General information

R90 Manual

Version: 1.2 en, 11/2019, D2403.EN.01

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1.1 Scope of supply
Please verify the shipment for completeness and proper condition of the items.

<table>
<thead>
<tr>
<th>Qty.</th>
<th>d&amp;b code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Z6126</td>
<td>R90 Touchscreen remote control [1]</td>
</tr>
</tbody>
</table>

Including:

<table>
<thead>
<tr>
<th>Qty.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Power supply plug [2] incl. upper/lower strain relief housing and cable tie</td>
</tr>
<tr>
<td>1</td>
<td>D2403.EN .01 R90 Manual</td>
</tr>
</tbody>
</table>

1.2 Intended use
The R90 Touchscreen remote control is a dedicated solution to control any d&b audio installation. It is intended as an additional remote control device to recall AmpPresets and provide quick access to basic functions such as global power, mute, level and grouping, without using the d&b R1 Remote control software.

Using the OCA/AES70 protocol, it allows easy setup and control without the need of any additional program code.

Feature set
- Up to 15 amplifiers,
- Recalling up to 9 AmpPresets,
- Global power (On/Off),
- Master mute,
- Grouping (Mute, Level).

1.3 Technical specifications

Interfaces
- 1 x on-board ethernet adapter 10/100BASE-T with RJ-45 connection
- 2 x USB 2.0

Protection class
- Front side: IP54
- Rear side: IP20

Permissible ambient temperature
- Operation: 0°C to +55°C
- Transport/Storage: -25°C to +65°C

Permissible relative humidity
- To 95%, no condensation

Power supply
- Supply voltage: 24 VDC
- Power consumption: 12 W (max.)

Dimensions and weight
- Height x width x depth: 150 x 200 x 40 mm (5.9" x 7.87" x 1.57")
- Install measure (cut out): 141 x 191 mm (5.55" x 7.5")
- Weight: 0.9 kg/1.98 lb
The hardware consists of a 7" touchscreen (800 x 480 pixel) IPC device based on the Beckhoff CP6606 Panel PC. It incorporates a 1 GHz 7AMR Cortex A8 CPU and provides a steel housing with aluminum front.

**Note:** For further information on how to install and start up the device, please refer to the corresponding Beckhoff manual, which can be downloaded from the download section of the Beckhoff website at [www.beckhoff.com](http://www.beckhoff.com) as well as from the related product page at [www.dbaudio.com](http://www.dbaudio.com).

### 2.1 Power supply
To operate the R90, an external 24 VDC power supply capable of delivering a minimum of 12 W (500 mA) is required. To supply power to the device use the power socket [X101].

<table>
<thead>
<tr>
<th>Pin</th>
<th>Signal</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 / 2</td>
<td>n.c.</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>GND</td>
</tr>
<tr>
<td>5</td>
<td>+ 24 VDC</td>
</tr>
</tbody>
</table>

### 2.2 Fitting the power supply cable
**Tools required:** Flat-tip screwdriver 2 x 0.4 mm.

1. Strip insulation from the cable ends (Length of stripped conductor is 8 - 9 mm).
2. Plug-in the cable ends into the 5-pole plug connector in accordance with the previous wiring table.
3. Thread the cable tie into that lower part of the strain relief housing.
4. Put the plug connector into that lower part of the strain relief housing. Tighten the cable tie and cut off the remaining plastic strap.
5. Fix the upper part of the strain relief housing by snapping it onto the lower part.
2.3 LAN
To connect the device to the d&b Remote network, use the LAN1 RJ45 connector socket ([X102] - 10/100BASE-T Local Area Network), as shown in the graphic opposite.

2.4 USB
Two USB 2.0 ports are provided ([X104]/[X105]) to allow either firmware updates via a USB stick (see also ⇒ R90 Software - Settings - System config ⇒ Firmware update on page 8) or to connect an external USB keyboard for data entry (see also ⇒ R90 Web Remote interface ⇒ Keyboard entries on page 13).

Note: Before installing the device in a wall, we recommend you using appropriate USB extension cables for better accessibility of the USB ports.

2.5 Ground connection
The device is grounded via the [M4 Ground] connection.

2.5.1 Earthing measures
Earthing connections bleed off interferences from external power supply cables, signal cables or cables to peripheral equipment. Establish a low-resistance connection from the earthing point of the device housing (⇒ Ground connection) to the central earthing point onsite (e.g. the equipment cabinet, in which the device is being installed).

2.6 Connecting cables
When connecting cables to the device, please observe the following order:
1. Disconnect all devices involved from their power supplies.
2. Connect all cables to the device and at the devices to be connected.
3. Ensure that all screw connections between connectors and sockets are tight.
4. Reconnect all devices to their power supplies.
3.1 Software Terms of Use

The software installed on the R90 shall only be used to the extent intended/documented. d&b shall not be liable for any damage resulting from any other or non-conforming use.

