

Manual for iRemote

Available for the firmware version 3.0.5 and further

Control elements.

The device has three control buttons for navigation: "UP", "DOWN", "PLAY/STOP".

"UP" and "DOWN" buttons navigate over the menu, shift images in single image mode. Besides, keeping the "DOWN" button pressed in play mode puts the device into performance preparation mode.

Operating conditions.

The device can be in the following conditions:

- Turned off;
- Being charged;
- Menu (sequences or single images);
- Battery level indication. Battery level should be considered as a relative one, for it depends on a displayed image and a battery condition;
- Preparation for performance;
- Play in performance mode.

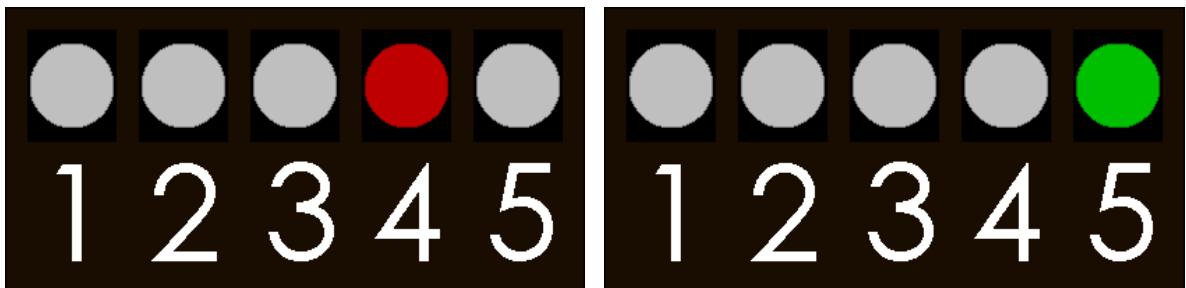
If the battery level is low, the device automatically shuts itself down to avoid deep discharge. Being in the following states: turned on but left alone, in the menu, in battery level indication, in timeline mode or single image mode – in these states the device shuts itself down after 1 hour. In performance mode and in performance preparation mode automatic shutdown doesn't occur.

Button operation.

Initially the device is turned off. To turn it on press and hold the "PLAY/STOP" button for half a second. The device goes into menu indication mode.

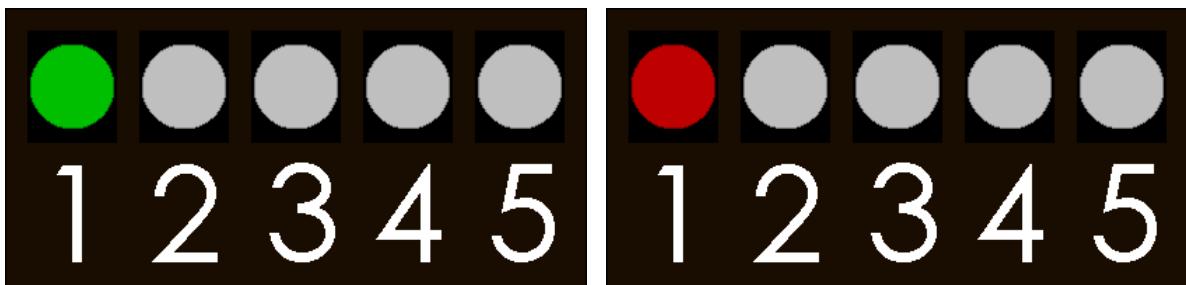
To turn it off press and hold "PLAY/STOP" button not less than for 1 second. After the device is turned off, the LEDs go out.

After the turned off device is plugged in to the charger or a PC, the battery indicator lights up. The red indicator shows the device is being charged, the green indicator shows the device is charged.



In the menu mode select a required sequence (timeline) or a single image.

Navigation over the menu is fulfilled by the “UP” and “DOWN” buttons, confirmation and launch of a selected mode is fulfilled by the “PLAY/STOP” button. Return to the menu is fulfilled by repeated pressing the “PLAY/STOP” button. If a single image is being played, you can switch from one to another by repeated pressing the “UP” and “DOWN” buttons, not returning back to the menu.



Depending on a selected mode, the first LED slowly changes its brightness, glowing green being in the menu, and glowing red when a sequence of a single image is on.

