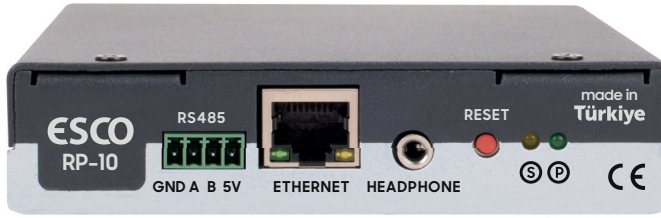
RP10

ESCO SERIES
AUDIO DECODER



USER MANUAL

Version:rev_02_042025

enormPA

Contents Table

IMPORTANT NOTICES

• Before installing and using the device, please read this manual carefully and keep it for further use.
• This manual is an integral part of the product. It should be given to the new owner in order for them to know the installation, operation and safety instructions.
• Improper installation of the device removes the responsibility of the manufacturer.

WARNING

• To avoid the risk of fire and electric shock, never expose this equipment to rain or moisture!

SAFETY PRECAUTIONS

1. Please read the instructions carefully, as they contain important information.

2. The voltage of the power supply of this device has high values, which creates a risk of electric shock. For this reason, never install, connect or disconnect this product while the power supply is connected.

3. The metal parts of the product are grounded with an electric cable. If the electrical outlet that supplies electricity is not grounded, call a qualified electrician who will ground the product through the terminal.

4. To prevent damage to the cable, make sure the power supply cable is not crushed or broken.

5. To avoid the risk of electric shock, never open the product: there are no user fixable parts inside.

6. Make sure that foreign bodies or liquids do not come in contact with speakers, as this may cause short circuit.

7. Never try to perform repairs which are not mentioned in this manual. Contact the authorized service center or highly qualified personnel if;

a. The product is not operating (or abnormally operating),
b. Serious damage is done to the power supply cord,
c. Foreign bodies or liquids get into the product,
d. The product is exposed to heavy impact.

8. Turn off the product, if not used for a long time and disconnect the power supply cord.

9. If the product emits a strange odor or smoke, turn off immediately and disconnect the power supply cord.

PRECAUTIONS

• Do not cover ventilation of the product.
• Do not allow amplifier to operate with an excessive load for a long time.
• Tighten the screws on the speakers firmly to guarantee safe contact.
• Do not use thinner, alcohol or other volatile substances when cleaning

CAUTIONS RELATED TO THE USE OF ELECTRICAL LINE

• When plugging and unplugging the power cord, it should be held firmly to avoid risk.
• In case it won't be used for a long time, the plug of the unit should be unplugged to cut off the electricity.
• To avoid damaging the power cord, do not break, pull or harm the cord with sharp and pointy materials. Use a grounded socket.

POSITIONING

• It should be placed with it's sides and back 1 meter away from the wall and should not be placed in the following environments;
• Humid environment
• Under direct sunlight and other strong heat emitters
• Environments without ventilation

CONTROL OF THE UNIT

• Make sure that the power supply is turned off, that the power supply and the other devices and lines connected with this unit are disconnected from the power supply.
• Do not remove this unit. Do not attempt to disassemble and fix this device yourself. Otherwise there may be a risk of electric shock or fire. If you can't solve the problems with the methods outlined later in this manual, you should call a qualified technician or consult our company. Enforcing the system could may electrical shock or fire.

CLEANING

• When this unit needs to be cleaned, use a clean damp cloth etc. to dust. Do not use solvents such as benzene, thinner alcohol, strong volatile substances, bleach or other flammable liquids for cleaning the body of the unit.

2. DEVICE OVERVIEW

This user manual has been written for the users to understand the system architecture effectively and to use all the components of the system effectively.

ESCO/RP10 is a TCP/IP based audio decoder and has many hardware features. Since its main function is audio, there are two balanced audio outputs on its rear panel. With it's digital and analog inputs, many features are programmable.

The RP10 is part of an announcement system and can work as a system component on its own or in conjunction with other RP10 components. When it is used in the announcement system, it can give the announcements made over the ESCO/MA7 device from its output. More than one RP10 can be used in a system.

The system works over the network. Stand-alone use is also possible depending on configurations. Any input from a music source can be routed to output. The RP10 is designed completely in a modular structure. The user can configure according to her wishes and use it by transforming it into different structures.

The system architecture has been developed to be used as TCP/IP-based over Ethernet. System configurations are made with the desktop interface. All settings related to the system can be made easily. There is a web server on each device. Interfaces can be configured independently of each other.

RP10 is very easy to set up as a system. Once included, it continuously works as a part of the system. Due to the widespread use of the IP network structure, no external audio cabling is necessary and the system becomes more traceable with extra features such as keeping track of the operations.

ESCO/RP10 can decode G.711/G.722/WAV/MP3. It can play stream data from network (other ESCO/RP10 devices or ESCO/MA7 device) by decoding them according to their data type. Stream from the network should be 48000Hz for inputs such as microphone input and line input.

On RP10, all sources in the system have priority options. Playback stops are performed according to the priority structure that you have created while installing the system.

One of the most important features of the ESCO/RP10 is that it evaluates every incoming data and plays the data from the highest priority source, while recording lower priority data from other sources. It plays the recorded audios as soon as the system is available. In case of accumulation of more than one record, the operation will be: fist come first served. The memory stores up to 8 recordings, above that will not be recorded. This way, when the announcement is over, it continues to broadcast music in sync with other RP10s.