You may not decompile, copy, alter or enhance the software installed on the R90 or its source code in any form. d&b will investigate any infringement of copyright or intellectual property rights.

3.2 Interface

The display interface of the R90 can be used in two different ways:
- manually using the 7” touchscreen
- via web remote control

For more information about the web remote control, please refer to Chapter 4 “R90 Web Remote interface” on page 13.

Quick tab

1. **Power**
   Main power switch.

2. **Mute**
   Master mute function.

3. **AmpPresets**
   Recall corresponding AmpPresets from the amplifier(s).

Menu bar

4. **Time and date**

5. **Preset switch**
   Three presets out of a maximum of nine presets can be displayed at once. The preset switch is activated as soon as a project includes more than three presets. In this case, all presets are displayed successively in the «Quick tab» bar in groups of a maximum of three.

6. **Group control**
   Fader and mute controls.

7. **Info**
   Copyright and current software version.

8. **Settings**
   Project setup and system configuration.
3.3 Settings

3.3.1 Login

Once the device has booted, selecting «Settings» at the bottom right of the touchscreen opens the R90 log in screen.

By factory default, the login data is:

**User name:** Admin

**Password:** Admin

Selecting the «View» button, shortly displays the entered password for verification.

If you are inactive for more than 15 minutes, you will be logged out automatically. A new login is required.

To change your system configuration, navigate to "«Settings» ⇒ «System config»".

To change your project settings, navigate to "«Settings» ⇒ «Project setup»".

3.3.2 System configuration

**Change password**

Navigate to «Settings» ⇒ «System config» ⇒ «Password».

To change your password, please proceed as follows:

1. Enter your user name.
2. Enter the new password.
   1. Selecting the «View» button, shortly displays the entered password for verification.
3. Confirm your new password.
4. Select «Save» to apply your new password.

**Firmware update**

A new firmware can be loaded and installed via the USB ports of the device. The folder with the new unzipped firmware package must be stored in the root directory of the USB drive.

To update your firmware, please proceed as follows:

1. Download the latest firmware from [www.dbaudio.com](http://www.dbaudio.com).
2. Extract the *.zip file into the root directory of your USB stick.
3. Insert your USB drive to one of the USB ports of the device ([X104] or [X105]).
5. Select «Copy firmware package».
   1. The system will reboot automatically and install the new firmware.
6. Remove the USB drive.
**Network settings**

Navigate to Settings ⇒ System config ⇒ Network settings.

You can set your IP address manually («Static») or obtain it automatically via DHCP.

To set your IP address manually, please proceed as follows:

1. Check the «Static» option.
2. Enter your IP address and subnet mask.
3. Select «Apply»
   ‣ The device restarts automatically.

### 3.3.3 Project setup

**Amplifier**

On the «Amplifier» tab you can set the number of amplifiers and assign an IP address to each device.

To add an amplifier and set its IP address, please proceed as follows:

1. Select the left or right arrow next to «No. of amps» to set the required number of amplifiers according to your project.
2. In the box «IP settings», select an amplifier.
3. Enter the assigned IP address of your amplifier into the «IP address» field.
4. Select «Apply» to save your settings.

**Note:** Within the «Network settings» box, the actual IP settings of your R90, entered within System config ⇒ «Network settings», are displayed.

**AmpPresets**

Before presets can be set on the R90, they must first be created in R1 or on the amplifier. For more information about creating AmpPresets, see the amplifier manual which can be downloaded from the related product page at [www.dbaudio.com](http://www.dbaudio.com).

On the «AmpPresets» tab, you can set the number of presets, assign a name, set predefined or individual buttons, or backgrounds. In the information box, you can save related data, e.g. location or zone information that belongs to the preset.

To set presets, please proceed as follows:

1. Set the total number of presets in the «No. of AmpPresets» field.
2. Select a preset you want to define in the «Select AmpPreset» field.
3. Add additional information for the preset, e.g. room or area name.
4. Select a predefined button and background. If you want to add an individual icon and background, see details below.
5. Select «Apply» to save your settings.
**Individual button icon**

You need two files for every preset icon, for the ON and OFF states. These are stored in a folder on the USB drive named `Preset`. The icon files must be in bitmap (*.bmp) format, 40 x 40px and must follow a certain naming convention:

<table>
<thead>
<tr>
<th>Preset 1</th>
<th>Preset 2</th>
<th>Preset n</th>
</tr>
</thead>
<tbody>
<tr>
<td>File name &quot;ON&quot; state</td>
<td>Preset-On-1</td>
<td>Preset-On-2</td>
</tr>
<tr>
<td>File name &quot;OFF&quot; state</td>
<td>Preset-Off-1</td>
<td>Preset-Off-2</td>
</tr>
</tbody>
</table>

To set an individual button icon, please proceed as follows:

1. Select the right or left arrow in the «Name/Button icon» box until the message «Load preset from USB» appears.
2. Select «Load preset from USB».
   - The button icons on the USB drive are loaded automatically.
3. Select «Apply» to save your settings and remove the USB drive.

