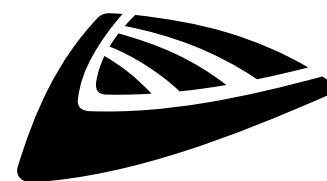# B4.2 Mediamix

ENGLISH
Operation Manual

Other languages can be downloaded from:
WWW.JB-SYSTEMS.EU

CE

Version: 1.0

JBSYSTEMS

RECYCLE

EN - DISPOSAL OF THE DEVICE
Dispose of the unit and used batteries in an environment friendly manner according to your country regulations.

FR - DÉCLASSER L'APPAREIL
Débarrassez-vous de l'appareil et des piles usagées de manière écologique Conformément aux dispositions légales de votre pays.

NL - VERWIJDEREN VAN HET APPARAAT
Verwijder het toestel en de gebruikte batterijen op een milieuvriendelijke manier conform de in uw land geldende voorschriften.

DU - ENTSORGUNG DES GERÄTS
Entsorgen Sie das Gerät und die Batterien auf umweltfreundliche Art und Weise gemäß den Vorschriften Ihres Landes.

ES - DESHACERSE DEL APARATO
Reciclar el aparato y pilas usadas de forma ecologica conforme a las disposiciones legales de su pais.

PT - COMO DESFAZER-SE DA UNIDADE
Tente reciclar a unidade e as pilhas usadas respeitando o ambiente e em conformidade com as normas vigentes no seu país.

OPERATION MANUAL

Thank you for buying this JB Systems® product. To take full advantage of all possibilities, please read these operating instructions very carefully.

FEATURES

This unit is radio-interference suppressed. This appliance meets the requirements of the current European and national guidelines. Conformity has been established and the relevant statements and documents have been deposited by the manufacturer.
- Perfect all-in-one solution for install applications like: schools, pubs, shops, hotels, restaurants, …
- The internal USB-media player supports MP3, WMA and WAV files.
- RDS FM-radio with presets
- Integrated Bluetooth receiver
- IR Remote: controls media player, Radio presets, volume/mute.
- Playback of up to 3 different commercials (manual & scheduled playback) with automatic interruption of media player / tuner playback.
- Audio mixer mixes up to 4 sources:
    - Internal media player / FM-radio + 2 external line inputs (one with 3,5mm jack for iPod, …)
    - MIC input with high/low EQ and Talkover (adjustable damping/threshold)
    - PFL monitoring with headphones output on front panel
    - Record output via RCA/cinch
- 2 balanced zone outputs with separate volume and max. level trimmer to control different zones.
- Zone 2 has an additional mono switch and 100Hz high pass filter for use with small speakers.
- Emergency message input (Euroblock connector) with automatic audio mute.
- Euroblock input: muting of the masters. (closed contact = mute)
- Designed in Europe

BEFORE USE

- Before you start using this unit, please check if there's no transportation damage. Should there be any, do not use the device and consult your dealer first.
- **Important:** This device left our factory in perfect condition and well packaged. It is absolutely necessary for the user to strictly follow the safety instructions and warnings in this user manual. Any damage caused by mishandling is not subject to warranty. The dealer will not accept responsibility for any resulting defects or problems caused by disregarding this user manual.
- Keep this booklet in a safe place for future consultation. If you sell the fixture, be sure to add this user manual.
- To protect the environment, please try to recycle the packing material as much as possible.

<u>**Check the contents:**</u>
Check that the carton contains the following items:
- B4.2 MEDIAMIX
- Mains cable
- Radio Antenna adapter
- Bluetooth Antenna + extension cable
- User manual

SAFETY INSTRUCTIONS:

CAUTION: To reduce the risk of electric shock, do not remove the top cover. No user-serviceable parts inside. Refer servicing to qualified service personnel only.

The lightning flash with arrowhead symbol within the equilateral triangle is intended to alert the use or the presence of un-insulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock.