Please find detailed functions and specifications below.

2.a. Characteristics

- Built-in 2x50W amplifier when supplied with 30VDC
- 10/100 MB Ethernet over RJ45/ CAT6 connection
- Supports TCP, UDP, RTP, IGMP, HTTP, FTP, DHCP and NTP protocols
- Accepts 44100 Hz MP3 and 48000 Hz analog audio
- 4 digital input and 1 analog output
- Access control relay
- Configuration over desktop interface
- System log recording

2.b Functions

Front;

- 1 mini jack headphone output
- 1 Ethernet interface
- 1 RS485 input
- Power LED
- Status LED
- Reset button

Rear;

- 1 balanced line output
- 4 digital input
- 1 balanced line input
- 2 speaker output
- 1 contact (relay) output
- 20-30VDC power supply input

3. CONTROLS, CONNECTORS & INDICATORS

3.a. Front Panel

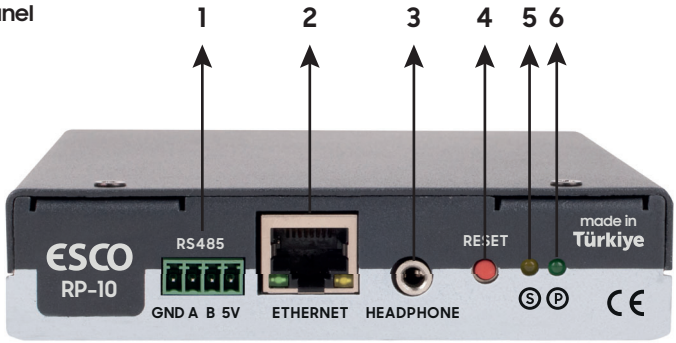


Figure 1 RP10 Front Panel

1. RS485: 4 pin connector for communication with SV8 volume and channel controller. Please see Block Diagram 2.

2. ETHERNET: 10/100MB RJ45 socket used for audio data transfer, device configurations. It is recommended to use with CAT6 cable.

3. HEADPHONE: 3.5mm mini-jack used as headphone input.

4. RESET: Button used for returning device to factory settings. To return to factory settings press the button for 5 seconds.

5. STATUS: LED for monitoring device status. Flashing LED means RP10 is working properly.

6. POWER: LED for monitoring power supply. Constantly lighting LED means RP10 is supplied with power and working.

3.b. Rear Panel

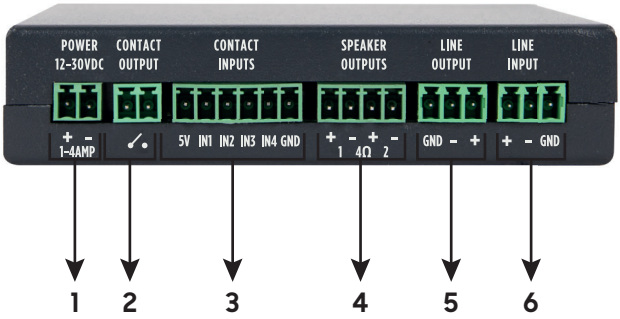


Figure 2 RP10 Rear Panel

1. POWER: 20-30VDC power supply socket.

2. CONTACT OUTPUT: Programmable contact relay outputs. Configuration generally done via ESCO/MA7. For markings please see Table 1.

NO	Normally Open
COM	Common

Table 1 Analog Contact Markings

3. CONTACT INPUTS: Digital inputs operating by logic 1 and 0. IN1 and IN2 contacts perform the programmed tasks, IN3 and IN4 contacts activate the "Line Input" part. Digital inputs are isolated. Please see Block Digram 2.

4. SPEAKER OUTPUTS: 2 speaker output lines.

5. LINE OUTPUTS: Balanced audio line outputs. It is recommended to use shielded cable. For markings please see Table 2.

S	Shield
+	Hot Audio Signal
-	Cold Audio Signal

Table 2 Line Input/Output Markings

6. LINE INPUTS: Balanced audio line input. It is recommended to use shielded cable. For markings please see Table 2.

NOT: Depending on the configuration, one of the Line Inputs can also be used as a microphone input. This requires a hardware change. For more information, you can contact our company via: info@mikafon.com.tr

4. SYSTEM FUNCTIONS

4.1. Interface Installation Procedure

To download the interface to your computer, go to: www.mikafon.com.tr >> Products >> EVAC Control Systems >> Controllers, click on RP10 and download RP10's interface, "MAS Setup", from the "Downloads" page. Then the ".exe" file in the downloadeds is clicked and the installation is completed.

Before using the interface, the computer must be in 192.168.1 IP block, which the device statically receives. When the device is turned on, it will enter any IP in the 1st block. In order to ensure that the IPs of the device and the computer are not the same, the IP address of the device is checked. To get the IP block of the computer to the 192.168.1 block, following operations are required for Microsoft operating systems: "Network Connections > Ethernet > Properties > Internet Protocol Version 4 (TCP/IPv4) > Use the following IP address". The Default Gateway should also be 192.168.1.1. Firewall of the computer should be deactivated in order to find the IP of devices.

