AeroAudio

MPX 3 LCD

MANUAL

3 channel FM MPX detector

The detector is designed to monitor up to 3 MPX signals and switch one of them to the output.
The input that is active, i.e. the input that is switched to the output, is also shown at the display, and its audio signal can be listened to at the headphone jack.
On an outage of the main input, one of the other two sources will be switched to the output. The display of the device will indicate this with the text BACKUP: MPX1, MPX 2 or MPX3. This status is also shown in the HTML interface.
The MPX signals are switched through relays, so that there is zero influence on the signal.

On a detected silence, the priority of inputs that is switched to, is on the order of the lowest input number. For example, if inputs 2 and 3 are both present, then input 2 will always be connected to the output. With inputs 1 and 2, it is always input 1.
The status reports of this are done by means of emails and SNMP.
All the settings can be made in the 4 HTML pages. These can be configured with a web browser (Firefox, Google chrome, etc.)
The detector also checks the 19 kHz signal. This is also shown in the HTML interface.
You can choose whether the detection takes place by audio silence or the absence of the 19 kHz signal.
Preferable, use input 1 as the Main input. The reason is that on a power outage, the relays switches input 1 to the output.

At the front of the device is a large display of 40 x 2 characters; on the right is a button to control the menu, the "rotary encoder", and a headset jack.

Turning on will start up the device. On start-up, the display shows the following text:

After approximately 10 seconds, the system has started up and the status of the detector will be visible on the display.
It will show a DIN PPM meter and the status of the MPX input. MAIN : MPX1
This means that the stereo signal of MPX input 1 is detected and that it is switched to the output as the main signal.

To check the connected sources, the rotary encoder can be turned one notch to the right. The display now shows the text: LEVEL MPX1.
The signal of MPX input 1 is visible on the meter en the corresponding audio is present on the audio jack for the headset. By turning the knob another notch to the right, input 2 can be checked, and with another turn shows input 3 (LEVEL MPX2 en LEVEL MPX3). By turning to the left, one goes stepwise back to the main menu. In this way, all 3 inputs can be verified on the presence of a signal.

If the circuit is not in alarm, then after 3 minutes the backlight of the display turns off to save energy. On pressing the rotary encoder, the backlight will turn on again. The backlight also turns on as soon as the backup is activated.

A menu is available in which a number of configurations can be made. All other configurations are done via a web browser.
The settings via the display are: Level Phones, Input level, Channel separation, IP-address and display settings.

Level phones is to adjust the volume of the headset output in steps of 1dB.
Input level is to configure the input level. This serves to make sure that the input signal is not too weak. The detection can because only work well if the meter has a sufficient range. Please adjust this setting so that the meter goes to 0dB.
Channel separation in order to listed to the stereo inputs on the headset, the detector contains a stereo decoder. With this setting, the channel separation of the signal can be adjusted (if necessary).
IP address with two options. The configuration of a fixed IP address: 192.168.0.5 or the option for DHCP. The latter means that the router on the network automatically assigns an IP address to the detector, provided that the router has DHCP enabled.
Note: These IP address settings are only for the configuration when You use the detector for the first time on a network.

The IP address of the detector can then be found via a network scan or by consulting the DHCP table in the router. The detector logs on with
FM-MPX-detector.lan

Finally the **display settings**. Here, the contrast and the intensity of the backlight can be set.

The other settings can be set or viewed through a Web browser.
For this purpose, the detector provides 4 web pages:

1. **Status**. This page shows the status of the inputs and allows you to adjust the settings for the detector.
2. **Email**. The settings for sending an email in the case of an outage of the signal
3. **Network**. The page allows to adjust the settings for the network.
4. **Service**. The setting for the location name and the firmware update