The exclamation point within the equilateral triangle is intended to alert the user to the presence of important operation and maintenance (servicing) instructions in the literature accompanying this appliance.

This symbol means: indoor use only

This symbol means: Read instructions

- To prevent fire or shock hazard, do not expose this appliance to rain or moisture.
- To avoid condensation to be formed inside, allow the unit to adapt to the surrounding temperatures when bringing it into a warm room after transport. Condense sometimes prevents the unit from working at full performance or may even cause damages.
- This unit is for indoor use only.
- Don't place metal objects or spill liquid inside the unit. No objects filled with liquids, such as vases, shall be placed on this appliance. Electric shock or malfunction may result. If a foreign object enters the unit, immediately disconnect the mains power.
- No naked flame sources, such as lighted candles, should be placed on the appliance.
- Don't cover any ventilation openings as this may result in overheating.
- Prevent use in dusty environments and clean the unit regularly.
- Keep the unit away from children.
- Inexperienced persons should not operate this device.
- Maximum save ambient temperature is 40°C. Don't use this unit at higher ambient temperatures.
- Minimum distances around the apparatus for sufficient ventilation is 5cm.
- Always unplug the unit when it is not used for a longer time or before you start servicing.
- The electrical installation should be carried out by qualified personal only, according to the regulations for electrical and mechanical safety in your country.
- Check that the available voltage is not higher than the one stated on the rear panel of the unit.
- The socket inlet shall remain operable for disconnection from the mains.
- The power cord should always be in perfect condition. Switch the unit immediately off when the power cord is squashed or damaged. It must be replaced by the manufacturer, its service agent or similarly qualified persons in order to avoid a hazard.
- Never let the power-cord come into contact with other cables!
- When the power switch is in OFF position, this unit is not completely disconnected from the mains!
- This appliance must be earthed to in order comply with safety regulations.
- In order to prevent electric shock, do not open the cover. Apart from the mains fuse there are no user serviceable parts inside.
- **Never** repair a fuse or bypass the fuse holder. **Always** replace a damaged fuse with a fuse of the same type and electrical specifications!
- In the event of serious operating problems, stop using the appliance and contact your dealer immediately.
- Please use the original packing when the device is to be transported.
- Due to safety reasons it is prohibited to make unauthorized modifications to the unit.

INSTALLATION GUIDELINES:

- Install the unit in a well-ventilated location where it will not be exposed to high temperatures or humidity.
- Placing and using the unit for long periods near heat-generating sources such as amplifiers, spotlights, etc. will affect its performance and may even damage the unit.
- The unit can be mounted in 19-inch racks. Attach the unit using the 4 screw holes on the front panel. Be sure to use screws of the appropriate size. (screws not provided)
- Take care to minimize shocks and vibrations during transport.
- When installed in a booth or flight case, please make sure to have good ventilation to improve heat evacuation of the unit.

- To avoid condensation to be formed inside, allow the unit to adapt to the surrounding temperatures when bringing it into a warm room after transport. Condense sometimes prevents the unit from working at full performance.

<u>**CLEANING THE APPLIANCE:**</u>
Clean by wiping with a polished cloth slightly dipped with water. Avoid getting water inside the unit. Do not use volatile liquids such as benzene or thinner which will damage the unit.
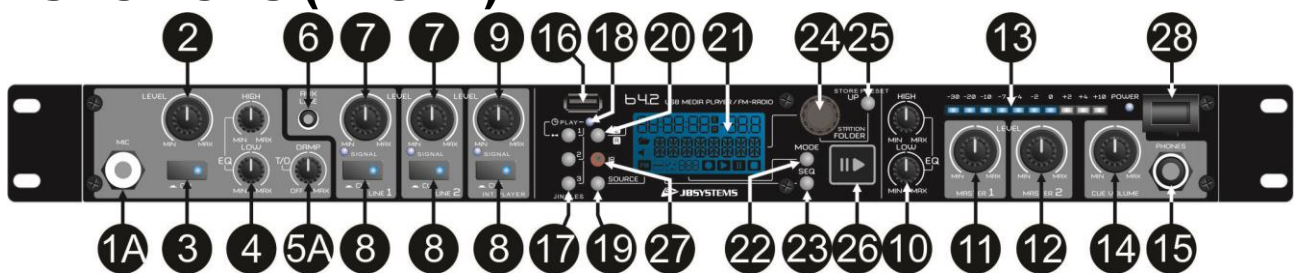
CONNECTIONS