4.2. Interface Guide

RP10s in the LAN are found and managed via the interface. In addition, it allows various professional audio settings to be adjusted. In order to find the device, the Ethernet input on the front panel must be connected directly to the computer to which the interface will be installed or to the switch to which the computer is connected to. Before starting to use the interface, the following table should be examined

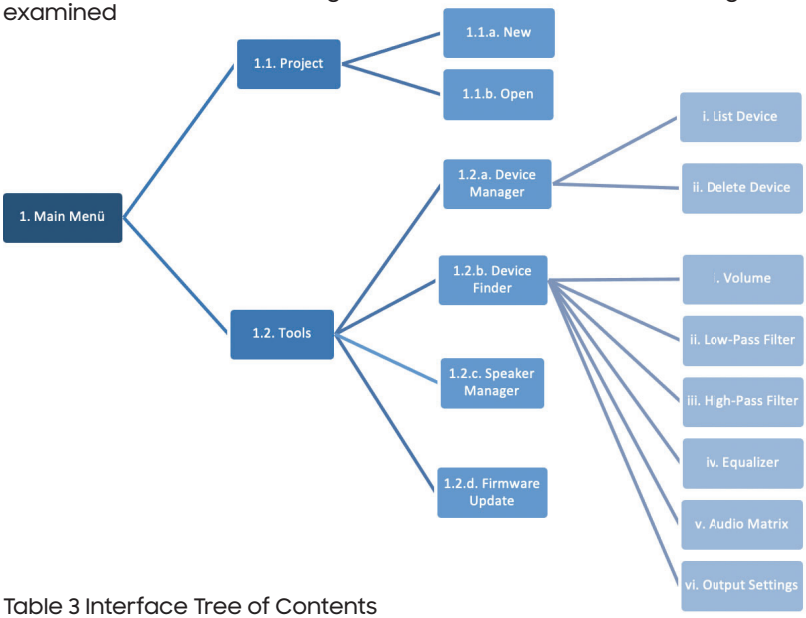


Table 3 Interface Tree of Contents

1. Main Menu

After the interface is downloaded from www.mikafon.com.tr and installed on the computer, double click on the application icon is and open the program in Figure 3.

Figure 3 Interface Main Menu

1.1. Project

Project tab allows creating a new project (New) or opening an existing one (Open).

Figure 4 Project Menu

1.1.a. New

Click on Project → New tab to create a new project. In that window (see Figure 5), the file path and file name are entered and the Save button is clicked.

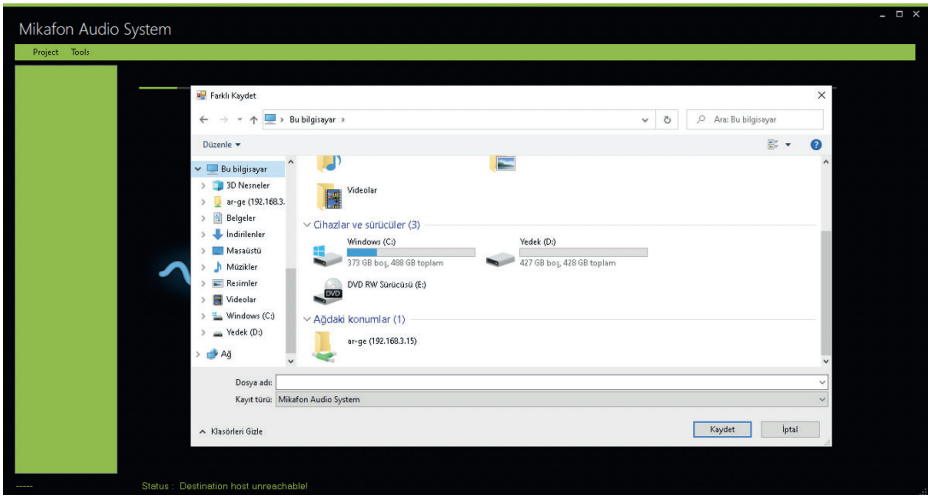


Figure 5 New Project Menu

1.1.b Open

Click the Project → Open tab to open an existing project. In that window (see Figure 6), the desired file is selected and the "Open" button is clicked.

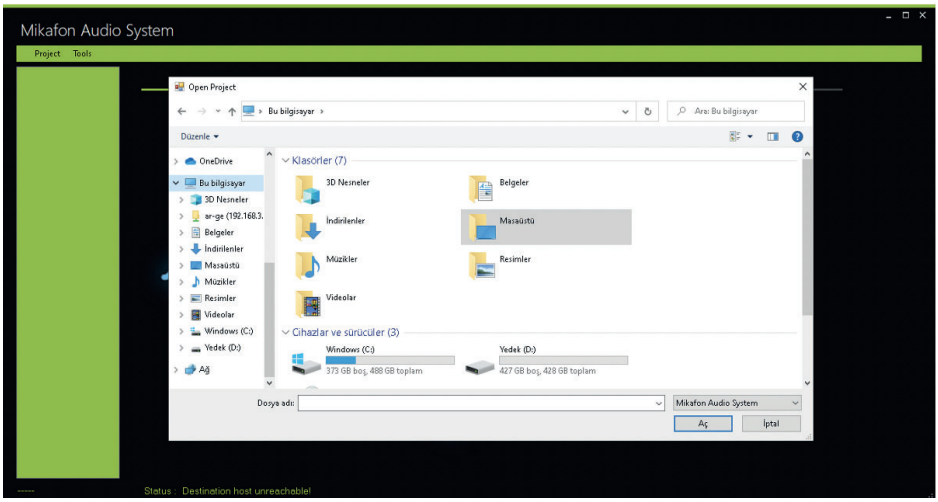


Figure 6 Open an Existing Project

1.2. Tools

Devices are managed, found and updated from here. This section is available for use only if a new project is opened or an existing project is opened. After opening a new project, the following steps are applied from the Tools menu in order to start adjusting device settings.

