Amati.linea streaming High Definition audio player **Product Manual**

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Technical Support: <u>support@openrb.com</u>



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Introduction

Amati.linea plays all your network music in HD quality staying design wise, powerfull and affordable. Not only the listening experience is made beautiful with Amati.linea, but the domestic visual experience as well.

Amati.linea wants people to distribute their 'audio-money' for real quality and sound experience not investing it into the office computer functionality! Amati.linea takes care of the flawless stream, the perfect timing needed to get so deep into your digital recordings, you'll completely rediscover everything you've ever heard in digital.

Amati.linea allows to share your media library throughout all devices in your home. UPnP, DLNA, Airplay, FTP support, 24/96 and lossless formats support, 40W/ch. amp, KNXnet/IP onboard are just few of features charactirizing SP.

Technical support

Any faulty devices should be returned to Embedded Systems.

If there are any further technical questions concerning the product please contact our support, available Mon-Fri 9:00 – 17:00 GMT +02:00. Please write to <u>support@openrb.com</u> or call +371 67648888.

Firmware updates will periodically be available on <u>www.openrb.com</u>.

1. Features overview

• Make your music invisible

Invisible concept is provided by means of making the system embedded in wall boxes, without visible wiring. Furthermore, dimensions of amati.linea is just $52 \times 90 \times 51$ mm. Home owner will appreciate the concept without interfering with interior.

• Distributed music

System can works as streaming server and also can render music from local sources connected to USB ports (HDD, USB flash etc.)

• Open standards supported

For streaming system support connection by open protocols like UPnP, DLNA, FTP

• Superior sound engineering

Amati.linea is a sophisticated combination of high performance DAC, robust digital amplifier, and plenty of music sources support. Amati.linea defines the modern integrated amplifier. With an appealing small footprint, it is attractive and power efficient. Featuring the world's most advanced technology, as well as uncompromised component quality, Amati.linea is optimized for musical performance and makes sound quality outstanding.

• True digital amplifier

Amati.linea doesn't use traditional DAC and analog amplifier, instead Power DAC based on $Equibit^{TM}$ technology is used. Power DAC based on $Equibit^{TM}$ is used in such high end devices as TacT Millennium amplifier and STEINWAY LYNGDORF. Amati.lineautilizes true digital amplification, which allows receiving the original digital signal from the processor, thus ensuring that the signal processing is handled 100% in the digital domain.

• Better SNR and THD

Direct digital construction provides better SNR and THD than the digital+analog construction.

• Performance matters

Audio processing is operated at 384 kHz switching rate for 32-, 48-, 96-, and 192 kHz data, and at a 352.8 kHz switching rate for 44.1-, 88.2-, and 176.4 kHz data. The 8× upsampling combined with the fourthorder noise shaper provides a flat noise floor and excellent dynamic range from 20 Hz to 20 kHz.

• Very low jitter

Very low jitter is provided by extremely linear Clock Oscillator (Jitter RMS: 0.5psec typ., 1psec max). The oscillator utilizes Fundamental or High Q Third Overtone crystal design providing very low Jitter and Phase Noise. No Sub-Harmonics are present in the Output Signal. Power DAC connected to host by I2S bus delivers best jitter figure.

• PC, Android/iOS touch visualization

A specific web itnerface is built in the device for PC and iPad control. More MPD or UpnP apps available from 3rd party vendors.

• Easy integration in building automation sysem

Most widely used building automation standards are supported in box –KNXnet/IP or other building automation protocols through custom controllers, using serial communication.

2. Technical Highlights

- Full digital patch from source to loudspeaker
- Accepts input data streams with rates up to 24bit/192kHz
- Audio/PWM Processing at a 384-kHz switching rate for 32-, 48-, 96-, and 192-kHz data, and at a 352.8 kHz switching rate for 44.1-, 88.2-, and 176.4-kHz data.
- Ability work as dual mono system with active crossovers for bi-amping and bi-wiring operations
- The 8× upsampling combined with the fourth-order noise shaper provides a flat noise floor and excellent dynamic range from 20 Hz to 20 kHz.
- Closed Loop Power Stage Architecture:
 - o Improved PSRR Reduces Power Supply Performance Requirements
 - Higher Damping Factor Provides for Tighter, More Accurate Sound With Improved Bass Response
- High Resolution digital filters for correction loudspeakers and room no linearity
- Programmable Dynamic Range Control,
- Loudness Compensation
- 16 Programmable adaptive Biquads for Speaker Equalization (EQ)
- Independent Channel Digital Volume Controls
- Output power up to: 2x40W (or 4x40W in dual mono configuration)
- Total harmonic distortion (THD) + noise: 0.05% Extremely low jitter clock generator (.5pS)
- S/PDIF recovered clock and advanced jitter attenuating PLL