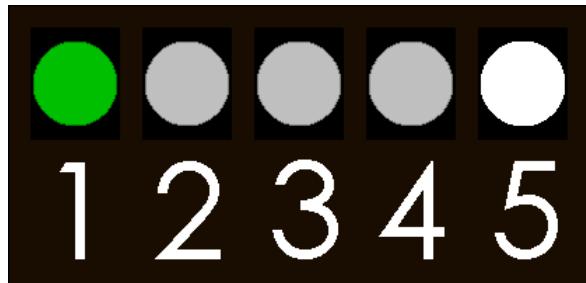
When end positions in the menu mode are reached, switching between timeline and single image modes occurs.

To display the battery level press and hold the middle button of the turned on device for half a second until the battery level scale appears. The current battery level is displayed as a red-to-green gradient.

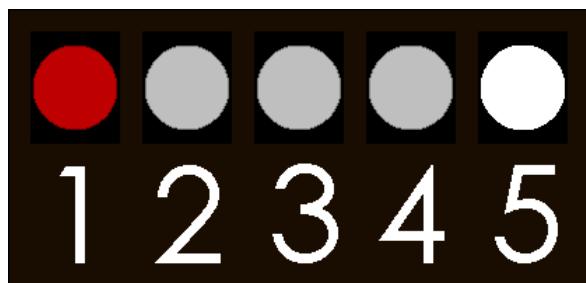


The device has protection from accidental touching the buttons during a performance. It allows to protect your performance program from any faults. For this you should select a required mode (a sequence or a single image), get it into play, and hold the “DOWN' button. In a second the device goes

into performance preparation mode. This mode is indicated by the white LED in the 5th position with the green LED in the 1st. In this mode the device launches all the rest devices in a selected mode after releasing any button of the device.



Performance mode is indicated by the white LED in the 5th position with the red LED in the 1st.



There are three ways to go out of this mode:

- holding the “DOWN” button, get back into performance preparation mode;
- holding the “PLAY/STOP” button, turn the device off;
- holding the “UP” button, get back to the menu.

Radio channel operation.

The devices equipped with the radio feature can be operated centrally by remote controls.

It allows to launch and stop different modes simultaneously for different devices.

On default, group work mode is on. In remote controls it's impossible to turn off radio, for it works only for transmitting.

There are several principal modes for radio operation in the device:

1. Radio is on, total control mode is not active.

In this state the device reacts only on commands to enter into performance preparation mode and to be launched in performance mode. All the other commands are ignored;

2. Radio is on, total control mode is active.

In this state the device totally follows airing commands. Total control over the device is possible solely in this state. It includes:

- navigating over the menu;
- play/stop sequences and single images;
- entrance into performance preparation mode and launching in performance mode;
- going out of performance mode into the menu;
- battery level check-up;
- total shutdown of the devices.

3. Radio is on, group work mode is active;

In this state the devices can be split on several groups (up to 32), thereby allowing each group to work independently. The device will react only to commands aired for the group which the device belongs to.

4. Radio is on, slave mode is active.

In this state the device accepts commands, but doesn't air any.

On iRemote radio and full control modes are always active.

Full control, group work, and slave modes can be activated simultaneously, thereby giving space for flexible settings of the devices and having complete access to all devices of the group, not interfering into the work of other devices.

Slave and full control modes are convenient to use in combination with the iRemote. It allows to get full control over devices, not letting them to interfere into the work of each other.

DMX support.

There is a modification of the iRemote with the support of DMX-512 protocol.

Operation over devices for this model from buttons is not available. Operation is fulfilled only through DMX.

Devices are supported when group work mode is active.

The device takes 64 DMX channels, two channels for each group.

The first channel sets a command code, the second one – its parameter.

Table of supported commands:

Code	Command	Parameter
0	Empty	Don't care.
1	Launch in safety mode	Number of mode.
2	Preparation to launch in safety mode	Number of mode.
3	Full shutdown of the device	Don't care.
4	Launch in normal mode	Number of mode.
6	Shifting over the menu, setting up a mode without launch	Number of mode. If zero it transmitted, the return to the menu occurs. Don't care.
7	Battery level indication	Don't care.
9	Preparation to shutdown	Don't care.
33..43 (13%..17%)	Preparation for launch with locked buttons	Number of mode.
58..68 (23%..27%)	Launch with locked buttons	Number of mode.

Codes of commands , which are not mentioned in the table, are reserved for future expansion, and reaction of devices on them is not defined.

iRemote doesn't react on repeated commands. To transmit the repeat you need a zero command. After this iRemote will react on a command once again.

The zero-code command is used to skip the groups that don't require any commands sent to them.

The parameter “number of mode” implies:

- 0 – the mode is not changed.
- 1..10 – succession from 1 to 10.
- 11..90 – single image from 1 to 80.