Device Finder

/ Find the devices

Device Finder

/ Enter the Gateway IP to found device

Device Manager

/ Enter device information
/ List all devices

Figure 7 Tools Menu

Tools menu is explained in detailed in the following chapters.

1.2.a. Device Manager

Devices added to the interface are listed here. See Figure 8. For example, when a new project is created, the amplifiers that appear in the left column can be deleted by clicking the "▶" sign from the "Device Manager" section and clicking the "Delete" button.

After the registration of RP10 is done from "Device Finder" section, it can be viewed here. For the registration process, see 1.2.b. By double-clicking on the device which is listed in the "Device Manager" section, type and name of the device can be entered and changed. See Figure 9.

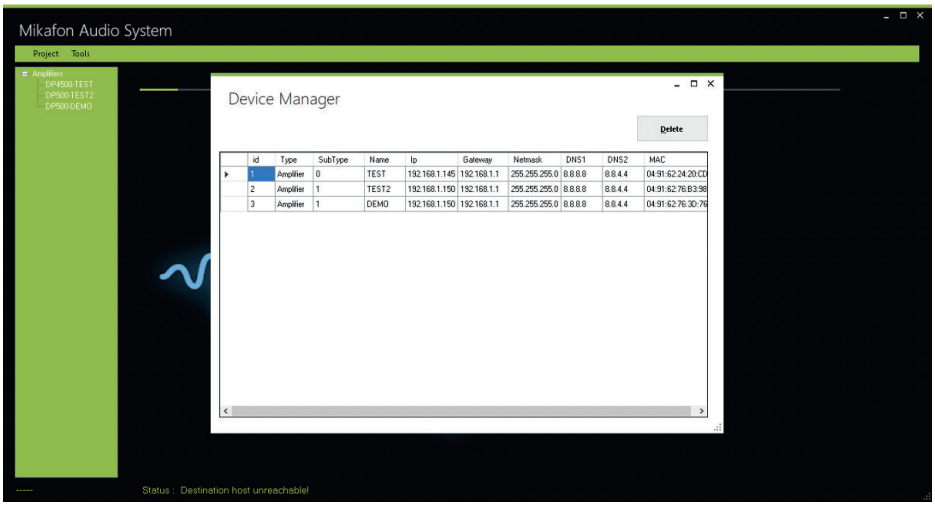


Figure 8 Device Manager Menu

i. List (Add) Device

The device configuration menu is opened by double-clicking the "▶" sign in the left column of the device list. The features listed below can be changed from here. The MAC address should not be changed.

- Type: Device type (RP10, DP500 etc.)
- Name: Device name
- IP: IP address of the device
- Gateway: Gateway address of the device
- Netmask: Netmask address of the device
- DNS1/DNS2: DNS settings of the device
- MAC: The Mac address information of the device is *Automatically given.

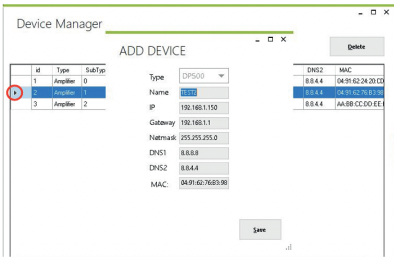


Figure 9 Add Device Menu

ii. Delete Device

Used for removing device(s) added to the interface. Click on the desired line to be removed from the list, and then click on the "Delete" button. The deletion process is completed by clicking the "Yes" button in the window that pops-up. See Figure 10.

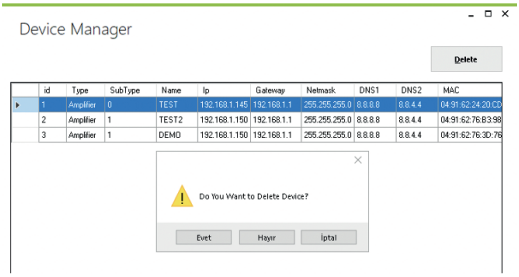


Figure 10 Delete Device Menu

1.2.b. Device Finder

Used for adding devices to the interface. In the "Enter IP Blog:" section, enter the IP block of the device/devices and click on the "Find Devices" tab. Gateway IP section is filled in the menu entered by double-clicking the "▶" sign at the beginning of the line of the listed device/devices and the "Save" button is clicked. See Figure 11. If desired, the device type and name can also be entered. After this process, the device is listed in the "Device Manager" section where a name is given to the device.