Use good quality cinch-cinch cables to prevent bad audio quality. (example: JB Systems code: 2-0370)
For more information on connections, please refer to the next chapter.
Be sure to turn off the unit before you make changes to the different connections.
In this manual we talk about "line inputs". This is a global name for inputs with a level between 750mV and 2V. This includes tuners, videos, CD-players, etc.

FUNCTIONS (FRONT)

1. **Microphone input:** This is a balanced JACK-connector without phantom power provision, hence only suitable for dynamic microphones. You can connect the microphone on the front panel (1A) or back panel (1B).
2. **Level control for microphone:** adjusts the level of the mic input. To avoid mic feedback, please make sure that the level control is closed before a mic is connected.
3. **MIC. ON/OFF switch:** Used to switch the connected mic on/off.
4. **Microphone Equalizer:** 2-Band tone controls with an adjustment range of ±12dB. Adjust the tone controls until you have optimal sound without feedback noises.
5. **Talkover adjustment:** The talkover circuit make it possible to automatically damp the music while you speak into the microphone. There are two controls to make sure that the talkover works as expected:
   - **Talkover Damping (5A):** adjusts the amount of damping once the talkover is active. If no talkover effect is required the DAMPING control can be set to "off".
   - **Talkover Threshold (5B):** adjusts when the talkover should start damping the music. The higher the setting, the faster the talkover will come in action. Adjustments shall be made with a small screw driver. Do not apply excessive force with the screw driver.
6. **Aux/Line input:** 3.5mm stereo jack that makes it easy to connect a portable audio player to the front panel of the unit.
7. **Level control for line inputs:** adjusts the input level of both 1 + 2 line inputs. The control range can be adjusted using the gain controls on the back panel (41).
8. **CUE switch for stereo channels:** Sends the audio of the respective channel to the headphone bus for pre-fader listening (CUE) using the headphone output (15). An LED indicates if the CUE-function is active.
9. **Level control for internal player:** adjusts the level to make a good balance between the levels of the line inputs and internal player.
10. **Master 1 Equalizer:** 2-Band tone controls for master 1 with an adjustment range of ±12dB.
11. **Master 1 level control:** controls the level of the different master 1 outputs: unbalanced (32), balanced (33) and terminal block (34). The control range can be adjusted using the "max level" control on the back panel (31).
12. **Master 2 level control:** identical controls as for master 1 (11).
13. **Master output level meter:** Displays the output level set by the master1 level control (11). Note that the setting of Max. level control (31) on the back panel does not affect the display of this meter.
14. **CUE Volume:** Sets the signal volume of the headphone output (15). Always set this control to minimum before putting on headphones, as sudden high-volume impact may damage your ears.

15. **Headphones output:** a ¼" Jack connector to connect a headphone for monitoring. Turn the CUE volume (14) down before plugging in any headphones.

16. **USB memory socket:** Insert a FAT32-formatted USB memory stick of max 16GB with a one level folder structure for replay of WMA, WAV and MP3 files here. Note that this socket does NOT support USB hard drives, neither for memory size nor for power requirements.