Comment: If a number of a mode not supported by the device is transmitted (more than 70 for Lite models and more than 90 for all other models), then the device doesn't change the mode, but executes the command with a current mode.

Commands with the codes from 3 to 9 are processed by devices on which full control mode is active.

Modes of iRemote operation with DMX.

For iRemote with DMX the adjustment for group work and command transmittal mode to all groups is not available. In this device the group work mode is always active and a definite command is sent to each group. It depends on data coming through DMX channel.

For simplification of interaction and autonomous work of the device the logic of its work is changed:

- With power supply through USB or with pressing “PLAY/STOP” button the device turns on.
- With connection of a source of power through USB the device is always turned on.

The device shuts itself down after 1 hour after:

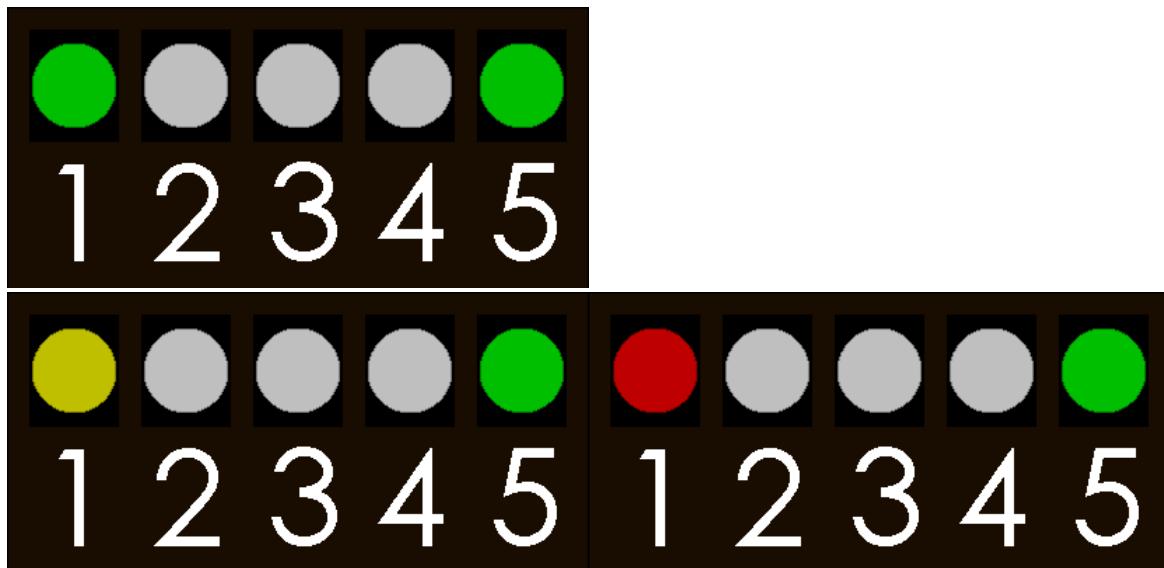
- any button is pressed;
- correct DMX data stop coming if there is no power going by USB.

Indication of iRemote with DMX

Indication is changed and is fulfilled by means of two LEDs.

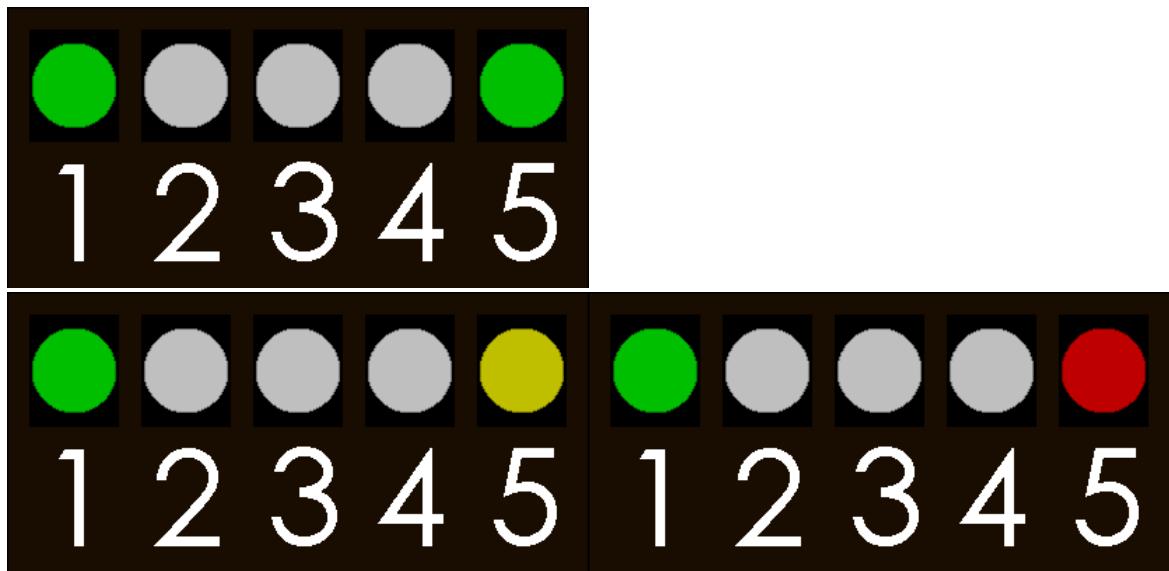
A slowly blinking LED on the first position shows status of the device:

- Green – everything is all right.
- Yellow – there was no correct DMX pack during the latest second.
- Red – there was no correct DMX pack for all period of the operation.



Constantly glowing LED on the 5th position shows battery level:

- Green – battery level is more than 60%;
- Yellow – battery level is 40-60%;
- Red – battery level is 10-40%;
- Blinking red – battery level is less than 10%.

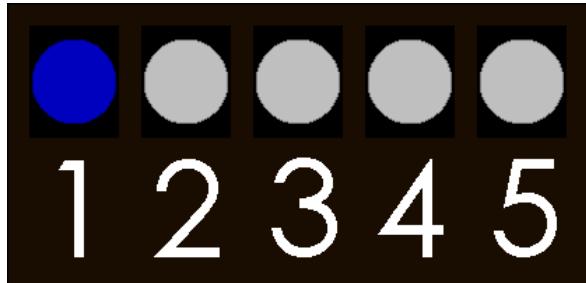


Settings of the device and status of the system.

Through the system menu some parameters can be adjusted, as well as the state of the device can be checked out.

You can adjust parameters of the radio, choose a group the device belongs to, and a DMX address.

To enter into the system menu press and hold “UP” and “DOWN” buttons for 1 second until indication changes:



Description of the points of the system menu can be found in the app. № 1.

Appendix 1. Description of the points of system menu:

System menu is arranged into basic menu and several submenus.

Navigation over the menu is fulfilled by:

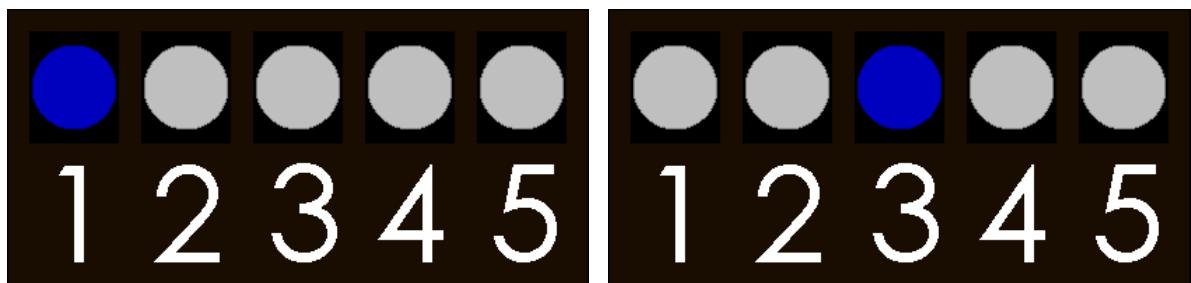
- “UP” and “DOWN” buttons shift the cursor to the left and to the right, correspondingly;
- Short (less than half a second) pressing the “START/PLAY” button enters into the menu and changes a parameter;
- Long (more than half a second) pressing the “START/PLAY” button goes out of the system menu.

Indications in the system menu.

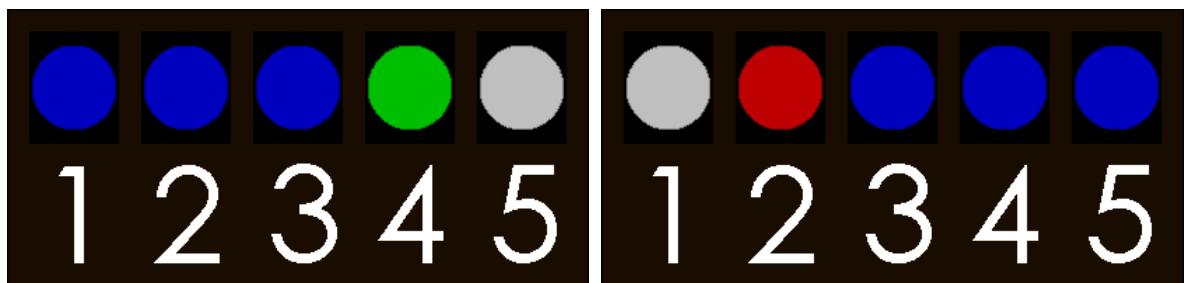
A single blue LED means that you are in the system menu and indicates the selection of the submenu. A red or green LED with a blue tail indicates an edited parameter in the submenu.