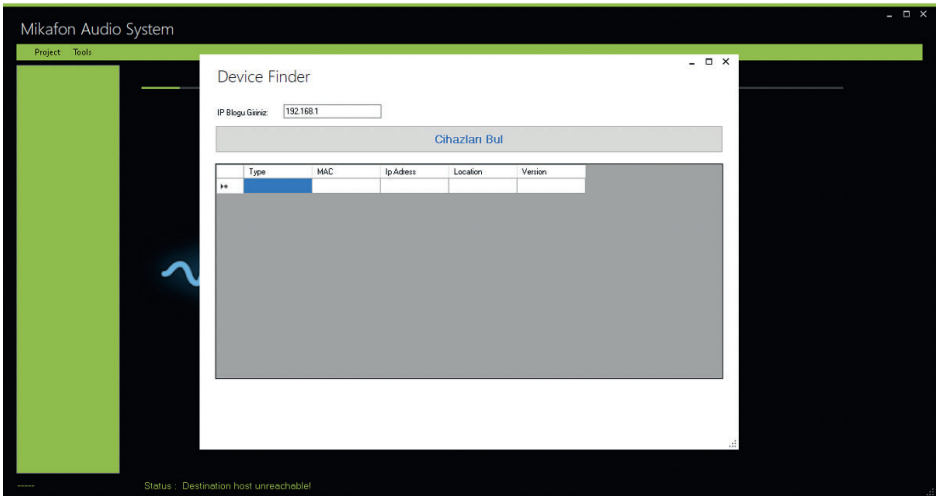


Figure 11 Device Finder Menu

After the above processes, Device Finder Menu, device name on the left coulumn is double clicked to access professional sound settings. Please see following sections (i - vi) for details.

i. Volume Control Menu

Figure 12 Volume Control Menu

1. Network Audio Devices: The section where the model/device whose settings are to be changed is selected. There is no need to make this selection again in other menus.

2. Channel Control: There is a control bar for each output. To increase the volume of the output, the blue marker is moved up, and to decrease the volume, scrolled down. It is recommended not to do this move too fast to avoid damaging the speakers connected to the system. This should be done by moving the bar slowly while listening to the sound.

3. Channel Sound Level Indicator: Numeric display of sound level.

4. Mute / Unmute: Icon for muting the relevant output without changing the volume.

ii. Low Pass & High Pass Menu

Please see Figure 13.

1. LP & HP Filter Settings: LP is frequency band settings between 2000 Hz and 22 kHz, HP is between 20 Hz and 1000 Hz. The output frequency can be adjusted by sliding the blue marker up or down.