The status page
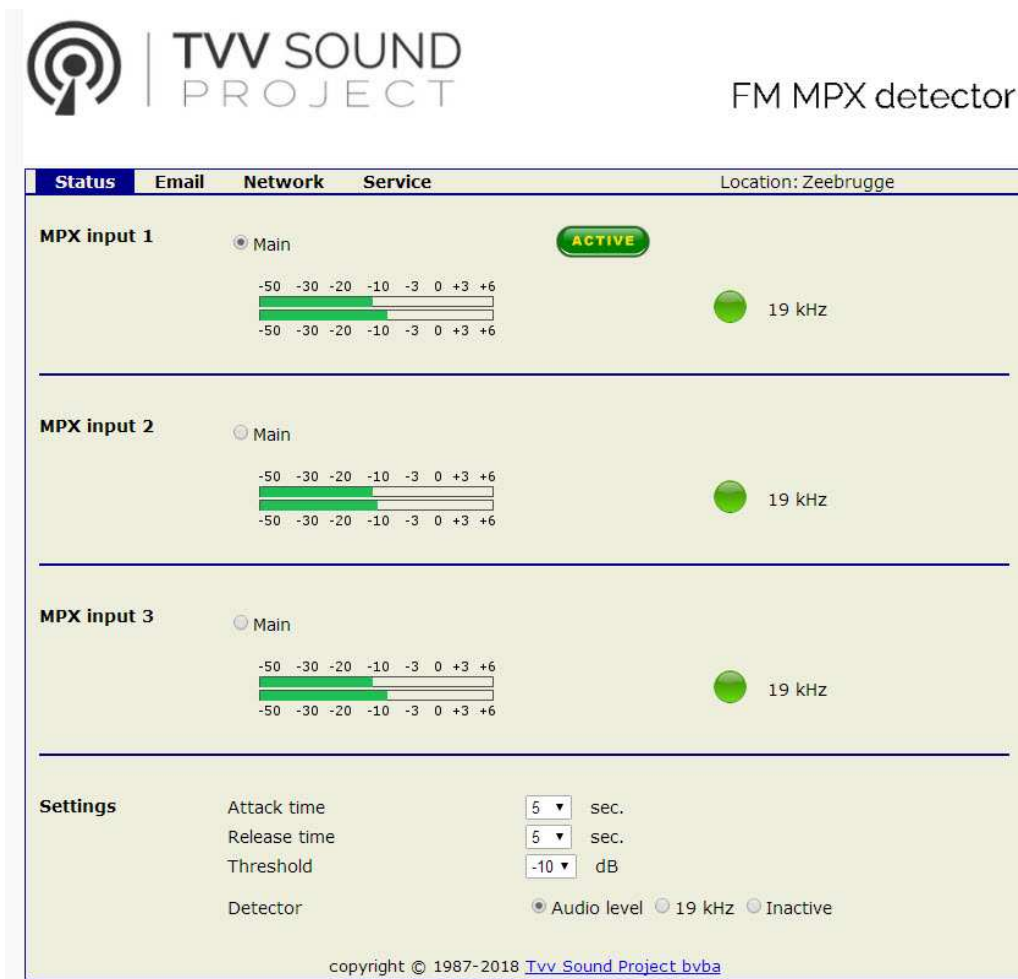
This page shows the status of the 3 connected sources: MPX input1, MPX input2 and MPX input3. By way of the radio buttons *(Main)* can be selected which source is used as the main input, and be switched to the output provided that it has a signal. This will be indicated with the text ACTIVE. The meters show whether signal is present. On every input, there is also an indicator for 19kHz. If it is present, the indicator is green, and otherwise it is red.
If a backup input becomes active, the "Active" indication will be shown next to that input, so that it is always immediately visible which input is active.

On the bottom half, below *Settings* a few device parameters can be adjusted.

1. **Attack time**. Configurable between 1 and 60 seconds. This counts down the time between the loss of the input signal and the switching to the backup input.
2. **Release time**. Configurable between 1 and 60 seconds. This counts down the time between the return of the program signal and the moment of switching back from the backup input.
3. **Threshold.** The threshold which the detector triggers. Configurable between -10, -20 and -30 dB (values of the meter).
4. **Detector active**. If this is set to inactive, the detector will not switch to a backup signal on silence. When set to *Audio Level*, the detector triggers on the low-frequency audio in the signal, and when set to *19 kHz*, the detector triggers on the presence of the 19 kHz pilot tone.

The email page

On the email page, you configure the settings needed to send emails on a status change or an alert.

1. **Alerts active**. Whether or not messages are sent after silence has been detected. The change of this setting is automatically saved.
2. **SMTP server address**. The address of the mail server to transmit the mail to. If a non-standard port is used, the port number can be set behind the address, separated with a colon.
3. **Message from**. The email address of the sender.
4. **User name en Password**. These fields must only be filled in when they are required on the particular network.
5. **Recipient1 - 3 address**. Up to 3 email addresses for recipients can be filled in.
6. **Main signal return message**. The message that is sent after the Main input is switched through again.
7. **No signal message**. The message that is sent after one of the backup signals is switch to.
8. **Message Subject**. In the subject, you typically fill in the name or location of the detector

In the bottom left of the page is a button to send a test mail. On a click on this button, a test mail will be sent to all recipient addresses. A popup window with the communication with the SMTP server will also appear. In the case of a failure to transmit the email, this popup window typically clarifies the cause of the failure. niet verstuurd wordt.

The network page

The 3rd page is for configuring the IP address and the password for logging into the web pages of the detector.

On the left half, the settings for the IP address and others can be set, as the example shows. In addition, there is a selection for DHCP (automatic address assignment) or a manually set IP address.
Furthermore, at *SNMP Trap server* the address can be set where SNMP "trap" messages can be sent. This way, status messages will be received via an SNMP protocol.
If all settings van been adjusted, click in the button: *Save settings*

On the right half, the log-in name and password can be filled in (these are the name/password needed to log in on the detector with a web browser). Then click *Save authentication* to save the settings.

On first use, the User Name and Password are:

admin admin

The service page

Device Settings. This field allows you to specify the location of the device. This location is visible in the top right of every page.

Firmware. Should it be necessary to update firmware, you can do so here.
The new firmware will them be provided to you by the representative, and can be saved in a folder on a computer. With the button "Browse", this file is selected; then the update starts after a click on the button "Update Firmware". During the update process, a Loader is shown at the right. The update finishes after approximately 50 seconds, after which the new firmware version will be shown at the page.