3. Amati.linea specification

Feature / Product		Streaming player HD with digital amplifier, DIN rail	Streaming player without amplifier, DIN rail
Connectivity	Inputs	 1 x 100BaseTX ethernet 2 x USB, 1 x RS485, clamp 1 x 0-10V analog input for external volume control, clamp 	 1 x 100BaseTX ethernet 2 x USB, 1 x RS485, clamp 1 x 0-10V analog input for external volume control, clamp
	Outputs	 1 x 2 outputs for stereo loudspeakers, clamp 1 x analog subwoofer output, clamp 1 x digital output for external relay/contactor control, clamp 	• 1 x 2 Line-out for interconnection with external audio amplifier
Audio amplifi	er	 Total harmonic distortion + noise (f = 1 kHz, PO = 10 W) : 0.05 % SNR (Maximum output at THD+N < 1%, f = 1 kHz, A-weighted): > 100 dB Music power THD+N<1%: 40 W/channel at 8 Ohms 	-
High precision array operation	n Audio data ns	 32bit DSP for basic audio manipulatio filters etc. 32bit/384kHz sample rate for DSP I2S as internal audio bus 	n: volume control, EQ, low pass, high pass
ADC/DAC		 PowerDAC based on <i>Equibit</i>™ technology <i>Nichikon MUSE</i> premium grade acoustic series capacitors 	 Wolfson Hi-End multi bit deltasigma DAC 24bit 192kHz with advanced digital filtering Nichikon MUSE premium grade acoustic series capacitors Ultra fast Op amps Ultra-low noise linear regulators Polystyrol and polypropylen capacitors in the signal path DAC Signal to Noise Ratio: 100dB DAC Dynamic Range: 95dB DAC Total Harmonic Distortion (1kHz, -3dBfs): -92 dB ADC Total Harmonic Distortion (1kHz, -3dBfs): -84 dB
Sampling freq	uencies /	32, 44, 48, 88, 96, 192 kHz / 16, 20, 24	32, 44, 48, 88, 96, 192 kHz / 16, 20, 24 bit

resolutions	bit. All sampling frequencies upsamled to						
	352.8 kHz or 384 kHz						
Supported audio formats	MP3, WAV, AAC, WMA, FLAC,	MP3, WAV, AAC, WMA, FLAC, lossless					
	lossless FLAC 96/24, 24/192	FLAC 96/24					
Protocols supported	DLNA, UPnP, AirPlay, FTP, NFS, HTTF	P, KNXnet/IP, Modbus TCP/RTU, Bacnet/IP					
Jitter control	• Reclocking input signal from SPDIF (TOSLINK) and USB – jitter attenuating					
	PLL with low intrinsic period jitter of	50 ps RMS.					
	Asynchronous Sample Rate Converter	(ASRC) for reclocking input stream					
	• DAC. SPDIF as master for eliminating	o host delay					
	 Ultra low noise power sources for close 	cking parts and digital parts - 29.5mV RMS					
	• Using ultra stable HCMOS Clock Osc	illators that utilizes Fundamental crystal					
	design providing very low Jitter (F	RMS (0.5psec Typ.) and Phase Noise. No					
	Sub-Harmonics are present in the Out	put Signal.					
		Par S.B.a.					
Power part	• Direct conversation from High Definit	tion PCM to PWM using <i>Equibit</i> TM					
L.	technology	6 1					
	 Closed Loop Power Stage Architectur 	e for better PSRR better dumping factor					
	• Closed Loop I ower Stage 7 Heinteetar						
	• Switchable P wivi modulating schemes	8					
	• Multi stages power supply filters for high power parts and for low power parts						
	10.00 UDC						
Power supply supported	18-26 VDC	7-36 VDC					
Power supply in the kit	24 VDC 2.7 A	24 VDC 0.8 A					
Power consumption	1.2W idle mode						
Weight	0.3 kg						
Dimensions/Enclosure	70 x 90 x 51 mm (W x H x D), DIN-rail	$52 \times 90 \times 51 \text{ mm} (W \times H \times D), \text{DIN-rail}$					
	plastic case plastic case						
Connecting clamps, cross	1.5mm2						
section							
Connecting clamps, current	It Up to 8 A						
intensity							
Operating temperature	-5°C to 55°C						
Warranty	2 years						

Amati.linea Streaming player with amplifier kit contains:

- HD Streaming player in plastic DIN-rail case
- 24V DC 2.7A power supply

Amati.linea Streaming player without amplifier kit contains:

