

DMX512 Receiver Manual

Covers All Models: 32, 24 and 8 Channel Analogue Output. 2 Channel Relay Output

©1999 JPK Systems Limited

info@jpk.co.nz

1. Introduction

Many lighting fixtures now use DMX512 for control of level, position, gobo, colour, and many other features. Other theatrical and entertainment systems are being integrated into existing DMX512 control systems resulting in happier lighting engineers. DMX512 as defined by the USITT allows up to 512 channels with levels varying between 0 to 255, practically anything could be controlled and that's where the DMX512 receivers by JPK Systems Limited fit in. Older equipment can be retro-fitted and new designs can now incorporate DMX512 input without excessive cost overhead.

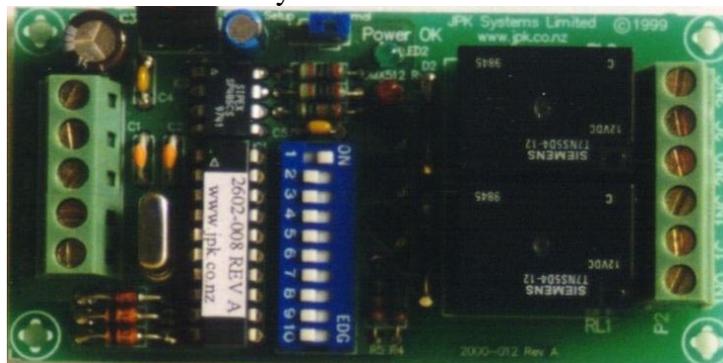
There are 4 DMX512 receivers which cover most applications from simple on/off relay switching to complex 32 channel laser projector beam table control. No single channel receivers are available from JPK Systems Limited since there is no significant cost saving to be had, it is much better to have spare channels. Table 1 below lists the receivers currently available.

2 Relay	For DMX enabling practically anything requiring switch control.
8 Channel	Easy automation where analog input is required, eg fog machine.
24 Channel	Great for upgrading 0-10V analog input light dimmers.
32 Channel	Ideally suited to ILDA-ISP laser display beam table control.

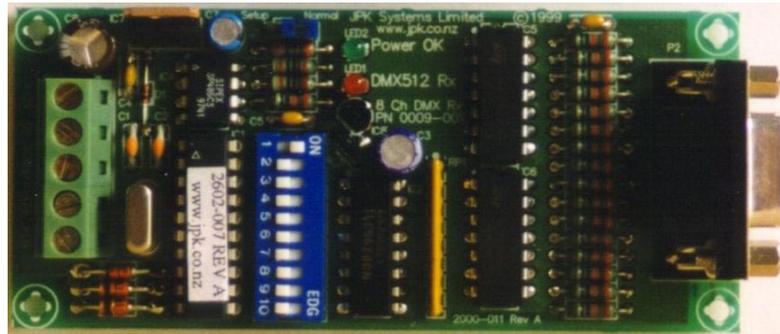
Table 1. DMX512 receivers from JPK Systems Limited

The receivers have been designed to be cost effective whilst still providing all of the important features required by most applications. All boards include a 10 way switch for setting DMX512 start address and changing setup parameters, also an on board LED indicates when a DMX512 signal is being received. Switching level for the 2 relay receiver can be adjusted and output level for the analogue boards can be set to 0-5V or 0-10V. Photographs the boards are below in figure 1.

2 Relay DMX512 Receiver



8 Channel DMX512 Receiver



32 Channel DMX512 Receiver

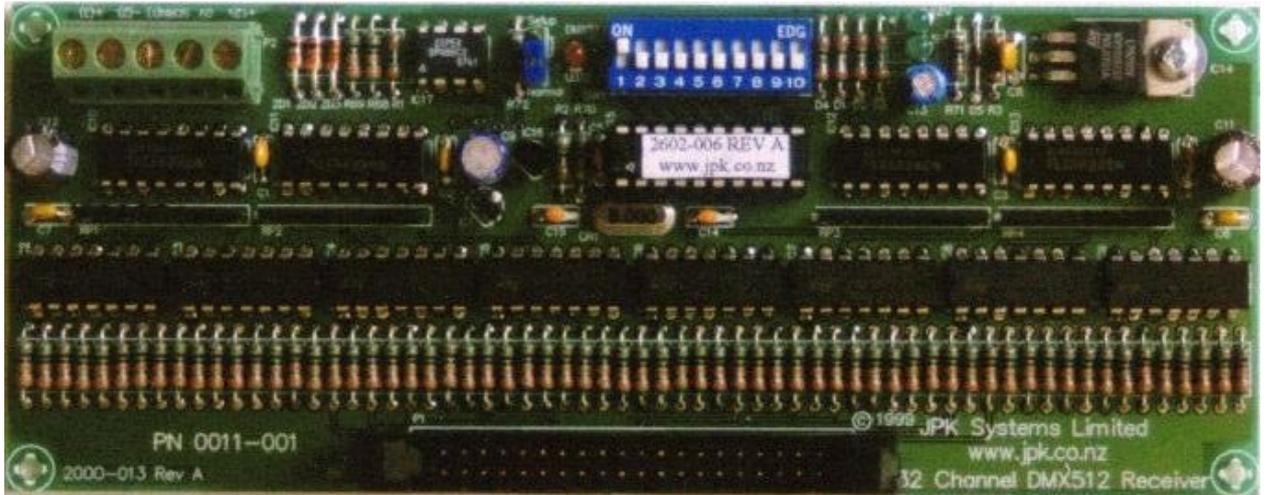


Figure 1. DMX512 Receiver Boards

2. Connections

All of the receivers have a 5 way terminal block for power and DMX512 input, DMX512 output/link can be simply paralleled with the input wiring. XLR style connectors are not provided on the receiver boards since this would restrict mounting options in your equipment, pin numbers are shown for DMX512 standard 5 pin XLR connectors. Output connections vary depending on which receiver is required. Figure 2 below shows the input connector arrangement.

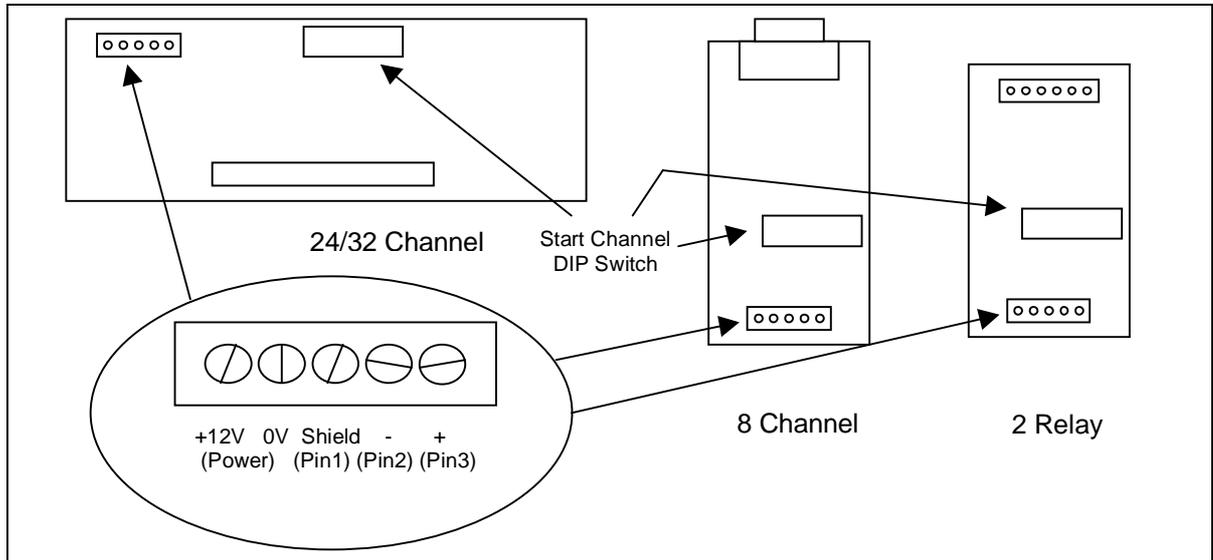


Figure 2. Input connector

Power requirements for all receivers is 12Vdc regulated or slightly higher unregulated (see specifications for exact details), current consumption will vary depending on what the channel loads and levels are. In some applications there is already a suitable power source available from an existing supply in the equipment, if not the receiver may be powered by a plug pack supply or similar. Note that as with all electronic equipment it is important to get the polarity correct, there are labels on the PCB.