17. **JINGLE buttons:** Provided that the inserted media contains a folder named "Jingles" in its root directory, and that the files in this folder follow certain naming conventions, up to 3 of these files can be activated by the Jingle buttons. When a jingle is activated, the current program is muted and the jingle is played instead; however, the program progresses in the background. Jingles can be played both in Media play mode and FM mode. A further scheduled jingle play mode is available by pressing the J1 (jingle 1) button for longer than 2 seconds, the LED (18) will indicate that the scheduled jingle play mode is active. To de-activate the scheduled jingle pay mode, press the J1 button again for more than 2 seconds. For more details, please see the chapter "Jingle player".
Remark: after switching the unit off and on again, scheduled jingle playback must be activated again.

18. **Scheduled Jingle Play LED:** This LED is lit when the scheduled jingle play mode was activated by pressing the J1 button for longer than 2 seconds.

19. **SOURCE button:** Toggles the program source between Media play, FM-Tuner and Bluetooth. If FM-Tuner is selected, the display's FM Mode indicator (H) is lit while the media replay related indicators (I, J, K) are disabled. Further the media replay related user interface elements (22/23/26) are disabled and the functional assignment of the navigation controls (24/25) is changed.

20. **Time Display selector:** Selects between elapsed/remaining time display. The display shows [E] for Elapsed time or [R] for Remaining time (see display "B" and "C") and is always related to track currently playing. This control is inactive in FM mode.

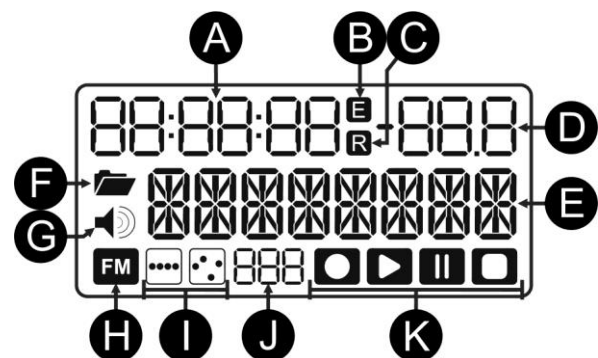21. **Display:** shows information such as playing time, track name, RDS-station name, …

   A. **Time Display:** shows elapsed/remaining time while the media player is used. In FM Mode: it shows the number of the station preset. (if the station is saved to a preset)

   B. **Elapsed time:** is displayed while "E" is lit.

   C. **Remaining time:** is displayed while "R" is lit.

   D. **Not used!**

   E. **8-Digit Text Readout:**

   - **In Media Play mode** the file name of the currently playing track is shown, with its first 30 digits scrolling through the display. Note that this is NOT an ID3 tag readout, but a file name readout, so files must be named properly to yield a sensible displayed content. The display will show the file name and alternate with the folder name the current file is located in. Whether at a specific time the file or the folder name is displayed, is indicated by the respective symbols (F/G)
   - **In FM Mode** the RDS station name is displayed if the received FM signal contains this information. If no RDS station name is available, the currently tuned frequency is displayed. Note that this unit only displays the station name of the RDS signal, no other potentially contained RDS content.

   F. **Folder Name Display Indicator:** In Media play mode, this indicator shows that the current content of the text readout (E) is a folder name. This indicator is not used in FM mode.

   G. **File Name Display Indicator:** In Media play mode, this indicator shows the current content of the text readout (E) is a file name. This indicator is not used in FM mode.

   H. **FM-indicator:** is lit while the FM-radio function is used.

   I. **Play Sequence Indicator:** In Media play mode, this indicator shows whether the unit is set to straight sequential or random play sequence. The setting can be altered by the play sequence button (23). This indicator is not used in FM mode.

   J. **Play Mode Indicator:** Based on the selection made by the play mode buttons (22), this part of the display shows the letters "SPL", "SLO", "ACO" or ALO". This indicator is not used in FM mode.

   K. **Player status:** shows if the player is in play, pause or stop mode. See play/pause button (26).

22. **Play mode selector:** Selects between the different playback modes of the media player:
   - **SPL = Single Play:** The player stops after playing the current song once.
   - **SLO = Single Loop:** The player loops the current song endlessly.

