EAM-FM2B

FM Tuner Module

Quick Reference Guide (revision 1.10 for H/W Rev.B)

OVERVIEW

The EAM-FM2B radio tuner module is designed to receive audio and RDS information from FM radio stations.

The device has 2 independent FM radio receivers. The device supports standard commands to search for radio stations forward and backward, to tune to the frequency, to tune next or previous preset radio station, the forced mono audio mode. Up to 30 radio stations can be configured in the memory.

The device automatically transfers information about the current frequency and RDS information to the Controller.

The control, data exchange and configuration are all handled via TCP/IP protocol. The control of the device is possible via IR commands.
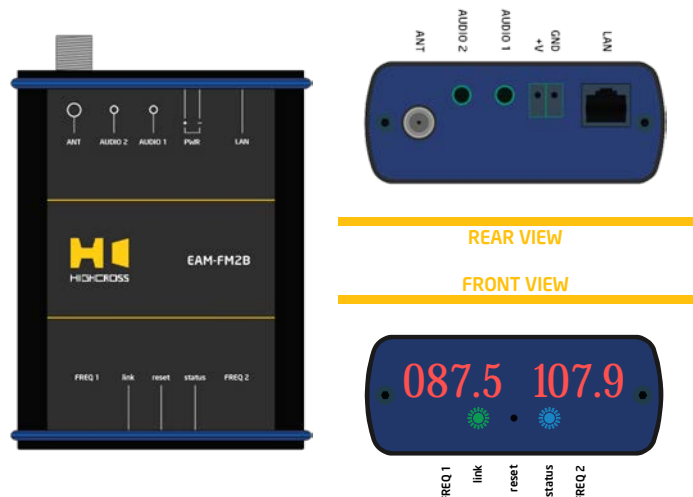
SPECIFICATIONS

COMMON DATA	
Number of radio receivers	2
Supported reception range	FM 87.5 – 108.0 MHz
Supported RDS Functions	▪ Programme Service name ▪ RadioText
Supported data exchange protocols	NetString
IR control	Yes, carrier frequency 38 kHz
Separate IR control commands for each FM tuner	Yes
Preset radio memory	30 radio stations
Network interface	Ethernet (10/100)
Consumption current	200 mA @ 12 VDC

COMMON DATA	
Supply voltage range (power connector)	12–24 VDC
Power supply voltage (PoE)	IEEE 802.3af / 48 VDC Not isolated from GND
Operating temperature	5° C to 45° C 40° F to 115° F
Operating humidity	5 to 80% RH non-condensing
Enclosure	Metal with black matte finish
Dimensions (HWD)	34 mm x 84 mm x 119 mm 1.34" x 3.30" x 4.69"
Weight	180 g 0.40 lbs

DEVICE CONTROL COMPONENTS

FRONT PANEL COMPONENTS	
FREQ 1	Indicator of the current frequency at tuner 1
FREQ 2	Indicator of the current frequency at tuner 2
link	Ethernet link and activity indicator
reset	Multifunctional button (reboot, reset, bootloader)
status	Indicates power status and connection to controllers

The built-in **receiver of IR commands** is placed behind the cover of the front panel above the "reset" button.

REAR VIEW

FRONT VIEW

REAR PANEL COMPONENTS	
Ethernet PoE	Ethernet network RJ-45 socket (PoE)
+V	Power terminal (12–24 VDC)
GND	Power terminal (Common)
AUDIO 1	3.5 mm socket (TRS) of tuner 1 audio output signal
AUDIO 2	3.5 mm socket (TRS) of tuner 2 audio output signal
ANT	F-connector for antenna signal

LED "status" indicates the power connection and connection status with controllers	
Off	No power connected
Blink (1 Hz)	No connection with external controllers
Fast blink (4 Hz)	The device is in bootloader mode
On	Connected to external controllers

LED "link" indicates Ethernet network link and activity	
Off	No connection to Ethernet network
Blink	Connected to Ethernet network Receiving Ethernet data packets
On	Connected to Ethernet network No network activity

Multifunctional button"reset"
To reboot the device push the button for 1 second
To reset the device to factory defaults push and hold the button for 5 seconds. IP–address will be set to 10.0.1.101, subnet mask – to 255.255.255.0. All other settings will be set to default values
For firmware update, power off the device, push and hold the button and power the device on. Release the button after the LED "status" will start to blink fast. The network settings of the device started in bootloader mode are: IP–address – 10.0.1.101, subnet mask – 255.255.255.0

The **PWR** terminal is designed to power the device 12–24 VDC if connected Ethernet switch has no PoE support.

The **ANT** F-connector is designed to for connection of external antenna. To receive RDS information, the signal level must be at least 15 µV.

SETUP AND CONFIGURATION

The configuration of the module is handled via web-interface.

To start working with the device:

- Connect the device to the Ethernet switch. If the switch has no PoE support, connect the power 12–24 VDC to the **PWR** terminal
- Ensure that your computer can connect to the network address 10.0.1.101 or set the TCP/IP settings of active network adaptor to: IP address – 10.0.1.100, subnet mask – 255.255.255.0
- Enter **10.0.1.101** in address bar of your web-browser
- Enter: login – **root**, password – **root**
- Configure the device settings

The web-interface contains the next web-pages:

Main	Displays the hardware revision and the firmware version
Settings	Network settings, IP–settings of external controller
Presets	Radio station presets
Status	Displays current TCP/IP connections and device uptime info