Output connections for the 2 relay DMX512 receiver are shown in figure 3 below. The relays are rated to switch resistive loads up to 10A at 240Vac or 24Vdc, if you load is greater than this or is inductive then an external slave relay should be used. Both normally open and normally closed contacts are available.

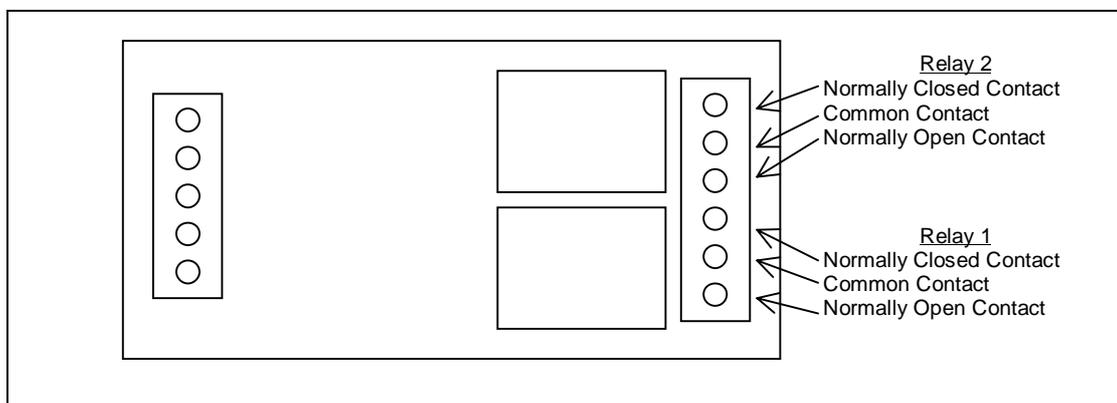


Figure 3. Relay output connections

The 8 channel DMX512 receiver has a 9 way D type connector for outputs and the 32 channel uses a 40 way dual row 0.1" pitch connector, with pins 1-32 corresponding to channels 1-32 and pins 33-40 being 0V (ground). To facilitate easy integration into ILDA-ISP projectors a screw terminal board with interconnection cable is available for the 32 channel receiver, see figure 5. Figure 4 shows the connector layouts for both 8 channel and 32 channel DMX512 receivers. The 24 channel receiver uses a 32 channel receiver board with 8 channels not installed, output connections are made using a female 25 way D-type connector where pins 1-24 correspond to channels 1-24 and pin 25 is 0V (ground), this is a common configuration for theatrical light dimmer controls.

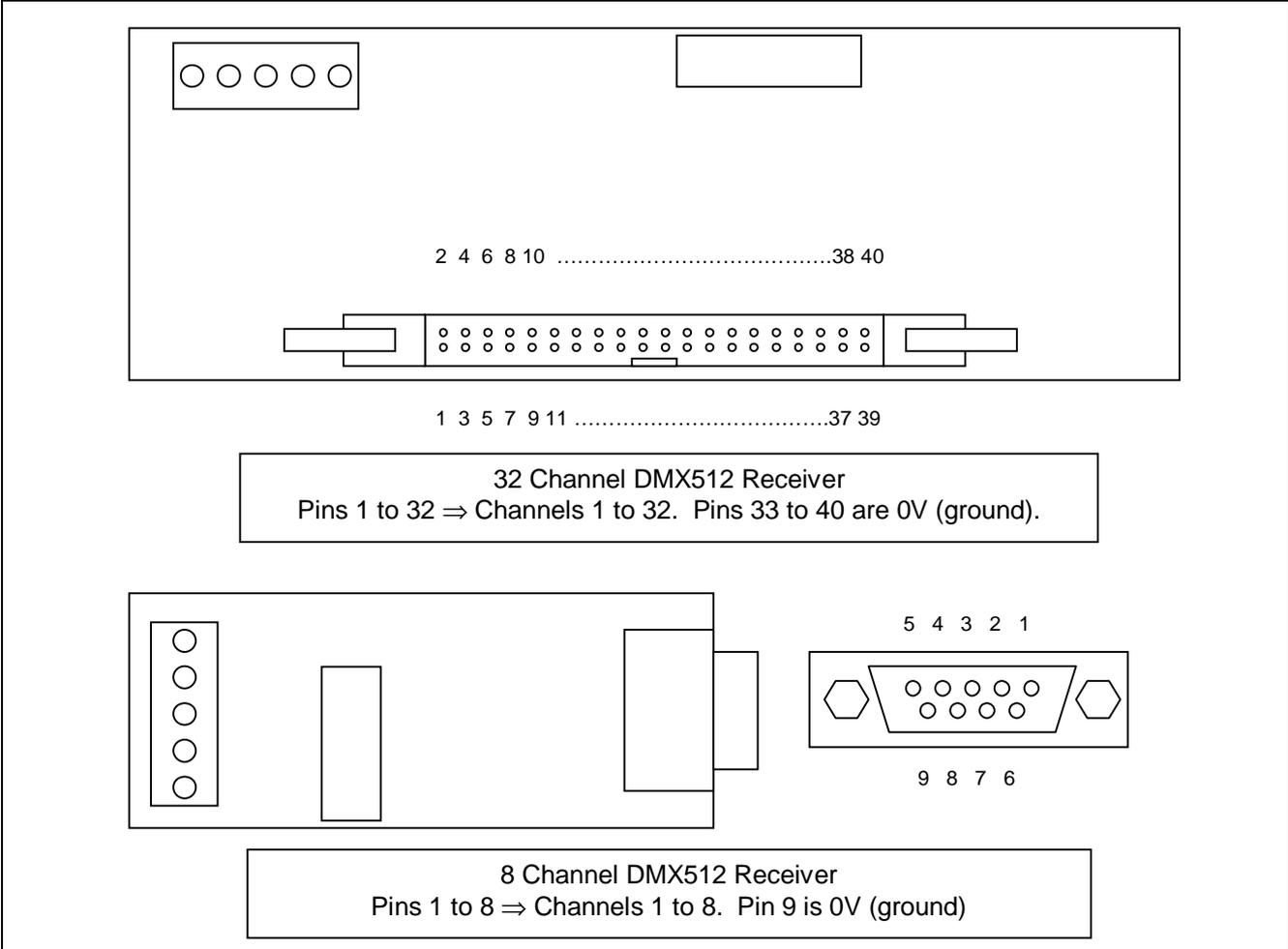


Figure 4. Analog output connections

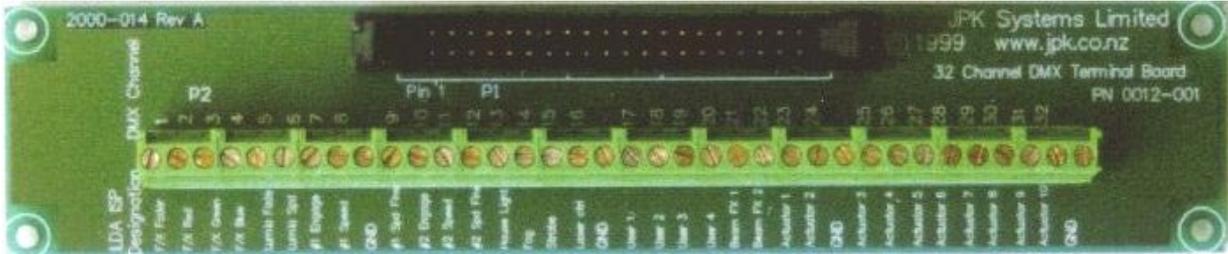


Figure 5. Screw terminal board for 32-channel receiver

3. Configuration and operation

The 10 way DIP switch is normally used to set DMX512 start address, using switches 1 through 9, and switch 10 sets action upon no DMX512 signal (ie zero all outputs or hold last level). Details on how to set the desired start address are in figure 6 and table 2. Note that when start address 0 is chosen all output levels are set to zero, this setting is DMX512 receive OFF. Binary coding is used for start channel setting where 0 = Switch OFF and 1= Switch ON, most calculators can convert from decimal to binary as does the Microsoft Windows 95/98/NT calculator program when in scientific view. Appendix A contains a complete listing of all possible start addresses and a link to where you can find a program that will generate pictorial DMX binary switch settings for almost any DMX512 fixture with DIP switch channel selection.

