>** will control the program based loudness measurement process defined by **EBUR128**. The display represents the measurements of **Integrated-** / **Short Term**- and **Momentary-Loudness** as well as the **LRA** (Loudness Range) [LU] and **Max TPL** [dBTP], the **Maximum True Peak** level.

The measure for the EBU Meter display is **[LUFS]** (Loudness Units Full Scale) as long as not defined differently.

For details pls. refer to the EBU-Tech 3341 document.

Operating – menu structure of the **X*AP RM1** remote panel – **menu tree**

Power Up Display
<MENU> opens **X*AP RM1** remote panel IP setup menu.
<Address> setup
<Netmask> setup
<Gateway> setup
< empty >
Device 1 setup IP & ON / OFF
Device 2 setup IP & ON / OFF
Device 3 setup IP & ON / OFF
Device 4 setup IP & ON / OFF
<ESC> back to **power up** display

After connecting with a device the Main Display opens up :
Main Display
<ESC> will jump back to **power up** display
<MENU> opens **Operating** display:
F-Key #
1 <Empty>
2 <Audio Processor>
1 <Input>
2 <Upmix> [page 1 - 2]
3 <Equalizer> [page 1 – 5]
4 <Spectral Signature>
5 <Dynamics> [page 1 - 2]
6 <Level Magic> [page 1 - 3]
7 <Output>
8 <Monitor> [page 1 - 2]
<ESC> back to Menu
3 <Empty>
4 <EBU Meter>
1 <empty>
2 <empty>
3 <reset>
4 <pause/continue>
5 <empty>
6 <reset max>
7 <empty>
8 <Program_x>
<ESC> back to Menu
5 <empty>
6 <empty>
7 <empty>
8 <empty>
<ESC> back to **Main** display

Technical data – **X*AP RM1** remote panel

• **Power supply**	POE (Power Over Ethernet), IEEE 802.3af
• **Consumption**	8 W
• **Max cable length**	if connected with the remote device, 30m distance CAT.5E (26AWGx4P)
• **Dimensions**	19", 1RU, depth 6 cm
• **Environmental**	operating temperature 0 ºC to 50 ºC non operating temperature -20 ºC to 70 ºC humidity 90%, non condensing
• **Dimensions and Weight**	19", 1RU, depth 3 cm net weight approx. 0.5 kg shipping weight 1.0 kg

Safety information

Electrical

Safety classification :	Class 1 – grounded product / Schutzklasse 1 Corresponding to EN 60065:2002
Power connection :	The device must be connected to a Power Over Ethernet capable switch, to a D*AP8 or other Junger devices or to a wall plug power supply.
Water protection :	The device must not be exposed to splash or dripping water. It is permitted to place a container filled with liquids (e.g. vases) on top of the device.

Service safety

Only qualified personnel should perform service procedures.

Do not service alone :	Do not perform internal service or adjustments of the device unless another person capable of rendering first aid and resuscitation is present.

To avoid fire or personal injury

Mounting :	It must be placed on a flat surface or must be mounted into an 19" rack.
Provide proper Ventilation	this case and if the device has a built in fan, a gap of at least 1cm must be left between the device edge and the steel angle. It is highly recommended to leave a gap of at least 1RU above and below the device.
Do not operate without covers	Do not operate this product with covers or panels removed.
Do not operate with suspected failures	If you suspect that there is damage to this product, have it inspected by by qualified service personnel.
Risk of explosion :	The device contains a lithium battery. If replaced incorrectly or by a different or inadequate type an explosion may occur.

Warranty

standard Junger Audio two-year warranty on parts and labor.

Specifications are subject to change without notice

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