A red LED means that the parameter is inactive, a green one means that the parameter is active.

This is an example of navigation over the system menu. The blue cursor indicates the first and third submenu, correspondingly.



The left figure shows the 4th parameter, and it is active. The right figure shows 7th parameter, not active.



System menu points description.

1. Status and settings of radio;
2. Radio channel selection;
3. Group selection;

Submenu points description.

Submenu 1 – status and settings of the radio.

1. Availability of the radio.
2. Not used.
3. Not used.
4. Group work (not available for DMX version).
5. Sending of a command to all groups, not only to a selected one (not available for DMX version).
6. Not used.
7. Not used.

Submenu 2 – Radio channel selection;

In this submenu you can select a frequency which radio module works on.

The frequency is set in accordance with the table in the appendix 2.

Submenu 3 – Group selection (for usual remote) or DMX address selection (for DMX version).

In this submenu you should select a group which the device or an address of the device belongs to.

A selected group and DMX address are set in accordance with the table in the appendix 2.

Appendix 2. Reference tables.

A reference table to select the group.

Columns: menu point condition.

Lines: selected group.

	1	2	3	4	5
1	Red				Red
2	Green				Red
3	Red	Green			Red
4	Green	Green			Red
5	Red	Red	Green		Red
6	Green	Red	Green		Red
7	Red	Green	Green		Red
8	Green	Green	Green		Red
9	Red	Red	Red	Green	Red
10	Green			Green	Red
11	Red	Green	Green	Green	Red
12	Green	Green	Green	Green	Red
13	Red	Red	Green	Green	Red
14	Green	Red	Green	Green	Red
15	Red	Green	Green	Green	Red
16	Green	Green	Green	Green	Red
17	Red	Red	Red	Red	Green
18	Green	Red	Red	Red	Green
19	Red	Green	Red	Red	Green
20	Green	Green	Red	Red	Green
21	Red	Red	Green	Red	Green
22	Green	Red	Green	Red	Green
23	Red	Green	Green	Red	Green
24	Green	Green	Green	Red	Green
25	Red	Red	Red	Green	Green
26	Green	Red	Red	Green	Green
27	Red	Green	Red	Green	Green
28	Green	Green	Red	Green	Green
29	Red	Red	Green	Green	Green
30	Green	Red	Green	Green	Green
31	Red	Red	Green	Green	Green
32	Green	Green	Green	Green	Green

Reference table to select a channel of the radio module:

Columns: menu point condition.

Lines: selected channel.

	1	2	3	4
1	Red	Red	Red	Red
2	Green	Red	Red	Red
3	Red	Green	Red	Red
4	Green	Green	Red	Red
5	Red	Red	Green	Red
6	Green	Red	Green	Red
7	Red	Green	Green	Red
8	Green	Green	Green	Red
9	Red	Red	Red	Green
10	Green	Red	Red	Green
11	Red	Green	Red	Green
12	Green	Green	Red	Green
13	Red	Red	Green	Green

Note: 13th channel or farther ones are not available. If chosen, 13th channel will be set forcedly.

Set frequency can be calculated by the formula: Freq [MHz] = 2400 + (Val - 1) * 10

For example, if the first channel is selected ,the radio unit works on 2400Mhz. If 12th channel is selected – then 2510Mhz.

Lookup table for DMX address selection:

Columns: menu points state.

Lines: selected DMX address.