User programming of output level range (analogue boards) and switch level (relay board) is achieved by setting the DIP switch to a particular state and moving the mode jumper to setup then powering on the receiver for a short time then off again. It is important to move the mode jumper back to the normal position afterwards as the receiver does not operate when in setup mode. Analogue receiver boards (8,24 and 32 channel) allow selection between 0-5V and 0-10V output. See appendix B for programming tables.

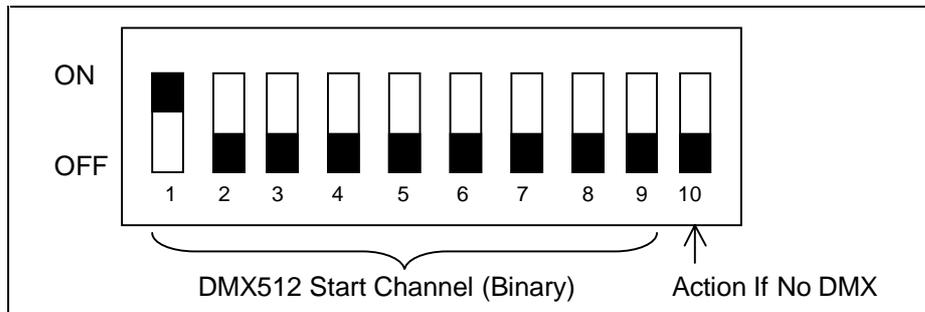


Figure 6. Normal DIP switch assignments, DMX start channel = 1

Start Channel	Sw10	Sw9	Sw8	Sw7	Sw6	Sw5	Sw4	Sw3	Sw2	Sw1
1 (hold last level)	ON	OFF	ON							
1 (auto reset)	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON
2	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON	OFF
3	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON
•	•	•	•	•	•	•	•	•	•	•
120	OFF	OFF	OFF	ON	ON	ON	ON	OFF	OFF	OFF
•	•	•	•	•	•	•	•	•	•	•
510	OFF	ON	OFF							
511	OFF	ON								
Disable reception	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF

Table 2. Examples of start address DIP switch settings

4. Specifications and technical detail

Power supply current requirements will vary (8,24 and 32 Channel Receivers) depending on how much current each channel is supplying to your equipment. In most cases the current is very small since the load resistance of your equipment is probably high in value (say 10k Ω), but it could be as high as 20mA per channel if the receiver board is directly driving optocouplers on an actuator driver for example. A conservative typical current figure is provided that assumes only 50% of the channel outputs will be supplying 20mA at one time along with minimum and maximum figures, you may calculate or measure your actual maximum current in order to properly rate any power supply units.

Parameter	Minimum	Typical	Maximum
Supply Voltage	12Vdc		16Vdc
Supply Current 32 Channel	50mA	370mA	690mA
Supply Current 24 Channel	45mA	285mA	525mA
Supply Current 8 Channel	35mA	115mA	195mA
Supply Current 2 Channel Relay		80mA	
Termination Option (24 & 32 Channel Only)		120 Ω	

Table 3. Specifications for DMX512 receivers

It is possible to use a simple unregulated power supply (ie transformer, rectifier and smoothing capacitor) but it is very important that the voltage never drops below 12V. This means you should aim for around 14Vdc average so ripple does not drop below the minimum supply voltage specified. Check with an oscilloscope to be sure.

Standard DMX512 termination practises should be followed for line termination, which is terminating each end of the line with 120 Ω . The 32 channel receiver has provision for an on board termination resistor (R1) which can be fitted during manufacture upon request, this is mainly intended for ILDA-ISP applications where it is likely to be the only DMX512 device. Failure to terminate a DMX512 line can lead to unpredictable operation where channel levels may vary in an unexpected fashion.

Reception of both USITT DMX512/1990 (8 μ s mark after break) and USITT DMX512 (1986) (4 μ s mark after break) is possible without any user intervention, it is recommended that DMX512/1990 be used for all transmitter sources since other manufacturers DMX512 reception equipment may not be capable of receiving both timing variants.

Appendix A: DMX512 start address table

Start Channel	Sw9	Sw8	Sw7	Sw6	Sw5	Sw4	Sw3	Sw2	Sw1
DMX OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
1	OFF	ON							
2	OFF	ON	OFF						
3	OFF	ON	ON						
4	OFF	OFF	OFF	OFF	OFF	OFF	ON	OFF	OFF
5	OFF	OFF	OFF	OFF	OFF	OFF	ON	OFF	ON
6	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON	OFF
7	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON	ON
8	OFF	OFF	OFF	OFF	OFF	ON	OFF	OFF	OFF
9	OFF	OFF	OFF	OFF	OFF	ON	OFF	OFF	ON
10	OFF	OFF	OFF	OFF	OFF	ON	OFF	ON	OFF
11	OFF	OFF	OFF	OFF	OFF	ON	OFF	ON	ON
12	OFF	OFF	OFF	OFF	OFF	ON	ON	OFF	OFF
13	OFF	OFF	OFF	OFF	OFF	ON	ON	OFF	ON
14	OFF	OFF	OFF	OFF	OFF	ON	ON	ON	OFF
15	OFF	OFF	OFF	OFF	OFF	ON	ON	ON	ON
16	OFF	OFF	OFF	OFF	ON	OFF	OFF	OFF	OFF
17	OFF	OFF	OFF	OFF	ON	OFF	OFF	OFF	ON
18	OFF	OFF	OFF	OFF	ON	OFF	OFF	ON	OFF
19	OFF	OFF	OFF	OFF	ON	OFF	OFF	ON	ON
20	OFF	OFF	OFF	OFF	ON	OFF	ON	OFF	OFF
21	OFF	OFF	OFF	OFF	ON	OFF	ON	OFF	ON
22	OFF	OFF	OFF	OFF	ON	OFF	ON	ON	OFF
23	OFF	OFF	OFF	OFF	ON	OFF	ON	ON	ON
24	OFF	OFF	OFF	OFF	ON	ON	OFF	OFF	OFF
25	OFF	OFF	OFF	OFF	ON	ON	OFF	OFF	ON
26	OFF	OFF	OFF	OFF	ON	ON	OFF	ON	OFF
27	OFF	OFF	OFF	OFF	ON	ON	OFF	ON	ON
28	OFF	OFF	OFF	OFF	ON	ON	ON	OFF	OFF
29	OFF	OFF	OFF	OFF	ON	ON	ON	OFF	ON
30	OFF	OFF	OFF	OFF	ON	ON	ON	ON	OFF
31	OFF	OFF	OFF	OFF	ON	ON	ON	ON	ON
32	OFF	OFF	OFF	ON	OFF	OFF	OFF	OFF	OFF
33	OFF	OFF	OFF	ON	OFF	OFF	OFF	OFF	ON
34	OFF	OFF	OFF	ON	OFF	OFF	OFF	ON	OFF
35	OFF	OFF	OFF	ON	OFF	OFF	OFF	ON	ON
36	OFF	OFF	OFF	ON	OFF	OFF	ON	OFF	OFF
37	OFF	OFF	OFF	ON	OFF	OFF	ON	OFF	ON
38	OFF	OFF	OFF	ON	OFF	OFF	ON	ON	OFF
39	OFF	OFF	OFF	ON	OFF	OFF	ON	ON	ON
40	OFF	OFF	OFF	ON	OFF	ON	OFF	OFF	OFF
41	OFF	OFF	OFF	ON	OFF	ON	OFF	OFF	ON
42	OFF	OFF	OFF	ON	OFF	ON	OFF	ON	OFF
43	OFF	OFF	OFF	ON	OFF	ON	OFF	ON	ON
44	OFF	OFF	OFF	ON	OFF	ON	ON	OFF	OFF
45	OFF	OFF	OFF	ON	OFF	ON	ON	OFF	ON
46	OFF	OFF	OFF	ON	OFF	ON	ON	ON	OFF
47	OFF	OFF	OFF	ON	OFF	ON	ON	ON	ON
48	OFF	OFF	OFF	ON	ON	OFF	OFF	OFF	OFF
49	OFF	OFF	OFF	ON	ON	OFF	OFF	OFF	ON
50	OFF	OFF	OFF	ON	ON	OFF	OFF	ON	OFF
51	OFF	OFF	OFF	ON	ON	OFF	OFF	ON	ON
52	OFF	OFF	OFF	ON	ON	OFF	ON	OFF	OFF
53	OFF	OFF	OFF	ON	ON	OFF	ON	OFF	ON
54	OFF	OFF	OFF	ON	ON	OFF	ON	ON	OFF
55	OFF	OFF	OFF	ON	ON	OFF	ON	ON	ON