- **ACO = All Continuous:** The player continues after playing the current song. The next song is determined by the chosen sequence. The player stops after the sequence is executed once.
- **ALO = All Loop:** The player continues after playing the current song. The next song is determined by the chosen sequence. The player repeats the sequence endlessly.

Those selected play mode is displayed in the display (J). This control is inactive in FM mode.

23. **Play sequence selector:** two play sequences are available:
    - **STRAIGHT play sequence:** The next song is determined by alphanumerical sorting.
    - **RANDOM play sequence:** The next song is determined by random choice.

    This control is inactive in FM mode.

24. **Rotary dial:** this control has different functionality, depending on the selected source:
    - **In Media Play mode:**
      o **Turn the dial:** choose a song or folder
      o **Press the dial:** confirm your choice
    - **In FM Mode:**
      o **Press the dial:** toggle between frequency scroll and station preset scroll
      o **Turn the dial:**
        o **While in frequency scroll:** search manually for a desired FM-frequency
        o **While in station preset scroll:** select one of the FM-presets
      Your choice is immediately active.

25. **Folder level (Store) button:** this button has different functionality, depending on the selected source:
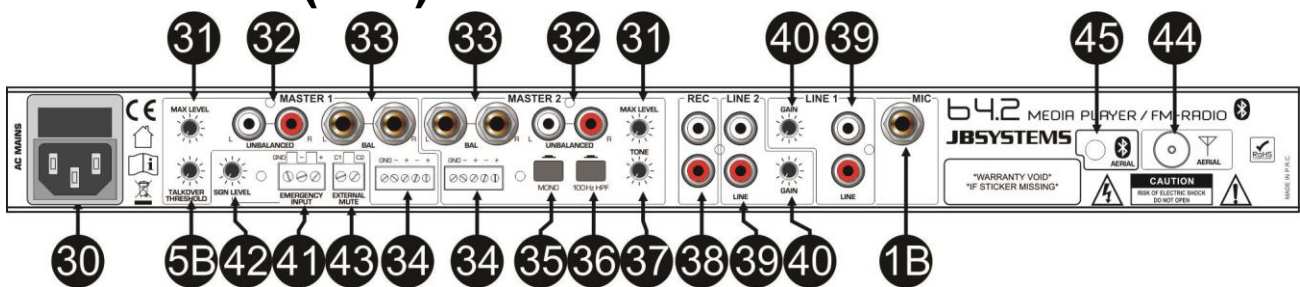   - **In Media Play mode:** press the button go to folder level and use the Rotary dial (24) to select the desired folder.
    - **In FM Mode:** Allows you to store a new station preset.
      o Choose frequency scroll mode if required [press the dial (24)] and search for a desired FM-station.
      o Press the Folder Level (Store) button once: the current station preset starts blinking.
      o Turn the dial (24) to select the preset number where you wish to store the FM-station.
      o Press the Folder level (Store) button again to store the FM-station.
      o The station is now stored to the selected preset.

26. **Media PLAY/PAUSE/STOP button:** Press briefly to toggle between PLAY (backlight lit) and PAUSE (backlight flashing) mode. Press for longer than 2 seconds to change into STOP status (backlight off). This control is inactive in FM mode.

27. **IR Receiver sensor:** If using the included IR remote control, make sure an unobstructed line of sight is available between the remote control and the IR receiver sensor.