iRemote	1	2	3	4	5	6	7	8	9
65	Red	Green		Red	Red	Red	Green	Red	Red
66	Green	Green		Red	Red	Red	Green	Red	Red
67	Red	Red		Red	Red	Red	Green	Red	Red
68	Green	Red		Red	Red	Red	Green	Red	Red
69	Red	Green	Green	Red	Red	Red	Green	Red	Red
70	Green	Green	Green	Red	Red	Red	Red	Red	Red
71	Red	Red	Green	Red	Red	Red	Red	Red	Red
72	Green	Red	Green	Red	Red	Red	Red	Red	Red
73	Red	Green	Red	Green	Red	Red	Red	Red	Red
74	Green	Red	Green	Red	Red	Red	Red	Red	Red
75	Red	Red	Red	Green	Red	Red	Red	Red	Red
76	Green	Red	Red	Green	Red	Red	Red	Red	Red
77	Red	Green	Green	Green	Red	Red	Green	Red	Red
78	Green	Red	Green	Green	Red	Red	Red	Red	Red
79	Red	Red	Red	Green	Red	Red	Red	Red	Red
80	Green	Red	Red	Green	Red	Red	Red	Red	Red
81	Red	Green	Red	Red	Green	Red	Red	Red	Red
82	Green	Red	Red	Red	Green	Red	Red	Red	Red
83	Red	Red	Red	Red	Green	Red	Red	Red	Red
84	Green	Red	Red	Red	Green	Red	Red	Red	Red
85	Red	Green	Green	Red	Green	Red	Red	Red	Red
86	Green	Green	Red	Red	Green	Red	Red	Red	Red
87	Red	Red	Red	Red	Green	Red	Red	Red	Red
88	Green	Red	Red	Red	Green	Red	Red	Red	Red
89	Red	Green	Red	Red	Green	Red	Red	Red	Red
90	Green	Green	Red	Red	Green	Red	Red	Red	Red
91	Red	Red	Red	Red	Green	Red	Red	Red	Red
92	Green	Red	Red	Red	Green	Red	Red	Red	Red
93	Red	Green	Red	Red	Green	Red	Red	Red	Red
94	Green	Green	Red	Red	Green	Red	Red	Red	Red
95	Red	Red	Red	Red	Green	Red	Red	Red	Red
96	Green	Red	Red	Red	Green	Red	Red	Red	Red

iRemote	1	2	3	4	5	6	7	8	9
97	Red	Green		Red	Red	Red	Green	Red	Red
98	Green	Green		Red	Red	Red	Green	Red	Red
99	Red	Red		Red	Red	Red	Green	Red	Red
100	Green	Red		Red	Red	Red	Green	Red	Red
101	Red	Red		Red	Red	Red	Green	Red	Red
102	Green	Red		Red	Red	Red	Green	Red	Red
103	Red	Green		Red	Red	Red	Green	Red	Red
104	Green	Green		Red	Red	Red	Green	Red	Red
105	Red	Red		Red	Red	Red	Green	Red	Red
106	Green	Red		Red	Red	Red	Green	Red	Red
107	Red	Green		Red	Red	Red	Green	Red	Red
108	Green	Green		Red	Red	Red	Green	Red	Red
109	Red	Red		Red	Red	Red	Green	Red	Red
110	Green	Red		Red	Red	Red	Green	Red	Red
111	Red	Green		Red	Red	Red	Green	Red	Red
112	Green	Green		Red	Red	Red	Green	Red	Red
113	Red	Red		Red	Red	Red	Green	Red	Red
114	Green	Red		Red	Red	Red	Green	Red	Red
115	Red	Green		Red	Red	Red	Green	Red	Red
116	Green	Green		Red	Red	Red	Green	Red	Red
117	Red	Red		Red	Red	Red	Green	Red	Red
118	Green	Red		Red	Red	Red	Green	Red	Red
119	Red	Green		Red	Red	Red	Green	Red	Red
120	Green	Green		Red	Red	Red	Green	Red	Red
121	Red	Red		Red	Red	Red	Green	Red	Red
122	Green	Red		Red	Red	Red	Green	Red	Red
123	Red	Green		Red	Red	Red	Green	Red	Red
124	Green	Green		Red	Red	Red	Green	Red	Red
125	Red	Red		Red	Red	Red	Green	Red	Red
126	Green	Red		Red	Red	Red	Green	Red	Red
127	Red	Green		Red	Red	Red	Green	Red	Red
128	Green	Green		Red	Red	Red	Green	Red	Red