- HD Streaming player in plastic DIN-rail case
- 24V DC 0.8A power supply

4. Connections – Streaming player WITH amplifier

Unner eide	С	h1	Cł	12	Ω	В	CO	NT.	RS4	185	Ω	4	D	4
Upper side	+	-	+	-	GN	SU	IN	0T	А	В	GN	+2	GN	+2

Ch1-stereo loudspeaker output (left)

- Ch2 stereo loudspeaker output (right)
- GND- ground subwoofer

SUB– analog subwoofer output

Cont. -control IO ports

IN - binary/analog input, to connect e.g. potentiometer for volume control

OT – binary output, to control e.g. external relay/contactor

RS485 – RS485 serial port

+24V – power supply 1, +

GND – ground of power supply 1, -

+24V – power supply 2, +

GND – ground of power supply 2, -

Bottom side

ETH - LAN interface to interconnect with local Ethernet network

 $\mbox{USB}-2\ x\ \mbox{USB}$ interfaces for connection of external flash (music playback) or external WiFi adapter

5. Connections – Streaming player WITHOUT amplifier

Upper side	GND Right Left	Ethernet	USB
------------	----------------------	----------	-----

GND – ground Right – analog line in (right) Left – analog line in (left) Ethernet – Ethernet port

Г

 $\mbox{USB}-2\ x\ \mbox{USB}$ interfaces for connection of external flash (music playback) or external WiFi adapter

Bottom side	AUDIO OUTPUTS	OUN AS485 GND +2++
		ALA BLOG +

Audio outputs- LAN interface to interconnect with local Ethernet network AI/DO – analog input or digital output RS485 – RS485 serial port GND – ground of power supply, -+24V – power supply, +

6. Quick startup guide

The device may be used for installations in dry locations.

- 1. Connect your speakers(6-8 Ohms) to the Streaming Player's loudspeakers outputs
- 2. Connect Ethernet cable to LAN port (make sure the cable is interconnected with your local network)
- 3. Plug USB drive with music files in MP3, WAV, AAC, WMA, FLAC. **Note!** Please make sure USB is formatted with FAT/FAT32 file-system, NTFS is currently not supported.
- Connect power supply to Streaming Player (power supply's red pole to +24V, black GND. Note! Streaming Player supports two power sources, use any for connecting power supply)
- 5. To check if the wiring is done well, you can run any music file on your iPhone/iPOD and Share it to play on remote Airplay device (*amatilinea*).
- 6. Streaming Player is setup as DHCP-client. It uses Zero-config utility is called "Bonjour" by Apple which enables automatic discovery of computers, devices, and services on IP networks. iPod, iPhone have this utility pre-installed. For iPad use utility called **Discovery** (the server will be discovered in the service ROAP). On Windows 7 computer you can see the Player as Network share with name *amatilinea*, right click on it, Properties and you will see its IP address. Or you can simply check your DHCP server's lease list to find assigned IP to Streaming Player. More see here: http://openrb.com/discover-ip-of-logic-machine-or-streaming-player/
- 7. Enter Streaming Player's home page by typing IP address in your web browser.
- 8. DLNA/UPnP/Airplay services are enabled by default in the Streaming Player's *Quick* setup
- 9. Add additional music sources if any in the Streaming Player's *Quick setup* → *Services* → *FTP mountpoints*
- 10. Depending on count of music files the device will update its local database in Audio Player menu and you can start playing songs there
- 11. Connect by remote user interface (also called digital media controllers) from iPOD/iPhone/iPAD (*MPoD/MPaD* or any UPnP controller apps available as freeware at App Store like *Kinsky*), Android-based phones (*Droid MPD*), PC (*Ario, Kinsky*). Choose the server (*amatilinea* or by IP) and start making your playlists, controlling the music etc. Update player's database with *Update Database* command from your remote controller. It might take some time to do initial database update.

- 12. Map music control functions to KNX in *Network config* \rightarrow *Network* \rightarrow *KNX Audio control* menu. Default login and password to access *Network config* is **admin / admin**
- 13. Please note that you have to **use external KNX IP Router** (e.g. Logic Machine 2) to access the KNX TP, as Streaming Player supports only KNXnet/IP (TP is not used due to sound quality distortions).

7. Amati.linea WEB-based configuration

Using IP assigned to Streaming Player, connect using web browser. To access *Network config*, you need to enter login name and password.