56	OFF	OFF	OFF	ON	ON	ON	OFF	OFF	OFF
57	OFF	OFF	OFF	ON	ON	ON	OFF	OFF	ON
58	OFF	OFF	OFF	ON	ON	ON	OFF	ON	OFF
59	OFF	OFF	OFF	ON	ON	ON	OFF	ON	ON
60	OFF	OFF	OFF	ON	ON	ON	ON	OFF	OFF
61	OFF	OFF	OFF	ON	ON	ON	ON	OFF	ON
62	OFF	OFF	OFF	ON	ON	ON	ON	ON	OFF
63	OFF	OFF	OFF	ON	ON	ON	ON	ON	ON
64	OFF	OFF	ON	OFF	OFF	OFF	OFF	OFF	OFF
65	OFF	OFF	ON	OFF	OFF	OFF	OFF	OFF	ON
66	OFF	OFF	ON	OFF	OFF	OFF	OFF	ON	OFF
67	OFF	OFF	ON	OFF	OFF	OFF	OFF	ON	ON
68	OFF	OFF	ON	OFF	OFF	OFF	ON	OFF	OFF
69	OFF	OFF	ON	OFF	OFF	OFF	ON	OFF	ON
70	OFF	OFF	ON	OFF	OFF	OFF	ON	ON	OFF
71	OFF	OFF	ON	OFF	OFF	OFF	ON	ON	ON
72	OFF	OFF	ON	OFF	OFF	ON	OFF	OFF	OFF
73	OFF	OFF	ON	OFF	OFF	ON	OFF	OFF	ON
74	OFF	OFF	ON	OFF	OFF	ON	OFF	ON	OFF
75	OFF	OFF	ON	OFF	OFF	ON	OFF	ON	ON
76	OFF	OFF	ON	OFF	OFF	ON	ON	OFF	OFF
77	OFF	OFF	ON	OFF	OFF	ON	ON	OFF	ON
78	OFF	OFF	ON	OFF	OFF	ON	ON	ON	OFF
79	OFF	OFF	ON	OFF	OFF	ON	ON	ON	ON
80	OFF	OFF	ON	OFF	ON	OFF	OFF	OFF	OFF
81	OFF	OFF	ON	OFF	ON	OFF	OFF	OFF	ON
82	OFF	OFF	ON	OFF	ON	OFF	OFF	ON	OFF
83	OFF	OFF	ON	OFF	ON	OFF	OFF	ON	ON
84	OFF	OFF	ON	OFF	ON	OFF	ON	OFF	OFF
85	OFF	OFF	ON	OFF	ON	OFF	ON	OFF	ON
86	OFF	OFF	ON	OFF	ON	OFF	ON	ON	OFF
87	OFF	OFF	ON	OFF	ON	OFF	ON	ON	ON
88	OFF	OFF	ON	OFF	ON	ON	OFF	OFF	OFF
89	OFF	OFF	ON	OFF	ON	ON	OFF	OFF	ON
90	OFF	OFF	ON	OFF	ON	ON	OFF	ON	OFF
91	OFF	OFF	ON	OFF	ON	ON	OFF	ON	ON
92	OFF	OFF	ON	OFF	ON	ON	ON	OFF	OFF
93	OFF	OFF	ON	OFF	ON	ON	ON	OFF	ON
94	OFF	OFF	ON	OFF	ON	ON	ON	ON	OFF
95	OFF	OFF	ON	OFF	ON	ON	ON	ON	ON
96	OFF	OFF	ON	ON	OFF	OFF	OFF	OFF	OFF
97	OFF	OFF	ON	ON	OFF	OFF	OFF	OFF	ON
98	OFF	OFF	ON	ON	OFF	OFF	OFF	ON	OFF
99	OFF	OFF	ON	ON	OFF	OFF	OFF	ON	ON
100	OFF	OFF	ON	ON	OFF	OFF	ON	OFF	OFF
101	OFF	OFF	ON	ON	OFF	OFF	ON	OFF	ON
102	OFF	OFF	ON	ON	OFF	OFF	ON	ON	OFF
103	OFF	OFF	ON	ON	OFF	OFF	ON	ON	ON
104	OFF	OFF	ON	ON	OFF	ON	OFF	OFF	OFF
105	OFF	OFF	ON	ON	OFF	ON	OFF	OFF	ON
106	OFF	OFF	ON	ON	OFF	ON	OFF	ON	OFF
107	OFF	OFF	ON	ON	OFF	ON	OFF	ON	ON
108	OFF	OFF	ON	ON	OFF	ON	ON	OFF	OFF
109	OFF	OFF	ON	ON	OFF	ON	ON	OFF	ON
110	OFF	OFF	ON	ON	OFF	ON	ON	ON	OFF
111	OFF	OFF	ON	ON	OFF	ON	ON	ON	ON
112	OFF	OFF	ON	ON	ON	OFF	OFF	OFF	OFF
113	OFF	OFF	ON	ON	ON	OFF	OFF	OFF	ON
114	OFF	OFF	ON	ON	ON	OFF	OFF	ON	OFF
115	OFF	OFF	ON	ON	ON	OFF	OFF	ON	ON
116	OFF	OFF	ON	ON	ON	OFF	ON	OFF	OFF

117	OFF	OFF	ON	ON	ON	OFF	ON	OFF	ON
118	OFF	OFF	ON	ON	ON	OFF	ON	ON	OFF
119	OFF	OFF	ON	ON	ON	OFF	ON	ON	ON
120	OFF	OFF	ON	ON	ON	ON	OFF	OFF	OFF
121	OFF	OFF	ON	ON	ON	ON	OFF	OFF	ON
122	OFF	OFF	ON	ON	ON	ON	OFF	ON	OFF
123	OFF	OFF	ON	ON	ON	ON	OFF	ON	ON
124	OFF	OFF	ON	ON	ON	ON	ON	OFF	OFF
125	OFF	OFF	ON	ON	ON	ON	ON	OFF	ON
126	OFF	OFF	ON	ON	ON	ON	ON	ON	OFF
127	OFF	OFF	ON						
128	OFF	ON	OFF						
129	OFF	ON	OFF	OFF	OFF	OFF	OFF	OFF	ON
130	OFF	ON	OFF	OFF	OFF	OFF	OFF	ON	OFF
131	OFF	ON	OFF	OFF	OFF	OFF	OFF	ON	ON
132	OFF	ON	OFF	OFF	OFF	OFF	ON	OFF	OFF
133	OFF	ON	OFF	OFF	OFF	OFF	ON	OFF	ON
134	OFF	ON	OFF	OFF	OFF	OFF	ON	ON	OFF
135	OFF	ON	OFF	OFF	OFF	OFF	ON	ON	ON
136	OFF	ON	OFF	OFF	OFF	ON	OFF	OFF	OFF
137	OFF	ON	OFF	OFF	OFF	ON	OFF	OFF	ON
138	OFF	ON	OFF	OFF	OFF	ON	OFF	ON	OFF
139	OFF	ON	OFF	OFF	OFF	ON	OFF	ON	ON
140	OFF	ON	OFF	OFF	OFF	ON	ON	OFF	OFF
141	OFF	ON	OFF	OFF	OFF	ON	ON	OFF	ON
142	OFF	ON	OFF	OFF	OFF	ON	ON	ON	OFF
143	OFF	ON	OFF	OFF	OFF	ON	ON	ON	ON
144	OFF	ON	OFF	OFF	ON	OFF	OFF	OFF	OFF
145	OFF	ON	OFF	OFF	ON	OFF	OFF	OFF	ON
146	OFF	ON	OFF	OFF	ON	OFF	OFF	ON	OFF
147	OFF	ON	OFF	OFF	ON	OFF	OFF	ON	ON
148	OFF	ON	OFF	OFF	ON	OFF	ON	OFF	OFF
149	OFF	ON	OFF	OFF	ON	OFF	ON	OFF	ON
150	OFF	ON	OFF	OFF	ON	OFF	ON	ON	OFF
151	OFF	ON	OFF	OFF	ON	OFF	ON	ON	ON
152	OFF	ON	OFF	OFF	ON	ON	OFF	OFF	OFF
153	OFF	ON	OFF	OFF	ON	ON	OFF	OFF	ON
154	OFF	ON	OFF	OFF	ON	ON	OFF	ON	OFF
155	OFF	ON	OFF	OFF	ON	ON	OFF	ON	ON
156	OFF	ON	OFF	OFF	ON	ON	ON	OFF	OFF
157	OFF	ON	OFF	OFF	ON	ON	ON	OFF	ON
158	OFF	ON	OFF	OFF	ON	ON	ON	ON	OFF
159	OFF	ON	OFF	OFF	ON	ON	ON	ON	ON
160	OFF	ON	OFF	ON	OFF	OFF	OFF	OFF	OFF
161	OFF	ON	OFF	ON	OFF	OFF	OFF	OFF	ON
162	OFF	ON	OFF	ON	OFF	OFF	OFF	ON	OFF
163	OFF	ON	OFF	ON	OFF	OFF	OFF	ON	ON
164	OFF	ON	OFF	ON	OFF	OFF	ON	OFF	OFF
165	OFF	ON	OFF	ON	OFF	OFF	ON	OFF	ON
166	OFF	ON	OFF	ON	OFF	OFF	ON	ON	OFF
167	OFF	ON	OFF	ON	OFF	OFF	ON	ON	ON
168	OFF	ON	OFF	ON	OFF	ON	OFF	OFF	OFF
169	OFF	ON	OFF	ON	OFF	ON	OFF	OFF	ON
170	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF
171	OFF	ON	OFF	ON	OFF	ON	OFF	ON	ON
172	OFF	ON	OFF	ON	OFF	ON	ON	OFF	OFF
173	OFF	ON	OFF	ON	OFF	ON	ON	OFF	ON
174	OFF	ON	OFF	ON	OFF	ON	ON	ON	OFF
175	OFF	ON	OFF	ON	OFF	ON	ON	ON	ON
176	OFF	ON	OFF	ON	ON	OFF	OFF	OFF	OFF
177	OFF	ON	OFF	ON	ON	OFF	OFF	OFF	ON