iRemote	1	2	3	4	5	6	7	8	9
193	Red	Green		Red	Red	Red	Green	Green	Red
194	Green	Green		Red	Red	Red	Green	Green	Red
195	Red	Red		Red	Red	Red	Green	Green	Red
196	Green	Red		Red	Red	Red	Green	Green	Red
197	Red	Green		Red	Red	Red	Green	Green	Red
198	Green	Green		Red	Red	Red	Green	Green	Red
199	Red	Red		Red	Red	Red	Green	Green	Red
200	Green	Red		Red	Red	Red	Green	Green	Red
201	Red	Green		Red	Red	Red	Green	Green	Red
202	Green	Green		Red	Red	Red	Green	Green	Red
203	Red	Red		Red	Red	Red	Green	Green	Red
204	Green	Red		Red	Red	Red	Green	Green	Red
205	Red	Green		Red	Red	Red	Green	Green	Red
206	Green	Green		Red	Red	Red	Green	Green	Red
207	Red	Red		Red	Red	Red	Green	Green	Red
208	Green	Red		Red	Red	Red	Green	Green	Red
209	Red	Green		Red	Red	Red	Green	Green	Red
210	Green	Red		Red	Red	Red	Green	Green	Red
211	Red	Red		Red	Red	Red	Green	Green	Red
212	Green	Red		Red	Red	Red	Green	Green	Red
213	Red	Green		Red	Red	Red	Green	Green	Red
214	Green	Green		Red	Red	Red	Green	Green	Red
215	Red	Red		Red	Red	Red	Green	Green	Red
216	Green	Red		Red	Red	Red	Green	Green	Red
217	Red	Green		Red	Red	Red	Green	Green	Red
218	Green	Green		Red	Red	Red	Green	Green	Red
219	Red	Red		Red	Red	Red	Green	Green	Red
220	Green	Red		Red	Red	Red	Green	Green	Red
221	Red	Green		Red	Red	Red	Green	Green	Red
222	Green	Green		Red	Red	Red	Green	Green	Red
223	Red	Red		Red	Red	Red	Green	Green	Red
224	Green	Red		Red	Red	Red	Green	Green	Red

iRemote	1	2	3	4	5	6	7	8	9
225	Red	Green		Red	Red	Red	Green	Green	Red
226	Green	Green		Red	Red	Red	Green	Green	Red
227	Red	Red		Red	Red	Red	Green	Green	Red
228	Green	Red		Red	Red	Red	Green	Green	Red
229	Red	Green		Red	Red	Red	Green	Green	Red
230	Green	Red		Red	Red	Red	Green	Green	Red
231	Red	Green		Red	Red	Red	Green	Green	Red
232	Green	Green		Red	Red	Red	Green	Green	Red
233	Red	Red		Red	Red	Red	Green	Green	Red
234	Green	Red		Red	Red	Red	Green	Green	Red
235	Red	Green		Red	Red	Red	Green	Green	Red
236	Green	Green		Red	Red	Red	Green	Green	Red
237	Red	Red		Red	Red	Red	Green	Green	Red
238	Green	Red		Red	Red	Red	Green	Green	Red
239	Red	Green		Red	Red	Red	Green	Green	Red
240	Green	Green		Red	Red	Red	Green	Green	Red
241	Red	Red		Red	Red	Red	Green	Green	Red
242	Green	Red		Red	Red	Red	Green	Green	Red
243	Red	Green		Red	Red	Red	Green	Green	Red
244	Green	Green		Red	Red	Red	Green	Green	Red
245	Red	Red		Red	Red	Red	Green	Green	Red
246	Green	Red		Red	Red	Red	Green	Green	Red
247	Red	Green		Red	Red	Red	Green	Green	Red
248	Green	Green		Red	Red	Red	Green	Green	Red
249	Red	Red		Red	Red	Red	Green	Green	Red
250	Green	Red		Red	Red	Red	Green	Green	Red
251	Red	Green		Red	Red	Red	Green	Green	Red
252	Green	Green		Red	Red	Red	Green	Green	Red
253	Red	Red		Red	Red	Red	Green	Green	Red
254	Green	Red		Red	Red	Red	Green	Green	Red
255	Red	Green		Red	Red	Red	Green	Green	Red
256	Green	Green		Red	Red	Red	Green	Green	Red

iRemote	1	2	3	4	5	6	7	8	9
257									
258	g								g
259		g							g
260	g	g							g
261			g						g
262	g		g						g
263		g	g						g
264	g	g	g						g
265				g					g
266	g		g	g					g
267		g	g	g					g
268	g	g	g	g					g
269				g					g
270	g		g	g					g
271		g	g	g					g
272	g	g	g	g					g
273				g					g
274	g		g	g					g
275		g	g	g					g
276	g	g	g	g					g
277			g	g					g
278	g		g	g					g
279		g	g	g					g
280	g	g	g	g					g
281				g					g
282	g		g	g					g
283		g	g	g					g
284	g	g	g	g					g
285				g					g
286	g		g	g					g
287		g	g	g					g
288	g	g	g	g					g