Login	admin
Password	admin

← → C 🗋 192.168	.1.57			☆ =
	aı	matilin	ea	
	Internal input	⊙ S/PDIF 1	© S/PDIF 2	
	•	0	-(1)	
	•	I	*	
	: Lavoine - C	hère amie (Foutes mes e:	
	ت Audio player	★ Quick setup	o Network config	

- Audio Player built-in music player/controller
- *Quick setup* audio related configuration
- *Network config* network related configuration

Default web page of the player provides quick player functionality. You can define input type used in the Streaming Player – either *internal USB*, *S/PDIF 1* digital input or *S/PDIF 2* digital input.

On the top bar you can choose the player to control from your network. In case you have several Streaming Players installed in your LAN, you can control them from one interface.

amatilinea 🔻								
amatilinea	-2							
Internal input	S/PDIF 1	S/PDIF 2						
•0	Ø	-(1)						
		•						
Os	Modernistas	- A Heart Ca						
ת Audio player	★ Quick setup	o Network config						

7.1. Audio Player – built-in audio controller, player

In Audio Player menu you can control your player, create playlists, favorites.

← → C 🗋 192.168.1.57/cgi-bi	n/audio/ind	lex.cgi							☆ =
Monte La Rue - Moonlite (ABCLounge	e)	н	•	*					64:48 00:00
Nicola Conte Unknown								107 t 07:	racks 23:43
The Bamboos 4								12 t 00:	racks 45:33
New York Jazz Lounge								12 t 00:	racks 55:55
s Artists								1 01:	track 03:49
N ^{Genres} I E Playlists								4 t 00:	racks 18:43
N File system B								4 t 00:	racks 13:58
Internet radio E Current playlist								16 t 00:	racks 58:17
Albums 🔺					۹	¢	*	-0	= 1)

7.1.1. Update database

First thing to do after you enter the interface of audio player is to update local database which will create local library file with pointers to the music sources you have defined (DLNA servers, FTP servers, USB flash drives). Is may take some while if the library of songs is big. Click on the *Settings* button to access the window.



7.1.2. Sorting

Albums – sort music library by albums *Artists* – sort music library by artists *Genres* – sort music library by genres

7.1.3. File system

File system folder contains music sources added and available on the network – DLNA, FTP servers, USB.

Friend 'N' Fellow - Here Comes The Rain	*	₩					02:44 04:11
1							0
🚘 ftp-music							
r usb-a1							
File system 🔶			٩	¢	*	-	⊲))

You can enter specific folder by double clicking on it.

Liz Cass - They Can't Take That Away Fr	08:26 00:00
/usb-a1	0
출 2009 -Touch Yello	
🚘 keep calm and relax	
Friend 'N' Fellow - Both Sides Now (Joni Mitchell) (Discovered) Friend 'N' Fellow - 04 - Both Sides Now (Joni Mitchell).flac	00:04:59
Friend 'N' Fellow - A Case Of You (Joni Mitchell) (Discovered) Friend 'N' Fellow - 08 - A Case Of You (Joni Mitchell).flac	00:04:51
Friend 'N' Fellow - Here Comes The Rain Again (Eurythmics) (Discovered) Friend 'N' Fellow - 10 - Here Comes The Rain Again (Eurythmics).flac	00:04:12
usb-a1/test.wav test.wav	00:00:08
File system 🔺 🔍 🗢 ★	■() ■())

By double click on the song, it starts to play. By one time click on the entry it offer specific functions to do with folder/song – *Play*, *Add to current playlist*, *Refresh*

Friend 'N' Fellow - Both Sides Now (Joni Mitchell) (Discovered)	•	~
Friend 'N' Fellow - 04 - Both Sides Now (Joni Mitchell).flac	•	2

By one time click on the folder, there is also Info option, which opens content of the folder.

Manhattan Lounge Band	•	~	•
Best of Bar Jazz Vol. 3	<u> </u>	5	

7.1.4. Search

Click on the *Search* button songs. and type the search phrase to find appropriate folders and

Manhattan Lounge Band - How High the	00:03 03:26
Manhattan Lounge Band Best Of Bar Jazz Vol. 2	4 tracks 00:18:43
Manhattan Lounge Band Best of Bar Jazz Vol. 3	4 tracks 00:13:58
Manhattan Jazz Quartett, Debby Davis New York Lounge Jazz (Vocal Classics)	5 tracks 00:21:14
Albums	× • + • •

7.1.5. Volume control

With <i>Volume Up</i> , <i>Volume Down</i> buttons and an	you can con	trol the volume of the
Manhattan Lounge Band - It Don't Mean a		01:16 03:09
/usb-a1		•
🕿 2009 -Touch Yello		
😑 keep calm and relax		
Friend 'N' Fellow - Both Sides No Volume: 50% Friend 'N' Fellow - 04 - Both Sides No	ered)	00:04:59
Friend 'N' Fellow - A Case Of Yo Friend 'N' Fellow - 08 - A Case Of You (Joni Mitchell).flac	red)	00:04:51
Friend 'N' Fellow - Here Comes The Rain Again (Euryt Friend 'N' Fellow - 10 - Here Comes The Rain Again (Eurythmi	hmics) (Discov cs).flac	ered) 00:04:12
usb-a1/test.wav test.wav		00:00:08
File system	Q \$	* • •

7.1.6. Top control bar

On top bar you will find currently playing song name, you can pause the song, jump to next or previous song in the current playlist, forward the current song, time elapsed and song length.