178	OFF	ON	OFF	ON	ON	OFF	OFF	ON	OFF
179	OFF	ON	OFF	ON	ON	OFF	OFF	ON	ON
180	OFF	ON	OFF	ON	ON	OFF	ON	OFF	OFF
181	OFF	ON	OFF	ON	ON	OFF	ON	OFF	ON
182	OFF	ON	OFF	ON	ON	OFF	ON	ON	OFF
183	OFF	ON	OFF	ON	ON	OFF	ON	ON	ON
184	OFF	ON	OFF	ON	ON	ON	OFF	OFF	OFF
185	OFF	ON	OFF	ON	ON	ON	OFF	OFF	ON
186	OFF	ON	OFF	ON	ON	ON	OFF	ON	OFF
187	OFF	ON	OFF	ON	ON	ON	OFF	ON	ON
188	OFF	ON	OFF	ON	ON	ON	ON	OFF	OFF
189	OFF	ON	OFF	ON	ON	ON	ON	OFF	ON
190	OFF	ON	OFF	ON	ON	ON	ON	ON	OFF
191	OFF	ON	OFF	ON	ON	ON	ON	ON	ON
192	OFF	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF
193	OFF	ON	ON	OFF	OFF	OFF	OFF	OFF	ON
194	OFF	ON	ON	OFF	OFF	OFF	OFF	ON	OFF
195	OFF	ON	ON	OFF	OFF	OFF	OFF	ON	ON
196	OFF	ON	ON	OFF	OFF	OFF	ON	OFF	OFF
197	OFF	ON	ON	OFF	OFF	OFF	ON	OFF	ON
198	OFF	ON	ON	OFF	OFF	OFF	ON	ON	OFF
199	OFF	ON	ON	OFF	OFF	OFF	ON	ON	ON
200	OFF	ON	ON	OFF	OFF	ON	OFF	OFF	OFF
201	OFF	ON	ON	OFF	OFF	ON	OFF	OFF	ON
202	OFF	ON	ON	OFF	OFF	ON	OFF	ON	OFF
203	OFF	ON	ON	OFF	OFF	ON	OFF	ON	ON
204	OFF	ON	ON	OFF	OFF	ON	ON	OFF	OFF
205	OFF	ON	ON	OFF	OFF	ON	ON	OFF	ON
206	OFF	ON	ON	OFF	OFF	ON	ON	ON	OFF
207	OFF	ON	ON	OFF	OFF	ON	ON	ON	ON
208	OFF	ON	ON	OFF	ON	OFF	OFF	OFF	OFF
209	OFF	ON	ON	OFF	ON	OFF	OFF	OFF	ON
210	OFF	ON	ON	OFF	ON	OFF	OFF	ON	OFF
211	OFF	ON	ON	OFF	ON	OFF	OFF	ON	ON
212	OFF	ON	ON	OFF	ON	OFF	ON	OFF	OFF
213	OFF	ON	ON	OFF	ON	OFF	ON	OFF	ON
214	OFF	ON	ON	OFF	ON	OFF	ON	ON	OFF
215	OFF	ON	ON	OFF	ON	OFF	ON	ON	ON
216	OFF	ON	ON	OFF	ON	ON	OFF	OFF	OFF
217	OFF	ON	ON	OFF	ON	ON	OFF	OFF	ON
218	OFF	ON	ON	OFF	ON	ON	OFF	ON	OFF
219	OFF	ON	ON	OFF	ON	ON	OFF	ON	ON
220	OFF	ON	ON	OFF	ON	ON	ON	OFF	OFF
221	OFF	ON	ON	OFF	ON	ON	ON	OFF	ON
222	OFF	ON	ON	OFF	ON	ON	ON	ON	OFF
223	OFF	ON	ON	OFF	ON	ON	ON	ON	ON
224	OFF	ON	ON	ON	OFF	OFF	OFF	OFF	OFF
225	OFF	ON	ON	ON	OFF	OFF	OFF	OFF	ON
226	OFF	ON	ON	ON	OFF	OFF	OFF	ON	OFF
227	OFF	ON	ON	ON	OFF	OFF	OFF	ON	ON
228	OFF	ON	ON	ON	OFF	OFF	ON	OFF	OFF
229	OFF	ON	ON	ON	OFF	OFF	ON	OFF	ON
230	OFF	ON	ON	ON	OFF	OFF	ON	ON	OFF
231	OFF	ON	ON	ON	OFF	OFF	ON	ON	ON
232	OFF	ON	ON	ON	OFF	ON	OFF	OFF	OFF
233	OFF	ON	ON	ON	OFF	ON	OFF	OFF	ON
234	OFF	ON	ON	ON	OFF	ON	OFF	ON	OFF
235	OFF	ON	ON	ON	OFF	ON	OFF	ON	ON
236	OFF	ON	ON	ON	OFF	ON	ON	OFF	OFF
237	OFF	ON	ON	ON	OFF	ON	ON	OFF	ON
238	OFF	ON	ON	ON	OFF	ON	ON	ON	OFF