2. Channel Frequency Indicator: Display of the set frequency band below the corresponding channel.

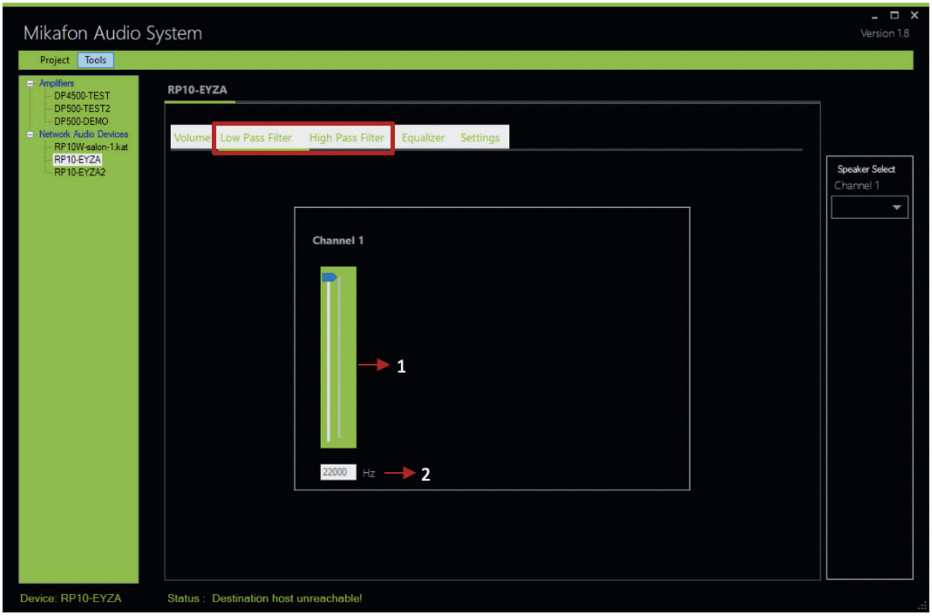


Figure 13 Low Pass & High Pass Menu

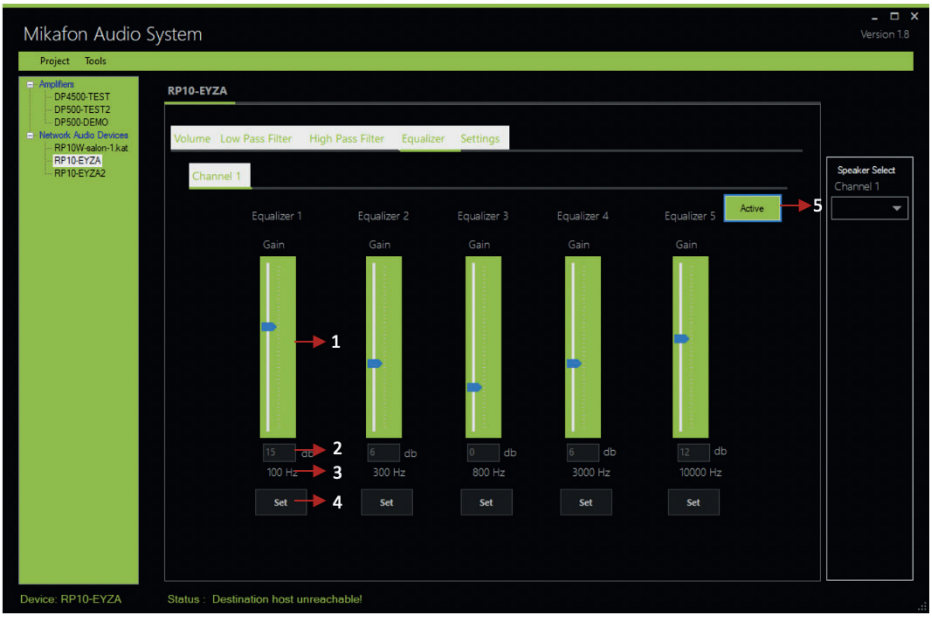


Figure 14 Equalizer Menu

1. Gain Setting: The output frequency can be adjusted by sliding the blue marker.
2. dB Indicator: Tuned frequency of the corresponding channel in dB . The desired value can also be written manually into this box.
3. Hz Indicator: Frequency display of the adjustment made above.
4. Set: The center and bandwidth frequencies can be changed from the screen that pops up when the box is clicked. Thus, 5 different bands can be changed as desired and customized. See Figure 15.
5. Active: This button can control each output separately. Passive channel will work as flat. See Figure 16

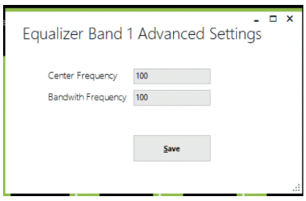


Figure 15 Frequency Set Menu

Figure 16 Passive Condition

iv. Settings Menu

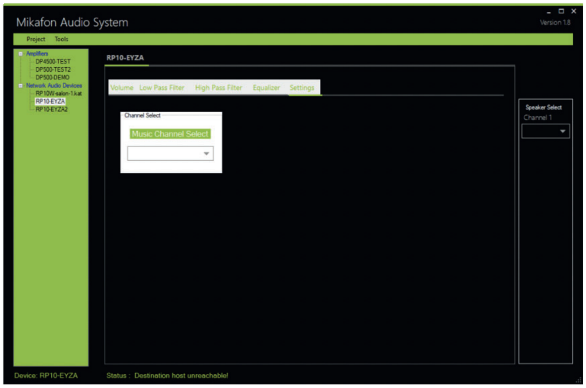
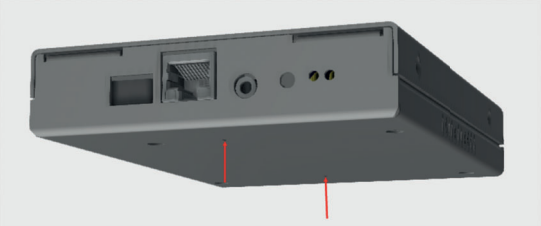


Figure 17 Settings Menu

1. Gain Setting: Music is streamed to 8 channels over MS40. 1 of 8 channel is selected to broadcast from RP10. Music can be muted automatically when an announcement is made via the emergency microphone or when there's a fire contact

5. INSTALLATION INSTRUCTIONS

The Audio Decoder RP10 is suitable for desktop or 19-inch rack installation. The device is designed so that 4 units fit side by side in a 19" rack cabinet. When placing the device in the rack cabinet, the ventilation gaps should not be blocked and it should be fixed to the rack cabinet in order for it to work smoothly. For mounting holes, see Figure 18. Make sure that there is enough space around the side walls of the device when placing it on the tabletop or in the rack cabinet



To fix the RP10s to the rack, fix them with a phillips screwdriver through the holes using M3x6mm pan head screws.

Figure 18 RP10 Rack Shelf Mounting Holes

If the devices are to be placed in a rack cabinet, it is necessary to use the tray specially produced in our company for RP36s.

To initialize the system, connections are made in accordance with the above-mentioned explanations. After the IP settings and necessary configurations are made through the interface, the device is powered from the rear panel via the 20-30VDC input. If the Power LED on the front panel of the device is on continuously and the Status LED is flashing, the RP10 is ready to use.

CONTROLS AND INDICATIONS

Front Panel
· Power LED
· Status LED
· Reset Button

CONNECTIONS

RP10
Front
1x Ethernet Input
1x Headphone Input
1x RS485
Rear
20-30V Supply Socket
1x Analog Contact Output
4x Contact Input (Dry or 5V)
1x Balanced Input
1x Balanced Line Output
2x Speaker Output

CERTIFICATION AND APPROVALS

Europe	Voice Alarm	CE Declaration

CONTENTS

Unit	*Components*
1	30V DC Power Adapter (with connector)
1	CAT6 Cable (1mt)
1	2P 3.81 Female Terminal
2	6P 3.81 Female Terminal
2	4P 3.81 Female Terminal
1	Interface
1	Manual
1	40x40mm Fan

TECHNICAL SPECIFICATIONS

Electrical Specifications	
Main Power Supply	
Voltage	20-30V DC

Performance Values	
Frequency Response	20 Hz -20 kHz (+1 dB)
CPU	32-bit Cortex M4 CPU w/ FPU
RAM	128 + 4KB SRAM
Flash	512KB Flash
Frequency Response	20Hz-180kHz
SNR	>64dB
V(esd)	· HBM: ±2000V
	· CDM: ±1500V
Cooling	40x40mm Fan