7.1.7. Current playlist - play, save, delete

In Current playlist you can see all songs which you have added by double-click or via *Add* ottom

Saskia Bruin - Close your Eyes (ABCLoun		05:14 00:00
4 tracks, total play time: 00:06:44	•	Î
Manhattan Lounge Band - Take Five (Best Of Bar Jazz Vol. 2)	0	0:03:35
Manhattan Lounge Band - It Don't Mean a Thing (Best of Bar Jazz Vol. 3)	0	0:03:09
Saskia Bruin - Close your Eyes (ABCLounge)		
http://listen.radionomy.com/abc-lounge		
Current playlist	=)	⊲ ;)
You can save current playlist by clicking <i>New</i> button.		
Save current playlist	×	

Save

You can delete the content of current playlist by clicking on *Delete* button.

Chillout

7.1.8. Favourites

While some song or plays, you can click on *Favourites* button, **Favourites**. If the song is already favourite, the button is green.



to add it to Playlist



7.1.9. Playlists

In *Playlists* you will find both your selected *Favourites* songs as well as defined Playlists.



7.1.10. Internet radio

There are more than 4000 radio stations built-in in the Streaming Player, grouped by genres. As with regular songs you can add them to playlists.

Manhattan Lounge Band - Take Five (Bes	03:04 03:35
	• • •
🚘 User stations	3 stations
😑 '70s Retro	66 stations
😑 '80s Flashback	155 stations
🚘 '90s Hits	50 stations
🚘 Adult Contemporary	258 stations
🚘 Alternative Rock	252 stations
🚘 Ambient	172 stations
🚘 Blues	26 stations
E Classic Rock	235 stations
Internet radio	* •0 •0

You can add new radio stations by clicking on Add button Added internet radios will appear in User stations folder.

n	•

Add new station	×
Title	
URL	
Add	

7.2. Quick setup

Audio configuration is sorted in three main tabs:

- *Quick setup* quick configuration
- Audio audio specific configuration like presets, dithering
- Services services

7.2.1. Quick setup

In Quick setup window it is possible to fast configuration by enabling or disabling Airplay, DLNA, UPnP renderer or Audio settings

amatilinea audio configuration						
Quick setup	Audio	Services				
		Audio				
Dithering		Preset - Anti clipping	1			
		Services				
Airelau			UPnP			

7.2.2. Audio settings

- *Dithering* dithering on/off. Make the sound more realistic.
- Preset [Off, Night, Anti clipping, Bass Boost]-type of preset to use

amatilinea audio configuration					
Quick setup Auc	dio Services				
Dithering	g 🔲				
preset prese	t Anti clipping				
	Off Night				
	Anti clipping Bass Boost	Save			

7.2.3. Services

amatilinea	audio configuration	Home
Quick setup Audio	Services	
Player name	amatilinea	
Airplay		
DLNA mountpoint		
UPnP Renderer		
KNX/IP control	V	
MPD Password		
Advanced settings	KNX/IP FTP mountpoints	
		Save

Player name – name of the player

Airplay – enable Airplay protocol support

DLNA mountpoint – enable DLNA mountpoint so the Streaming Player will make local library with song list from DLNA servers. This feature is convenient to use if you plan to use built-in music player or MPD based app for music control

UPnP Renderer – enable UPnP renderer feature which will allow to play the songs directly from UPnP renderer applications. UPnP renderer can only be used as a stand-alone solution. It cannot be used together with KNX control or MPD control applications. UPnP renderer might not be compatible with some control devices and applications.

KNX/IP control – enable KNXnet/IP support for mapping specific audio control functions to KNX group addresses. There should be external KNX IP Router used to perform access to KNX TP (e.g. Logic Machine 2)

MPD Password - MPD protocol access password

Advanced settings - shortcuts to quick access of KNX/IP mapping and FTP server list

Note! It is advised to restart client applications when changing any of the configuration values.