iRemote	1	2	3	4	5	6	7	8	9
289									g
290	g								g
291		g							g
292	g	g							g
293			g						g
294	g		g						g
295		g	g						g
296	g	g	g						g
297				g					g
298	g		g	g					g
299		g	g	g					g
300	g	g	g	g					g
301				g					g
302	g		g	g					g
303		g	g	g					g
304	g	g	g	g					g
305				g					g
306	g		g	g					g
307		g	g	g					g
308	g	g	g	g					g
309				g					g
310	g	g	g	g					g
311		g	g	g					g
312	g		g	g					g
313		g	g	g					g
314	g	g	g	g					g
315				g					g
316	g		g	g					g
317		g	g	g					g
318	g	g	g	g					g
319		g	g	g					g
320	g		g	g					g

iRemote	1	2	3	4	5	6	7	8	9
449	Red	Green		Red	Red	Red	Green	Green	
450	Green	Green		Red	Red	Red	Green	Green	
451	Red	Red		Red	Red	Red	Green	Green	
452	Green	Red		Red	Red	Red	Green	Green	
453	Red	Green		Red	Red	Red	Green	Green	
454	Green	Green		Red	Red	Red	Green	Green	
455	Red	Red		Red	Red	Red	Green	Green	
456	Green	Red		Red	Red	Red	Green	Green	
457	Red	Green		Red	Red	Red	Green	Green	
458	Green	Green		Red	Red	Red	Green	Green	
459	Red	Red		Red	Red	Red	Green	Green	
460	Green	Red		Red	Red	Red	Green	Green	
461	Red	Green		Red	Red	Red	Green	Green	
462	Green	Green		Red	Red	Red	Green	Green	
463	Red	Red		Red	Red	Red	Green	Green	
464	Green	Red		Red	Red	Red	Green	Green	
465	Red	Green		Red	Red	Red	Green	Green	
466	Green	Green		Red	Red	Red	Green	Green	
467	Red	Red		Red	Red	Red	Green	Green	
468	Green	Red		Red	Red	Red	Green	Green	
469	Red	Green		Red	Red	Red	Green	Green	
470	Green	Green		Red	Red	Red	Green	Green	
471	Red	Red		Red	Red	Red	Green	Green	
472	Green	Red		Red	Red	Red	Green	Green	
473	Red	Green		Red	Red	Red	Green	Green	
474	Green	Green		Red	Red	Red	Green	Green	
475	Red	Red		Red	Red	Red	Green	Green	
476	Green	Red		Red	Red	Red	Green	Green	
477	Red	Green		Red	Red	Red	Green	Green	
478	Green	Green		Red	Red	Red	Green	Green	
479	Red	Red		Red	Red	Red	Green	Green	
480	Green	Red		Red	Red	Red	Green	Green	

iRemote	1	2	3	4	5	6	7	8	9
481	Red	Green		Red	Red	Red	Green	Green	
482	Green	Green		Red	Red	Red	Green	Green	
483	Red	Red		Red	Red	Red	Green	Green	
484	Green	Red		Red	Red	Red	Green	Green	
485	Red	Red		Red	Red	Red	Green	Green	
486	Green	Red		Red	Red	Red	Green	Green	
487	Red	Green		Red	Red	Red	Green	Green	
488	Green	Green		Red	Red	Red	Green	Green	
489	Red	Red		Red	Red	Red	Green	Green	
490	Green	Red		Red	Red	Red	Green	Green	
491	Red	Green		Red	Red	Red	Green	Green	
492	Green	Green		Red	Red	Red	Green	Green	
493	Red	Red		Red	Red	Red	Green	Green	
494	Green	Red		Red	Red	Red	Green	Green	
495	Red	Green		Red	Red	Red	Green	Green	
496	Green	Green		Red	Red	Red	Green	Green	
497	Red	Red		Red	Red	Red	Green	Green	
498	Green	Red		Red	Red	Red	Green	Green	
499	Red	Green		Red	Red	Red	Green	Green	
500	Green	Green		Red	Red	Red	Green	Green	
501	Red	Red		Red	Red	Red	Green	Green	
502	Green	Red		Red	Red	Red	Green	Green	
503	Red	Green		Red	Red	Red	Green	Green	
504	Green	Green		Red	Red	Red	Green	Green	
505	Red	Red		Red	Red	Red	Green	Green	
506	Green	Red		Red	Red	Red	Green	Green	
507	Red	Green		Red	Red	Red	Green	Green	
508	Green	Green		Red	Red	Red	Green	Green	
509	Red	Red		Red	Red	Red	Green	Green	
510	Green	Red		Red	Red	Red	Green	Green	
511	Red	Green		Red	Red	Red	Green	Green	
512	Green	Green		Red	Red	Red	Green	Green	

Note: If a selected address is more than 448, the number of available groups for operating is reduced up to single group with the channel 511 selected. With 512 channel operating through DMX is not available.