Line (Audio) Input
Input Channel:
· Line In: 0,707 Vrms, balanced/unbalanced
Input Impedance:
· Line In: 80 kΩ
Input Connector 3P 3.81 Terminal

Line (Audio) Output
Output Channel:
· Line Out: max 4.9dBu (1.38V) balanced/unbalanced
Output Connector: 3P 3.81 Terminal

Speaker Outputs
Output Channels
· Bridge Power Out 1,2: 50W/ per ch. w/30V supply
Output Impedance:
· Speakers 1,2: 4Ω
Output Connector: 4P 3.81 Terminal

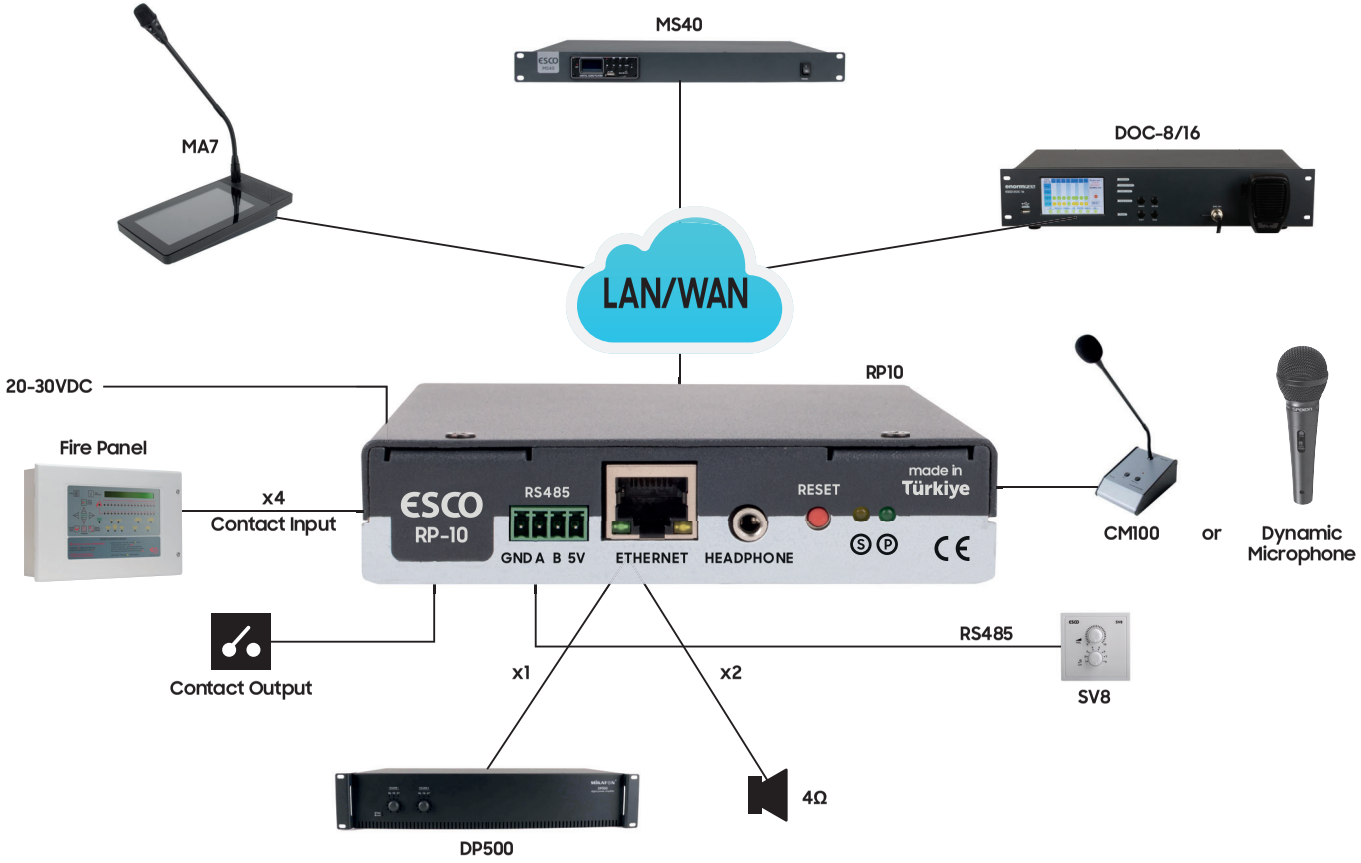
Digital Contact Inputs
Input Channels:
· Contact In:
⁄ Low Active: <1VDC
⁄ High Active: >3VDC
Input Connector 6P 3.81 Terminal

Analog Contact Output
Output Channel:
· Contact Out: Dry contact
Output Connector: 2P 3.81 Terminal

Mechanical Specifications	
Dimensions (HxWxD)	32x150x104 mm
Weight	400 gr (0.88 lbs)
Colour	RAL7016
Case	Steel metal