7.3. Network configuration – network and KNX related configuration

7.3.1. System configuration

System \rightarrow Hostname – Name of the Player, all other network devices will see the device by this name

System	Network	Status	Help					<u>Start page</u>
				Hostname			×	
				Hosthame				
				Hostname	LM-Audio			
						OK Cancel		
► On	on DR co	_						FlashSYS v2 r83 (24,08,11)
• Ohe	enkb.co	m –						Load averages: 0.13 0.08 0.06

System \rightarrow Packages – Package management of the operating system. In case of add-ons new packages should be added by +

System	Network	Status	Help			<u>Start page</u>
			_			
			Packages		-	×
			◆ Package name	• ¥ersion		
			alsa-lib	1.0.24.1-1	٢	
			alsa-utils	1.0.24.2-1	0	
			avahi-daemon	0.6.30-2	0	
			avahi-daemon-dbus	0.6.30-2	9	
			avahi-utils	0.6.30-2	0	
			base-files	43.33-r30740	0	
			busybox	1.15.3-3.4	0	
			curlftpfs	0.9.2-5	٢	✓
			Actions: 📀			
						ElashSYS v2 r83 (24.08.11)
Op	enRB.co	m			Loa	ad averages: 0.02 0.08 0.07

System → *GUI login*- password settings for login

System → Backup and Restore – backup or restore network settings



Actions: 💿 🕞

System → Upgrade firmware – upgrade system's firmware version System → Reboot– restart the system System → Shutdown – shut down the player

7.3.2. Network configuration

Network \rightarrow *Interfaces* – Interface and IP management. Static IP, DHCP or PPPoE can be set up for interface

System I	Network Stat	tus H	lelp					<u>Start page</u>
			Interface eth0	I		×		
	Interfaces		General				- ×	
	Ethernets	Wirel	Protocol	DHCP		~		
	• Name	- M	Current IP	192.168.1.20				
	eth0	00:1	DNS server					
			Mtu					
	nDD com						FlashSYS v2 r8	
• Oper					ОК	Cancel	au averages: 0.	

Network \rightarrow *Routes* – dynamic/static route management. In case advanced routing is necessary, static routes can be added.

System	Network	Status Help					<u>Start page</u>
		Routes Dynamic	Static			÷ ×	
		Interface	Destination	Gateway	Network mask	Flags	
		eth0	default	192.168.1.100	0.0.0.0	UG	
		eth0	192.168.1.0	*	255.255.255.0	U	
		eth0	224.0.0.0	*	224.0.0.0	U	
						4	
Ор	enRB.coi	m				FlashS` Load aver	/S v2 r83 (24.08.11) ages: 0.01 0.09 0.10

Network \rightarrow *ARP table* – Address Resolution Protocol table with hosts being associated with the streaming player

System Network St	atus Help					<u>Start page</u>
	ARP table				- ×	
	Interface	IP address	Mask	MAC address	Flags	
	eth0	192.168.1.100	*	00:1c:c0:54:88:cb	0x2	
	eth0	192.168.1.241	*	00:0e:2e:c0:97:63	0x2	
	eth0	192.168.1.208	*	00:0e:2e:cd:35:e9	0x2	
	eth0	192.168.1.122	*	00:1c:c0:45:3e:74	0x2	
	eth0	192.168.1.48	*	f0:b4:79:30:48:d4	0x2	
					- A	
					The house	
OpenRB.com					Load average	/2183 (24.08.11) s: 0.00 0.06 0.08

7.3.3. FTP servers, DLNA configuration

Network → *FTP servers* / *DLNA* – DLNA/UPnP/FTP server settings

System Networ	k Status	Help			<u>Start page</u>
	FTP serve	rs / DLNA		$- \times$	
	• Server	FTP server		×	
	192.168.0.1	Server			
		Username			
		Password			
		Local directory			
		(1) Leave username	and password blank for anonymous access		
	Actions: 🙃				
				el	
OpenRB.c	om				

By clicking on Settingsbutton, there is a possibility to switch DLNA-server auto discover YES/NO

Server – IP address of FTP server e.g. 192.168.1.101 Username – FTP server login name Password – FTP server password Local directory – specific folder name e.g. music

System N	letwork	Status	Help								9	tart page
		FTP serve	rs / DL	NA				•	×			
		• Server		• Usern	ame	- Local directory						
		192.168.0.1		Username DLNA cottings	_	example	0	. 0				
				DLNA sectings								
				DENA mountpoint	Disabled			- 8				
					Enabled							
		Astissus (A					Cancel					
		Actions:					Carlot					
0 - - - -												
- Open	IKB.CC	om						LC	pad a	veräges	: 0.08 0	.110.13

7.3.4. KNX connection settings

KNX connection		×
Mode	EIBnet/IP Routing	
Parameter		
KNX address	15.15.255	
KNX IP features		
Multicast IP	224.0.23.12	
Multicast interface	eth0	
Maximum telegrams in queue	100	

7.3.5. Mapping to KNX group addresses

Network → *KNX Audio Control*– mapping audio functionality to KNX

<u>Note!</u> KNX mapping currently works only with MPD control applications. <u>Note!</u> You have to **use external KNX IP Router** (e.g. Logic Machine 2) to access the KNX TP, as Streaming Player supports only KNXnet/IP (TP is not used due to sound quality distortions).