28. **Power switch:** Switches the unit on and off. Make sure you switch the unit off when not in use.
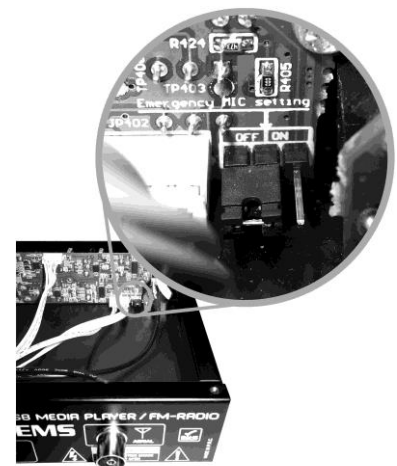
FUNCTIONS (rear)

30. **AC mains input and fuse holder:** Use the supplied AC cord to connect the unit to AC mains. Make sure voltage and frequency stated on the unit comply with your local AC supply. The fuse can be accessed by the small drawer at the AC inlet. To change the fuse, unplug the AC cord first, pull out the fuse drawer and replace the fuse ONLY with a fuse of SAME voltage and rating. If the fuse blows again after replacement, hand over the unit to qualified service personnel.

31. **Maximum level setting for Stereo Master output:** Used to limit the maximum output level for the outputs (32)/(33)/(34) in order to match the maximum allowable sound levels of connected sound system. Adjustments made on this control will not be displayed by the output level meter (13). Adjustments shall be made with a small screw driver during installation. Do not apply excessive force with the screw driver.

32. **Unbalanced stereo master output:** Unbalanced RCA/cinch output carrying the same signal as output (33).

33. **Balanced stereo master output:** Balanced stereo JACK output carrying the main output signal controlled by (11)/(12).
34. **Balanced stereo master output:** Balanced terminal block output carrying the same signal as output (33), often used for fixed installations.
35. **Mono switch for master 2:** used to convert the stereo output to simple mono for use with small background music speakers in toilets, terraces, corridors, …
36. **100Hz High-Pass filter for master 2:** This helps to reduce the low-frequency energy on the master 2 outputs. This is specifically useful if a zone is used to feed a background music system which may consist of relatively small wall or ceiling speakers. Such small speakers don't support low frequencies.
37. **Tone control for master 2:** used to adjust the sound of master 2. The EQ (10) on the front panel is only used for master 1.
38. **Record output:** This is an unbalanced stereo output carrying the same signal as the main outputs 32/33/34, but not influenced by the main volume controls (11/12). This is normally used for recording the output to an external tape, CD or memory device.
39. **Line inputs:** These are line-level RCA/cinch inputs for channels LINE1 and LINE2 (7) on the front panel.
40. **Gain controls for the line inputs:** used to adjust the input sensitivity to compensate the different source volumes.
41. **Emergency input:** This is an auto-sensing, balanced terminal block input which allows the connection of an emergency evacuation system. Once an audio signal is present on this input, all output signals will be muted and the emergency message/signal from this input will become audible instead.

    Microphone routing for muting/emergency: Depending on the application, user habits and local safety requirements, it can be useful to either enable or disable the local microphone during an emergency case where an incoming emergency signal into the emergency input (41) shuts down all program signals. The advantage of disabling the microphones for this case is that the local user can not interfere the legibility of the emergency announcement by using his own microphone, the disadvantage is that if for whatever reason the emergency announcement does not stop, the local user can still give emergency/evacuation guidance by means of the local microphone. As a factory default, the microphones are not muted during an incoming emergency message. To change this, a qualified installer or technician must open the unit after disconnecting it from AC supply. Refer to the drawing to locate jumper "Emergency MIC setting" on the front panel PCB: set the jumper in the desired position..
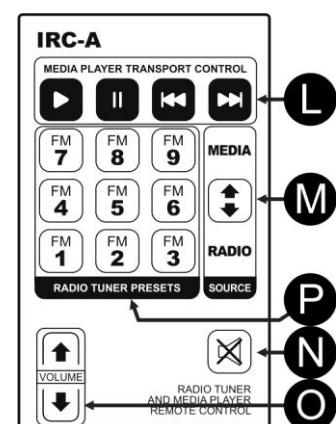
42. **Emergency volume control:** This control sets the volume of the emergency input (41) sent to all outputs.
43. **Music Mute input:** This is a terminal block input which allows to remotely mute the masters by simply shortening the contacts.
    *Important note: during the installation you can choose to include or exclude the microphone signals from this muting process, please see "**Microphone routing for muting/emergency**" in (41) for more information.*
44. **FM antenna input:** connect any suitable 75 ohms FM-antenna here. If needed used the supplied adapter.
45. **Bluetooth antenna input:** connect the supplied Bluetooth antenna (with or without the extension cable) here