239	OFF	ON	ON	ON	OFF	ON	ON	ON	ON
240	OFF	ON	ON	ON	ON	OFF	OFF	OFF	OFF
241	OFF	ON	ON	ON	ON	OFF	OFF	OFF	ON
242	OFF	ON	ON	ON	ON	OFF	OFF	ON	OFF
243	OFF	ON	ON	ON	ON	OFF	OFF	ON	ON
244	OFF	ON	ON	ON	ON	OFF	ON	OFF	OFF
245	OFF	ON	ON	ON	ON	OFF	ON	OFF	ON
246	OFF	ON	ON	ON	ON	OFF	ON	ON	OFF
247	OFF	ON	ON	ON	ON	OFF	ON	ON	ON
248	OFF	ON	ON	ON	ON	ON	OFF	OFF	OFF
249	OFF	ON	ON	ON	ON	ON	OFF	OFF	ON
250	OFF	ON	ON	ON	ON	ON	OFF	ON	OFF
251	OFF	ON	ON	ON	ON	ON	OFF	ON	ON
252	OFF	ON	ON	ON	ON	ON	ON	OFF	OFF
253	OFF	ON	ON	ON	ON	ON	ON	OFF	ON
254	OFF	ON	OFF						
255	OFF	ON							
256	ON	OFF							
257	ON	OFF	ON						
258	ON	OFF	OFF	OFF	OFF	OFF	OFF	ON	OFF
259	ON	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON
260	ON	OFF	OFF	OFF	OFF	OFF	ON	OFF	OFF
261	ON	OFF	OFF	OFF	OFF	OFF	ON	OFF	ON
262	ON	OFF	OFF	OFF	OFF	OFF	ON	ON	OFF
263	ON	OFF	OFF	OFF	OFF	OFF	ON	ON	ON
264	ON	OFF	OFF	OFF	OFF	ON	OFF	OFF	OFF
265	ON	OFF	OFF	OFF	OFF	ON	OFF	OFF	ON
266	ON	OFF	OFF	OFF	OFF	ON	OFF	ON	OFF
267	ON	OFF	OFF	OFF	OFF	ON	OFF	ON	ON
268	ON	OFF	OFF	OFF	OFF	ON	ON	OFF	OFF
269	ON	OFF	OFF	OFF	OFF	ON	ON	OFF	ON
270	ON	OFF	OFF	OFF	OFF	ON	ON	ON	OFF
271	ON	OFF	OFF	OFF	OFF	ON	ON	ON	ON
272	ON	OFF	OFF	OFF	ON	OFF	OFF	OFF	OFF
273	ON	OFF	OFF	OFF	ON	OFF	OFF	OFF	ON
274	ON	OFF	OFF	OFF	ON	OFF	OFF	ON	OFF
275	ON	OFF	OFF	OFF	ON	OFF	OFF	ON	ON
276	ON	OFF	OFF	OFF	ON	OFF	ON	OFF	OFF
277	ON	OFF	OFF	OFF	ON	OFF	ON	OFF	ON
278	ON	OFF	OFF	OFF	ON	OFF	ON	ON	OFF
279	ON	OFF	OFF	OFF	ON	OFF	ON	ON	ON
280	ON	OFF	OFF	OFF	ON	ON	OFF	OFF	OFF
281	ON	OFF	OFF	OFF	ON	ON	OFF	OFF	ON
282	ON	OFF	OFF	OFF	ON	ON	OFF	ON	OFF
283	ON	OFF	OFF	OFF	ON	ON	OFF	ON	ON
284	ON	OFF	OFF	OFF	ON	ON	ON	OFF	OFF
285	ON	OFF	OFF	OFF	ON	ON	ON	OFF	ON
286	ON	OFF	OFF	OFF	ON	ON	ON	ON	OFF
287	ON	OFF	OFF	OFF	ON	ON	ON	ON	ON
288	ON	OFF	OFF	ON	OFF	OFF	OFF	OFF	OFF
289	ON	OFF	OFF	ON	OFF	OFF	OFF	OFF	ON
290	ON	OFF	OFF	ON	OFF	OFF	OFF	ON	OFF
291	ON	OFF	OFF	ON	OFF	OFF	OFF	ON	ON
292	ON	OFF	OFF	ON	OFF	OFF	ON	OFF	OFF
293	ON	OFF	OFF	ON	OFF	OFF	ON	OFF	ON
294	ON	OFF	OFF	ON	OFF	OFF	ON	ON	OFF
295	ON	OFF	OFF	ON	OFF	OFF	ON	ON	ON
296	ON	OFF	OFF	ON	OFF	ON	OFF	OFF	OFF
297	ON	OFF	OFF	ON	OFF	ON	OFF	OFF	ON
298	ON	OFF	OFF	ON	OFF	ON	OFF	ON	OFF
299	ON	OFF	OFF	ON	OFF	ON	OFF	ON	ON

300	ON	OFF	OFF	ON	OFF	ON	ON	OFF	OFF
301	ON	OFF	OFF	ON	OFF	ON	ON	OFF	ON
302	ON	OFF	OFF	ON	OFF	ON	ON	ON	OFF
303	ON	OFF	OFF	ON	OFF	ON	ON	ON	ON
304	ON	OFF	OFF	ON	ON	OFF	OFF	OFF	OFF
305	ON	OFF	OFF	ON	ON	OFF	OFF	OFF	ON
306	ON	OFF	OFF	ON	ON	OFF	OFF	ON	OFF
307	ON	OFF	OFF	ON	ON	OFF	OFF	ON	ON
308	ON	OFF	OFF	ON	ON	OFF	ON	OFF	OFF
309	ON	OFF	OFF	ON	ON	OFF	ON	OFF	ON
310	ON	OFF	OFF	ON	ON	OFF	ON	ON	OFF
311	ON	OFF	OFF	ON	ON	OFF	ON	ON	ON
312	ON	OFF	OFF	ON	ON	ON	OFF	OFF	OFF
313	ON	OFF	OFF	ON	ON	ON	OFF	OFF	ON
314	ON	OFF	OFF	ON	ON	ON	OFF	ON	OFF
315	ON	OFF	OFF	ON	ON	ON	OFF	ON	ON
316	ON	OFF	OFF	ON	ON	ON	ON	OFF	OFF
317	ON	OFF	OFF	ON	ON	ON	ON	OFF	ON
318	ON	OFF	OFF	ON	ON	ON	ON	ON	OFF
319	ON	OFF	OFF	ON	ON	ON	ON	ON	ON
320	ON	OFF	ON	OFF	OFF	OFF	OFF	OFF	OFF
321	ON	OFF	ON	OFF	OFF	OFF	OFF	OFF	ON
322	ON	OFF	ON	OFF	OFF	OFF	OFF	ON	OFF
323	ON	OFF	ON	OFF	OFF	OFF	OFF	ON	ON
324	ON	OFF	ON	OFF	OFF	OFF	ON	OFF	OFF
325	ON	OFF	ON	OFF	OFF	OFF	ON	OFF	ON
326	ON	OFF	ON	OFF	OFF	OFF	ON	ON	OFF
327	ON	OFF	ON	OFF	OFF	OFF	ON	ON	ON
328	ON	OFF	ON	OFF	OFF	ON	OFF	OFF	OFF
329	ON	OFF	ON	OFF	OFF	ON	OFF	OFF	ON
330	ON	OFF	ON	OFF	OFF	ON	OFF	ON	OFF
331	ON	OFF	ON	OFF	OFF	ON	OFF	ON	ON
332	ON	OFF	ON	OFF	OFF	ON	ON	OFF	OFF
333	ON	OFF	ON	OFF	OFF	ON	ON	OFF	ON
334	ON	OFF	ON	OFF	OFF	ON	ON	ON	OFF
335	ON	OFF	ON	OFF	OFF	ON	ON	ON	ON
336	ON	OFF	ON	OFF	ON	OFF	OFF	OFF	OFF
337	ON	OFF	ON	OFF	ON	OFF	OFF	OFF	ON
338	ON	OFF	ON	OFF	ON	OFF	OFF	ON	OFF
339	ON	OFF	ON	OFF	ON	OFF	OFF	ON	ON
340	ON	OFF	ON	OFF	ON	OFF	ON	OFF	OFF
341	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON
342	ON	OFF	ON	OFF	ON	OFF	ON	ON	OFF
343	ON	OFF	ON	OFF	ON	OFF	ON	ON	ON
344	ON	OFF	ON	OFF	ON	ON	OFF	OFF	OFF
345	ON	OFF	ON	OFF	ON	ON	OFF	OFF	ON
346	ON	OFF	ON	OFF	ON	ON	OFF	ON	OFF
347	ON	OFF	ON	OFF	ON	ON	OFF	ON	ON
348	ON	OFF	ON	OFF	ON	ON	ON	OFF	OFF
349	ON	OFF	ON	OFF	ON	ON	ON	OFF	ON
350	ON	OFF	ON	OFF	ON	ON	ON	ON	OFF
351	ON	OFF	ON	OFF	ON	ON	ON	ON	ON
352	ON	OFF	ON	ON	OFF	OFF	OFF	OFF	OFF
353	ON	OFF	ON	ON	OFF	OFF	OFF	OFF	ON
354	ON	OFF	ON	ON	OFF	OFF	OFF	ON	OFF
355	ON	OFF	ON	ON	OFF	OFF	OFF	ON	ON
356	ON	OFF	ON	ON	OFF	OFF	ON	OFF	OFF
357	ON	OFF	ON	ON	OFF	OFF	ON	OFF	ON
358	ON	OFF	ON	ON	OFF	OFF	ON	ON	OFF
359	ON	OFF	ON	ON	OFF	OFF	ON	ON	ON
360	ON	OFF	ON	ON	OFF	ON	OFF	OFF	OFF