General mapping functions

Simply type the KNX group addresses which will store the current value of player functionality like *Play/pause*, *Next track*, *Previous track*, *Track name*, *Random on/off*, *Repeat on/off*, *Volume*, *Next playlist*, *Previous playlist*, *Playlist name*.

KNX audio control	×
General Play sp	ecific track
KNX address	15.15.255
Play/pause	1/1/7
Next track	1/1/8
Previous track	1/1/9
Track name	
Random on/off	
Repeat on/off	
Volume	3/3/4
Next playlist	
Previous playlist	
Playlist name	

Cancel

OK

KNX address – KNX physical address

Data types:

Play/pause – 1-bit [In/Out] Next track – 1-bit [In] Previous track – 1-bit [In] Track name – 14-byte string [Out] Random on/off – 1-bit [In/Out] Repeat on/off – 1-bit [In/Out] Volume – 1-byte scale 0..100% [In/Out] Next playlist – 1-bit [In] Previous playlist – 1-bit [In] Playlist name – 14-byte string [Out]

Map specific track or radio stream to KNX group address

You are able to map specific tracks from music sources or specific internet radio to KNX group address in *Play specific track* tab.Up to 12 sources can be mapped.

KNX audio control					
General Play specific track					
Track 1 group address	1/1/1				
Track 1 path	usb-a1/2009 -Touch Yello/01 - The Expert.flac				
Track 2 group address	1/1/2				
Track 2 path	http://u16b.di.fm:80/di_progressivepsy				
Track 3 group address	1/1/3				
Track 3 path	http://u17.di.fm:80/di_harddance				
Track 4 group address	1/1/4				
Track 4 path	http://scfire-mtc-aa01.stream.aol.com:80/stream/10:				
Track 5 group address					
Track 5 path					
Track 6 group address					
Track 6 path					

OK Cancel

7.3.6. Master-Slave configuration (multiroom)

Network \rightarrow *Audio master* – add slave players to this master player. Slaves will play/do the same what is done on Master device

etwork Service	es Status Help	_	_		
Audio maste	r	_		_	- ×
 Slave name 	•	• IP address			
Bedroom		192.168.1.32		0	0
Office		192, 168, 1, 1		0	0
Actions: 🕥	Slave name IP address Password (optional)	Bedroom 192.168.1.32 test12345			
	Delay (milliseconds)	1000			
	Delay (miniseconds)	1000			

- *Slave name* name of the slave device
- *IP address* IP address of slave device
- Password (optional) Login password to access Slave device
- *Delay (milliseconds)* Delay for the stream

It is possible to disable/enable slave players any time with the circle button.

7.3.7. System, network status

System Network S	tatus Help		<u>Start page</u>
	System status	- ×	
	General Memory usag	e Partitions	
	Parameter	Value	
	CPU BogoMips	199.06	
	Linux kernel version	2.6.39.3	
	System uptime	0d 1h 46m	
	Load averages	0.06 0.12 0.11	
CopenRB.com			FlashSYS v2 r83 (24.08.11) Load averages: 0.05 0.12 0.11

Status → *System status* – General system parameters, memory usage, partitions

Status → *Network status* – Network status, bandwidth graph, TX/RX bytes System Network Status Help

 Name 	 Mac address 	• IP address	- Mtu	 TX Bytes 	 RX Bytes 	• Errors	
eth0	00:1B:C5:00:12:2D	192.168.1.20	1500	5 MB	2 MB	2/2	
	Network usage f	for interface eth	כ		-	×	
	In 6 Kbps Out 4 Kbps	Switch AutoS	to bytes/s cale (follow)				
					15 K	bps	
					10 K	bps	
	AWW.				5 K	<u>bps</u>	
	V WW VWW						