IR-REMOTE

Used to remotely control certain basic functions of the tuner & media player.
L. **Transport Controls:** the 4 buttons allow you to start and pause a track, and further skip to the next track or back to the beginning of the current track. These controls are inactive in FM mode.
M. **Source button:** for functions see button n° 19 on the front panel.
N. **Mute button:** mutes the output of the internal media player / radio.
O. **Volume control:** changes the volume of the internal media player / radio. Note that the volume goes back to the standard setting when you switch the PM4.2 off and back on.
P. **FM-radio preset buttons:** allows you to remotely select one of the 9 FM-station presets.
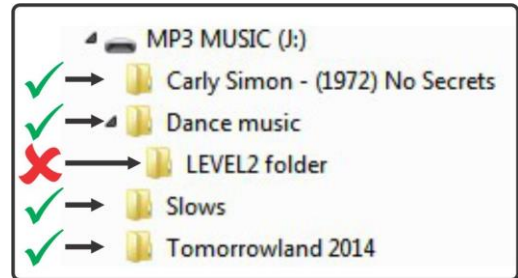
OPERATION

MEDIA PLAYER

Organizing the USB-memory

- The maximum size of the USB-memory is limited to 16GB. Maximum number of tracks is limited to 2000.
- The USB-memory should be formatted in FAT32 file system, the NTFS file system is NOT supported.
- The USB-memory can have a root with subfolders. Subfolders in subfolders are not supported.
- Tracks are sorted alphanumerically on the first 8 characters of each track name.
- Loading the contents of a USB-memory takes a little time, please be patient with bigger drives.

Jingle / commercial player

The PM4.2 allows playback of up to 3 jingles or commercials, perfect for use in shops to announce special actions, promotions etc.

To make things work, certain rules for saving the files should be followed:

- Create a folder with EXACTLY this name: **Jingles** (Capital letter for "J" !)
- In this folder you will save the MP3 files that are called the jingles or commercials. Also the naming of these files is very important:
- Standard naming = **jX_YY.mp3**
    - The **X** is the number of the jingle / commercial, ranging from 1 to 3.
    - The **YY** is the number of minutes "music playback" (media player or radio) before the commercial starts playing.

Examples:

*In the "Jingles" folder we have 3 commercials with these names: **j1_20.mp3 ~ j2_10.mp3 ~ j3_06.mp3***
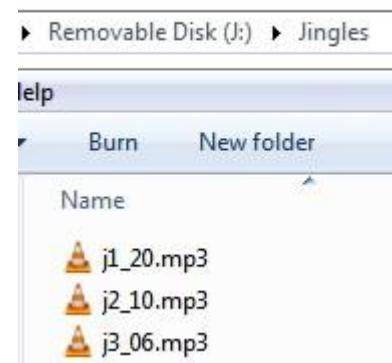
- *MANUAL PLAYBACK:*

    These commercials can be played at any moment simply by shortly pushing one of the 3 JINGLE-buttons (17).

- *SCHEDULED PLAYBACK:*

    Start scheduled playback by pushing the JINGLE 1 button (17) for at least 2 seconds: the "Scheduled Jingle Play LED" (18) will be lit while the following happens:

    - *Music is imuted while "Jingle 1" starts playing.*
    - *After playback of "Jingle 1", music starts playing again.*
    - *10 minutes after "Jingle 1" was started, the music mutes again and "Jingle 2" starts playing.*
    - *After playback of "Jingle 2", music starts playing again.*
    - *06 minutes after "Jingle 2" was started, the music mutes again and "Jingle 3" starts playing.*
    - *After playback of "Jingle 3", music starts playing again.*
    - *20 minutes after "Jingle 3" was started, the music muted again and "Jingle 1" starts playing.*

    This loop goes on until you stop scheduled playback again by pushing the JINGLE 1 button (17) for at least 2 seconds: the "Scheduled Jingle Play LED" (18) will turn dark.