**Individual background picture**

You need one file for each picture. This is stored in a folder on the USB drive named `Background`. The background files must be in bitmap (*.bmp) format, 440 x 360px and must follow a certain naming convention:

<table>
<thead>
<tr>
<th>Background 1</th>
<th>Background 2</th>
<th>Background n</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name</td>
<td>Background-1</td>
<td>Background-2</td>
</tr>
</tbody>
</table>

To set an individual background picture, please proceed as follows:

1. Select the right or left arrow in the «Background» box until the message «Load background from USB» appears.
2. Select «Load background from USB».
   - The background pictures on the USB drive are loaded automatically.
3. Select «Apply» to save your settings and remove the USB drive.

**Grouping**

On the «Grouping» tab, amplifier channels can be combined in a group. Each group can be addressed and controlled individually using the «Group control» function on the home screen.

To assign amplifier channels to a group, please proceed as follows:

1. In the «Group» box, select a group.
2. Enter a «Group name».
3. In the «Amplifier selection», select an amplifier.
4. In the «Channels amplifier» box, select all required channels.
5. Select «Apply» to save your settings.
**Assignment**

On the «Assignment» tab, you can assign faders and mutes to a group. They can be displayed in the «Group control» window on the home screen.

To assign faders and mutes to a group, please proceed as follows:

1. Set the total number of faders and mutes required for your project in the «No. of faders» and «No. of mutes» fields.
2. Select a fader in the «Faders» box and assign it to a previously created group.
   
   **Note:** If you want to include a mute button in a control frame containing a fader, activate «Include mute».
3. Select a mute option in the «Mutes» box and assign it to a previously created group.
4. Select «Apply» to save your settings.

**Load & Save**

On the «Load/Save» tab, you can load a previous project or save your current project to an external USB drive. The project is saved in a folder with your entered project name on your USB drive in the root folder. In addition to amplifier and AmpPreset configurations, saved projects include custom icons and background pictures.

When loading a project, always ensure that its folder is located at the root level of the USB drive.

To load a project, proceed as follows:

1. Place the project folder in the root folder of your USB drive.
2. Plug in your USB drive to the R90.
3. Select «Scan»
   
   The «Load Project» dialog update and list all available projects.
4. Select your project.
5. Select «Load from USB».

To save a project, proceed as follows:

1. Enter your project name.
2. Select «Save to USB»
   
   The project folder is written to the root folder of your USB drive.

**3.4 System time & date**

Navigate to Home.

To set your local device time and date, please proceed as follows:

1. In the menu bar on the home screen, select and hold the clock for 2 seconds.
   
   The «Time/Date» screen appears.
2. Set time and date correspondingly.
3. Select «Apply» to save your settings.
3.5 Factory reset
Navigate to «Home» screen.

To reset the device, please proceed as follows:

1. In the menu bar on the home screen, select and hold the clock for 2 seconds.
   The «Time/Date» screen appears.

2. Select and hold the button on the left next to the clock for another 5 seconds.
   The «Factory reset» screen appears.

3. Select «Reset» to reset user settings and project configurations to default.

Note: When you have selected one of the reset options, the system will restart automatically. After a full reset («Reset»), you can log in using the default login data.

Factory reset
Reset user settings and project configuration to default:

System will restart afterwards!
In addition, the R90 provides an integrated Web Remote interface which allows full access using a standard web browser.

Provided the IP settings of the R90 are set within System config ⇒ «Network settings», to access the R90 via web remote, please proceed as follows:

1. Enter the following URL into the address line of your browser:
   http://LocalHost/

2. Instead of "LocalHost" enter the IP address of your R90.
   Example: http://192.168.1.90

Keyboard entries
Entries may also be made using a USB keyboard. However, depending on the behavior of the browser or its settings, some characters may not be accepted or may change the focus. Therefore, we recommend you to use the mouse on the onscreen input masks and the onscreen keyboard of the R90 screen.
As soon as an error occurs, a corresponding error message will be issued on the «Home» screen.

In the «Menu bar», an «Error list» button will become accessible. By selecting this button a detailed «Error list» will be generated.