<u>Start page</u>

Status → *Network utilities* – Ping, traceroute network utilities

System Net	etwork Status Help			<u>Start page</u>
	Network utilities		÷ ×	
	Ping Traceroute Netw	ork performance		
	IP / Hostname	www.openrb.com		
	PING www.openrb.com (159	.148.135.178): 56 data bytes		
	64 bytes from 159.148.13 64 bytes from 159.148.13	5.178: seq=0 tt1=57 time=13.185 ms 5.178: seq=1 tt1=57 time=13.217 ms		
	64 bytes from 159.148.13	5.178: seq=2 ttl=57 time=13.626 ms		
	64 bytes from 159.148.13 64 bytes from 159.148.13	5.178: seq=3 tt1=57 time=12.925 ms 5.178: seq=4 tt1=57 time=16.553 ms		
	www.openrb.com ping	statistics		
	5 packets transmitted, 5 round-trip min/avg/max =	packets received, 0% packet loss 12.925/13.901/16.553 ms		
	· · ·			
			OK Cancel	(24.08.11)
OpenF	RB.com		Load averages: 0.02	0.08 0.10

Status \rightarrow System log – system log Status \rightarrow Running processes – operating system running processes

8. Stream music from Apple devices over AirPlay protocol

On your Apple device or PC via iTunes while playing music click on *Airplay* icon and choose the name of the Streaming Player where you want to play the song/radio. The songs or internet radio is streamed directly from your iPhone/iPad/iPod or PC.



9. MPaD application usage notes (iPad)

You can use third party apps in parallel of built-in player of the Streaming Player – MPD or UPnP based. MPaD is MPD protocol based app.

9.1. Settings

- Streaming Player has local cache library with pointers to all music files available on music sources you've added (DLNA/UPnP//FTP/USB/Internet radio). You can push the update the library by pressing **Update database** button.
- **Update local cache** is local device copy of the music library file from Streaming Player. Used to speed up the communication, not overloading the network with regular requests

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	Settings		Cancel
			Â.
	About MPaD	>	
	Help	>	В
	Connection		F
	MPD Server win7	>	
	Status: Connected		N
	Refresh local cache		
Nothing Playing Edi	Update database		q
	Outputs	_	
	Speakers	v	H-
	Data		s
	Artist Only with full album(s)	>	
	Artist Capitalization Off	>	т
0:00 💿 — 0		Genre Browse Playlist I	ast.fm Info

7.2. Connection: choose music source to control



7.3. Player: choose players where to play the selected song



7.4. Playlists: if more then one controller device is used, Playlists are distributed over all devices

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	Nervous Yello	test2										
	Don Turbulento ^{Yello}	testrss										
	Soul On Ice Yello											
	Junior B Yello											
	Tiger Dust Yello											
	Distant Solution Yello											
2	003 - The Eye											
0:	00:00		Artist	Album	Song	Genre	Browse	Playlist	last.fm	Info		

7.5. Sort by Artist / Album / Genre





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08. Hipster's Delay	Genres	Albums
Planet Dada Yello	Classical	mrscruff
Nervous Yello	Electronic	٤)
Don Turbulento Yello	Jazz	ninja tuna
Soul On Ice Yello	Rock	Ninja Tuna Mr. Scruff
Junior B Yello	Soundtrack	YELLO
Tiger Dust Yello	Unknown	
Distant Solution Yello		* *
Time Palace Yello		Pocket Universe
Indigo Bay Yello		
Unreal Yello		yello the eye
Bougainville Yello		
Star Breath Yello		The Eye
Planet Dada [Flamboyant] Yello		TUID
Yello The Eye		-
		-
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	5	
yello the eye		-
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08. Hipster's Delay	Browse	2003 - The Eye	Home
Planet Dada Yello	Play all fro	m this directory	
Nervous Yello	Directories/	Files	
Don Turbulento Yello	(null) - 200	a' The Eye	
Soul On Ice	Yello - The	ada Eye	
Junior B	Yello - The	Eye	
Tiger Dust	Yello - The	Eye	
Distant Solution	Soul On I Yello - The	Ce Eye	
Time Palace	Junior B Yello - The	Eye	
Indigo Bay	Tiger Dus Yello - The	st Eye	
Unreal	Distant S Yello - The	olution Eye	
Yello Bougainville	Time Pala Yello - The	ace Eye	
Yello Star Breath	Indigo Ba Yello - The	E ye	
Yello Planet Dada [Flamboyant]	Unreal Yello - The	Eye	
Yello Yello Edit	Bougainv Yello - The	rille Eye	
The Eye	Star Brea	th Eve	
	Planet Da	ada [Flamboyant]	
	,		
yello the eye			

7.6. Internet radio



10. MPoD application usage notes (iPod, iPhone)

In similar way as with MPaD, configuration and management is done on MPoD with iPod or iPhone.





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	Browse			>	
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CS	ast.fm			>	
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Now Playing	Artist	Album	Song	More	