BLUETOOTH

To connect a Bluetooth source like a smartphone or tablet, follow the below procedure:

- Press the SOURCE button (19) until the display shows "AUX-BT"
- Activate Bluetooth on the source device (phone, tablet)
- Search /(Scan) for Devices on the source device
- Select "Bluetooth Board" and confirm connection request
- Wait for single beep from the unit
- The device is now paired and ready to receive audio via Bluetooth
- Note: Only one device can be connect - once a device is connected, the Bluetooth board will not appear on the device scan of any other device.

To disconnect:
- Tap on the existing Bluetooth connection in your source device
- Wait for the dual-tone beep from the unit
- The devices are now unpaired and the B4.2 unit is ready to be paired with a different device.

Please note that the maximum distance of operation between your source device and the unit depends on many factors, such as other interfering signals, the position of the unit in the room, the position of the source device in the room, and the antenna/Bluetooth hardware design of the source device. Bluetooth can work over a distance of maximum 10m. However, certain hardware combinations or the presence of interfering signals can reduce this distance significantly. The manufacturer of this device does not grant any specific operating distance and cannot take any liability for dropouts. For critical applications, we recommend to avoid wireless connections.

SPECIFICATIONS

Power Supply:	AC 230V / 50Hz
Fuse:	20mm glass fuse 250V 500mA slow
AUDIO MIXER	
Frequency response:	20-20.000Hz (+/-1dBu)
THD + noise:	<0.08% @ 1kHz, 0dB
S/N Ratio (IHF-A):	>82dB @ 1kHz.
Micro inputs:	1.5mV @ 10kΩ
Line/CD inputs:	150mV @ 22kΩ
Record output:	775mV @ 600Ω
Master outputs:	1.5V @ 4k7Ω unbal.
Master outputs:	850mV @ 600Ω bal.
RADIO FM freq band:	87.20 ~ 108.00 MHz (0.05 MHz tuning steps)
MEDIA FORMATS:	
Possible MP3 file extensions:	.mp3 ~ .MP3 ~ .mP3 ~ .Mp3
Possible WMA file extensions:	.WMA ~ .wma
Possible WAV file extensions:	.WAV ~ .wav
USB file system:	FAT 32
Max. USB-memory capacity:	16GB
MP3 FORMATS PLAYBACK:	
MPEG1 Layer3 (ISO/IEC11172-3):	mono / stereo sampled at: 32 - 44,1 - 48kHz
Bitrates:	32 – 320 Kbps
Bitrate modes:	CBR (Constant Bitrate), VBR (Variable Bitrate)
IR-Remote replacement battery:	CR2025 3V battery (included)
Dimensions:	483(W) x 44(H) x 162(D) mm (19" / 1U)
Weight:	2,5kg

Every information is subject to change without prior notice
You can download the latest version of this user manual on our website: www.jb-systems.eu

JBSYSTEMS

MAILING LIST

EN: Subscribe today to our mailing list for the latest product news!
FR: Inscrivez-vous à notre liste de distribution si vous souhaitez suivre l'actualité de nos produits!
NL: Abonneer je vandaag nog op onze mailinglijst en ontvang ons laatste product nieuws!
DE: Abonnieren Sie unseren Newsletter und erhalten Sie aktuelle Produktinformationen!
ES: Suscríbete hoy a nuestra lista de correo para recibir las últimas noticias!
PT: Inscreva-se hoje na nossa mailing list para estar a par das últimas notícias!

WWW.JB-SYSTEMS.EU