361	ON	OFF	ON	ON	OFF	ON	OFF	OFF	ON
362	ON	OFF	ON	ON	OFF	ON	OFF	ON	OFF
363	ON	OFF	ON	ON	OFF	ON	OFF	ON	ON
364	ON	OFF	ON	ON	OFF	ON	ON	OFF	OFF
365	ON	OFF	ON	ON	OFF	ON	ON	OFF	ON
366	ON	OFF	ON	ON	OFF	ON	ON	ON	OFF
367	ON	OFF	ON	ON	OFF	ON	ON	ON	ON
368	ON	OFF	ON	ON	ON	OFF	OFF	OFF	OFF
369	ON	OFF	ON	ON	ON	OFF	OFF	OFF	ON
370	ON	OFF	ON	ON	ON	OFF	OFF	ON	OFF
371	ON	OFF	ON	ON	ON	OFF	OFF	ON	ON
372	ON	OFF	ON	ON	ON	OFF	ON	OFF	OFF
373	ON	OFF	ON	ON	ON	OFF	ON	OFF	ON
374	ON	OFF	ON	ON	ON	OFF	ON	ON	OFF
375	ON	OFF	ON	ON	ON	OFF	ON	ON	ON
376	ON	OFF	ON	ON	ON	ON	OFF	OFF	OFF
377	ON	OFF	ON	ON	ON	ON	OFF	OFF	ON
378	ON	OFF	ON	ON	ON	ON	OFF	ON	OFF
379	ON	OFF	ON	ON	ON	ON	OFF	ON	ON
380	ON	OFF	ON	ON	ON	ON	ON	OFF	OFF
381	ON	OFF	ON	ON	ON	ON	ON	OFF	ON
382	ON	OFF	ON	ON	ON	ON	ON	ON	OFF
383	ON	OFF	ON						
384	ON	ON	OFF						
385	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF	ON
386	ON	ON	OFF	OFF	OFF	OFF	OFF	ON	OFF
387	ON	ON	OFF	OFF	OFF	OFF	OFF	ON	ON
388	ON	ON	OFF	OFF	OFF	OFF	ON	OFF	OFF
389	ON	ON	OFF	OFF	OFF	OFF	ON	OFF	ON
390	ON	ON	OFF	OFF	OFF	OFF	ON	ON	OFF
391	ON	ON	OFF	OFF	OFF	OFF	ON	ON	ON
392	ON	ON	OFF	OFF	OFF	ON	OFF	OFF	OFF
393	ON	ON	OFF	OFF	OFF	ON	OFF	OFF	ON
394	ON	ON	OFF	OFF	OFF	ON	OFF	ON	OFF
395	ON	ON	OFF	OFF	OFF	ON	OFF	ON	ON
396	ON	ON	OFF	OFF	OFF	ON	ON	OFF	OFF
397	ON	ON	OFF	OFF	OFF	ON	ON	OFF	ON
398	ON	ON	OFF	OFF	OFF	ON	ON	ON	OFF
399	ON	ON	OFF	OFF	OFF	ON	ON	ON	ON
400	ON	ON	OFF	OFF	ON	OFF	OFF	OFF	OFF
401	ON	ON	OFF	OFF	ON	OFF	OFF	OFF	ON
402	ON	ON	OFF	OFF	ON	OFF	OFF	ON	OFF
403	ON	ON	OFF	OFF	ON	OFF	OFF	ON	ON
404	ON	ON	OFF	OFF	ON	OFF	ON	OFF	OFF
405	ON	ON	OFF	OFF	ON	OFF	ON	OFF	ON
406	ON	ON	OFF	OFF	ON	OFF	ON	ON	OFF
407	ON	ON	OFF	OFF	ON	OFF	ON	ON	ON
408	ON	ON	OFF	OFF	ON	ON	OFF	OFF	OFF
409	ON	ON	OFF	OFF	ON	ON	OFF	OFF	ON
410	ON	ON	OFF	OFF	ON	ON	OFF	ON	OFF
411	ON	ON	OFF	OFF	ON	ON	OFF	ON	ON
412	ON	ON	OFF	OFF	ON	ON	ON	OFF	OFF
413	ON	ON	OFF	OFF	ON	ON	ON	OFF	ON
414	ON	ON	OFF	OFF	ON	ON	ON	ON	OFF
415	ON	ON	OFF	OFF	ON	ON	ON	ON	ON
416	ON	ON	OFF	ON	OFF	OFF	OFF	OFF	OFF
417	ON	ON	OFF	ON	OFF	OFF	OFF	OFF	ON
418	ON	ON	OFF	ON	OFF	OFF	OFF	ON	OFF
419	ON	ON	OFF	ON	OFF	OFF	OFF	ON	ON
420	ON	ON	OFF	ON	OFF	OFF	ON	OFF	OFF
421	ON	ON	OFF	ON	OFF	OFF	ON	OFF	ON

422	ON	ON	OFF	ON	OFF	OFF	ON	ON	OFF
423	ON	ON	OFF	ON	OFF	OFF	ON	ON	ON
424	ON	ON	OFF	ON	OFF	ON	OFF	OFF	OFF
425	ON	ON	OFF	ON	OFF	ON	OFF	OFF	ON
426	ON	ON	OFF	ON	OFF	ON	OFF	ON	OFF
427	ON	ON	OFF	ON	OFF	ON	OFF	ON	ON
428	ON	ON	OFF	ON	OFF	ON	ON	OFF	OFF
429	ON	ON	OFF	ON	OFF	ON	ON	OFF	ON
430	ON	ON	OFF	ON	OFF	ON	ON	ON	OFF
431	ON	ON	OFF	ON	OFF	ON	ON	ON	ON
432	ON	ON	OFF	ON	ON	OFF	OFF	OFF	OFF
433	ON	ON	OFF	ON	ON	OFF	OFF	OFF	ON
434	ON	ON	OFF	ON	ON	OFF	OFF	ON	OFF
435	ON	ON	OFF	ON	ON	OFF	OFF	ON	ON
436	ON	ON	OFF	ON	ON	OFF	ON	OFF	OFF
437	ON	ON	OFF	ON	ON	OFF	ON	OFF	ON
438	ON	ON	OFF	ON	ON	OFF	ON	ON	OFF
439	ON	ON	OFF	ON	ON	OFF	ON	ON	ON
440	ON	ON	OFF	ON	ON	ON	OFF	OFF	OFF
441	ON	ON	OFF	ON	ON	ON	OFF	OFF	ON
442	ON	ON	OFF	ON	ON	ON	OFF	ON	OFF
443	ON	ON	OFF	ON	ON	ON	OFF	ON	ON
444	ON	ON	OFF	ON	ON	ON	ON	OFF	OFF
445	ON	ON	OFF	ON	ON	ON	ON	OFF	ON
446	ON	ON	OFF	ON	ON	ON	ON	ON	OFF
447	ON	ON	OFF	ON	ON	ON	ON	ON	ON
448	ON	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF
449	ON	ON	ON	OFF	OFF	OFF	OFF	OFF	ON
450	ON	ON	ON	OFF	OFF	OFF	OFF	ON	OFF
451	ON	ON	ON	OFF	OFF	OFF	OFF	ON	ON
452	ON	ON	ON	OFF	OFF	OFF	ON	OFF	OFF
453	ON	ON	ON	OFF	OFF	OFF	ON	OFF	ON
454	ON	ON	ON	OFF	OFF	OFF	ON	ON	OFF
455	ON	ON	ON	OFF	OFF	OFF	ON	ON	ON
456	ON	ON	ON	OFF	OFF	ON	OFF	OFF	OFF
457	ON	ON	ON	OFF	OFF	ON	OFF	OFF	ON
458	ON	ON	ON	OFF	OFF	ON	OFF	ON	OFF
459	ON	ON	ON	OFF	OFF	ON	OFF	ON	ON
460	ON	ON	ON	OFF	OFF	ON	ON	OFF	OFF
461	ON	ON	ON	OFF	OFF	ON	ON	OFF	ON
462	ON	ON	ON	OFF	OFF	ON	ON	ON	OFF
463	ON	ON	ON	OFF	OFF	ON	ON	ON	ON
464	ON	ON	ON	OFF	ON	OFF	OFF	OFF	OFF
465	ON	ON	ON	OFF	ON	OFF	OFF	OFF	ON
466	ON	ON	ON	OFF	ON	OFF	OFF	ON	OFF
467	ON	ON	ON	OFF	ON	OFF	OFF	ON	ON
468	ON	ON	ON	OFF	ON	OFF	ON	OFF	OFF
469	ON	ON	ON	OFF	ON	OFF	ON	OFF	ON
470	ON	ON	ON	OFF	ON	OFF	ON	ON	OFF
471	ON	ON	ON	OFF	ON	OFF	ON	ON	ON
472	ON	ON	ON	OFF	ON	ON	OFF	OFF	OFF
473	ON	ON	ON	OFF	ON	ON	OFF	OFF	ON
474	ON	ON	ON	OFF	ON	ON	OFF	ON	OFF
475	ON	ON	ON	OFF	ON	ON	OFF	ON	ON
476	ON	ON	ON	OFF	ON	ON	ON	OFF	OFF
477	ON	ON	ON	OFF	ON	ON	ON	OFF	ON
478	ON	ON	ON	OFF	ON	ON	ON	ON	OFF
479	ON	ON	ON	OFF	ON	ON	ON	ON	ON
480	ON	ON	ON	ON	OFF	OFF	OFF	OFF	OFF
481	ON	ON	ON	ON	OFF	OFF	OFF	OFF	ON
482	ON	ON	ON	ON	OFF	OFF	OFF	ON	OFF