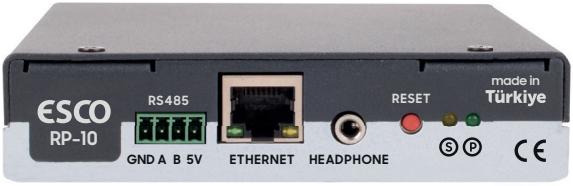
Environmental Conditions	
Operating Temperature	0°C~50°C (32°F~122°F)
Relative Humidity	0% to %75 (no condensation)

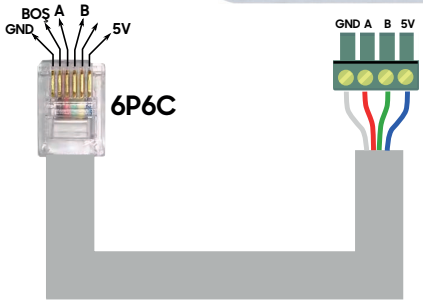
RP10 BLOCK DIAGRAM 1



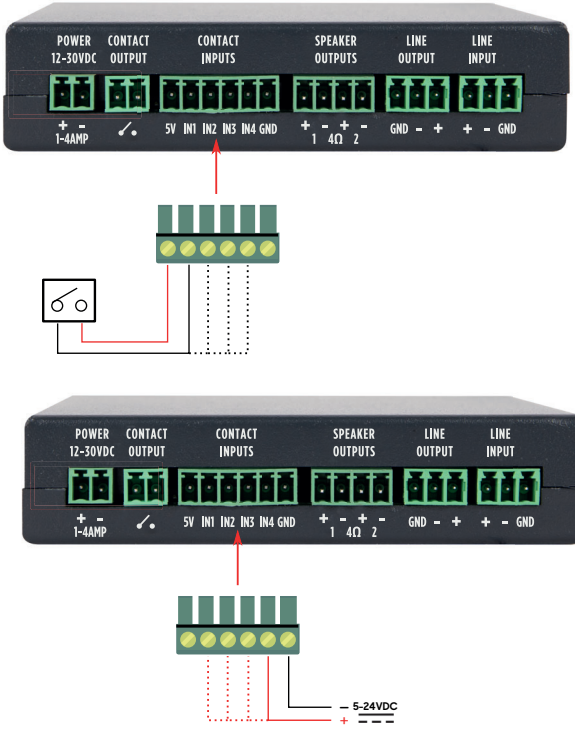
RP10 BLOCK DIAGRAM 2

RS485 Connection





Digital Contact Inputs Connection



MİKAFON

CE

EC DECLARATION OF CONFORMITY

Type of Product	Reference	Brand:	Model Name	Description
Audio Decoder	15950270	ESCO	RP10	Audio Decoder TCIP/IP

is in conformity with Directives:

2014/35/EU - Low Voltage Directive (LVD)
2014/30/EU - Electromagnetic compatibility (EMC)
2011/65/EU - Restriction of the use of certain hazardous substances (RoHS 2)

according to the provisions for compliance:

This declaration of conformity is issued under the sole responsibility of the manufacturer:

Name Of Manufacturer: MİKAFON ELEKTRONİK İNŞ.SAN.LTD.ŞTİ.

Şair Ziya Paşa Cad No: 8 34420 Karaköy - ISTANBUL / TURKEY

Signed for and on behalf of the manufacturer by:

Name: Ercan Polat
Position: Chief Executive Officer
Istanbul, January 01 2021

MİKAFON ELEKTRONİK İNŞAAT SAN. VE TİC. LTD. ŞTİ.
Şair Ziyapaşa Cd. No:8 Karaköy-İST.
Yenikapı V.D. 621 041 6443

WARRANTY
GARANTİ BELGESİ

Bu belgenin kullanılmasına; 4077 sayılı Tüketicinin Korunması Hakkında Kanun ve bu Kanun'a dayanılarak yürürlüğe konulan Garanti Belgesi Uygulama Esaslarına Dair Yönetmelik uyarınca, T.C. Sanayi ve Ticaret Bakanlığı İl Müdürlüğü tarafından izin verilmiştir.

İMALATÇI FİRMANIN

ÜNVANI: MİKAFON ELEKTRONİK İNŞ.SAN.LTD.ŞTİ.
MERKEZ ADRESİ: Şair Ziya Paşa Cad. No: 8/A 34420 Karaköy / İSTANBUL
TELEFON: 0 212 244 5177
FAKS: 0 212 244 5175

MALIN

CİNSİ: AUDIO DECODER
MARKASI: enormPA

MODELİ:
SERİ NO:

GARANTİ SÜRESİ: 2 (İKİ) YIL ——— WARRANTY: 2 (TWO) YEARS VALIDITY
AZAMİ TAMİR SÜRESİ: 30 (OTUZ) İŞ GÜNÜ ——— MEAN TIME TO REPAIR: 30(THIRTY) WORK DAYS

SATICI FİRMANIN

ÜNVANI: _____
ADRESİ: _____
_____

TELEFONU: _____
FAKSI: _____
FATURA TARİH VE NO: _____ / _____

TARİH-İMZA-KAŞE:

enormPA

MİKAFON ELEKTRONİK İNŞ. SAN. LTD. ŞTİ.
Showroom: Şair Ziya Paşa Cad. No: 8/A 34420 Karaköy / İSTANBUL
Intermediate Warehouse: Çatma Mescit Mah. Mektep Sok. No:8 Şişhane-Beyoğlu / İSTANBUL
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