483	ON	ON	ON	ON	OFF	OFF	OFF	ON	ON
484	ON	ON	ON	ON	OFF	OFF	ON	OFF	OFF
485	ON	ON	ON	ON	OFF	OFF	ON	OFF	ON
486	ON	ON	ON	ON	OFF	OFF	ON	ON	OFF
487	ON	ON	ON	ON	OFF	OFF	ON	ON	ON
488	ON	ON	ON	ON	OFF	ON	OFF	OFF	OFF
489	ON	ON	ON	ON	OFF	ON	OFF	OFF	ON
490	ON	ON	ON	ON	OFF	ON	OFF	ON	OFF
491	ON	ON	ON	ON	OFF	ON	OFF	ON	ON
492	ON	ON	ON	ON	OFF	ON	ON	OFF	OFF
493	ON	ON	ON	ON	OFF	ON	ON	OFF	ON
494	ON	ON	ON	ON	OFF	ON	ON	ON	OFF
495	ON	ON	ON	ON	OFF	ON	ON	ON	ON
496	ON	ON	ON	ON	ON	OFF	OFF	OFF	OFF
497	ON	ON	ON	ON	ON	OFF	OFF	OFF	ON
498	ON	ON	ON	ON	ON	OFF	OFF	ON	OFF
499	ON	ON	ON	ON	ON	OFF	OFF	ON	ON
500	ON	ON	ON	ON	ON	OFF	ON	OFF	OFF
501	ON	ON	ON	ON	ON	OFF	ON	OFF	ON
502	ON	ON	ON	ON	ON	OFF	ON	ON	OFF
503	ON	ON	ON	ON	ON	OFF	ON	ON	ON
504	ON	ON	ON	ON	ON	ON	OFF	OFF	OFF
505	ON	ON	ON	ON	ON	ON	OFF	OFF	ON
506	ON	ON	ON	ON	ON	ON	OFF	ON	OFF
507	ON	ON	ON	ON	ON	ON	OFF	ON	ON
508	ON	ON	ON	ON	ON	ON	ON	OFF	OFF
509	ON	ON	ON	ON	ON	ON	ON	OFF	ON
510	ON	ON	ON	ON	ON	ON	ON	ON	OFF
511	ON	ON	ON	ON	ON	ON	ON	ON	ON

Appendix B: User programmable options

DMX512 analogue receivers: Output voltage selection.

Option	Sw10	Sw9	Sw8	Sw7	Sw6	Sw5	Sw4	Sw3	Sw2	Sw1
ALL 0-10V	OFF	OFF	ON	OFF						
Ch1 0-10V	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
Ch2 0-10V	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON
Ch3 0-10V	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON	OFF
Ch4 0-10V	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON
Ch5 0-10V	OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON	OFF	OFF
Ch6 0-10V	OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON	OFF	ON
Ch7 0-10V	OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON	OFF
Ch8 0-10V	OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON	ON
Ch9 0-10V	OFF	OFF	OFF	OFF	OFF	OFF	ON	OFF	OFF	OFF
Ch10 0-10V	OFF	OFF	OFF	OFF	OFF	OFF	ON	OFF	OFF	ON
Ch11 0-10V	OFF	OFF	OFF	OFF	OFF	OFF	ON	OFF	ON	OFF
Ch12 0-10V	OFF	OFF	OFF	OFF	OFF	OFF	ON	OFF	ON	ON
Ch13 0-10V	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON	OFF	OFF
Ch14 0-10V	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON	OFF	ON
Ch15 0-10V	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON	ON	OFF
Ch16 0-10V	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON	ON	ON
Ch17 0-10V	OFF	OFF	OFF	OFF	OFF	ON	OFF	OFF	OFF	OFF
Ch18 0-10V	OFF	OFF	OFF	OFF	OFF	ON	OFF	OFF	OFF	ON
Ch19 0-10V	OFF	OFF	OFF	OFF	OFF	ON	OFF	OFF	ON	OFF
Ch20 0-10V	OFF	OFF	OFF	OFF	OFF	ON	OFF	OFF	ON	ON
Ch21 0-10V	OFF	OFF	OFF	OFF	OFF	ON	OFF	ON	OFF	OFF
Ch22 0-10V	OFF	OFF	OFF	OFF	OFF	ON	OFF	ON	OFF	ON
Ch23 0-10V	OFF	OFF	OFF	OFF	OFF	ON	OFF	ON	ON	OFF
Ch24 0-10V	OFF	OFF	OFF	OFF	OFF	ON	OFF	ON	ON	ON
Ch25 0-10V	OFF	OFF	OFF	OFF	OFF	ON	ON	OFF	OFF	OFF
Ch26 0-10V	OFF	OFF	OFF	OFF	OFF	ON	ON	OFF	OFF	ON
Ch27 0-10V	OFF	OFF	OFF	OFF	OFF	ON	ON	OFF	ON	OFF
Ch28 0-10V	OFF	OFF	OFF	OFF	OFF	ON	ON	OFF	ON	ON
Ch29 0-10V	OFF	OFF	OFF	OFF	OFF	ON	ON	ON	OFF	OFF
Ch30 0-10V	OFF	OFF	OFF	OFF	OFF	ON	ON	ON	OFF	ON
Ch31 0-10V	OFF	OFF	OFF	OFF	OFF	ON	ON	ON	ON	OFF
Ch32 0-10V	OFF	OFF	OFF	OFF	OFF	ON	ON	ON	ON	ON
ALL 0-5V	ON	OFF	ON	OFF						
Ch1 0-5V	ON	OFF								
Ch2 0-5V	ON	OFF	ON							
Ch3 0-5V	ON	OFF	ON	OFF						
Ch4 0-5V	ON	OFF	ON	ON						
Ch5 0-5V	ON	OFF	OFF	OFF	OFF	OFF	OFF	ON	OFF	OFF
Ch6 0-5V	ON	OFF	OFF	OFF	OFF	OFF	OFF	ON	OFF	ON
Ch7 0-5V	ON	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON	OFF
Ch8 0-5V	ON	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON	ON
Ch9 0-5V	ON	OFF	OFF	OFF	OFF	OFF	ON	OFF	OFF	OFF
Ch10 0-5V	ON	OFF	OFF	OFF	OFF	OFF	ON	OFF	OFF	ON
Ch11 0-5V	ON	OFF	OFF	OFF	OFF	OFF	ON	OFF	ON	OFF
Ch12 0-5V	ON	OFF	OFF	OFF	OFF	OFF	ON	OFF	ON	ON
Ch13 0-5V	ON	OFF	OFF	OFF	OFF	OFF	ON	ON	OFF	OFF
Ch14 0-5V	ON	OFF	OFF	OFF	OFF	OFF	ON	ON	OFF	ON
Ch15 0-5V	ON	OFF	OFF	OFF	OFF	OFF	ON	ON	ON	OFF
Ch16 0-5V	ON	OFF	OFF	OFF	OFF	OFF	ON	ON	ON	ON
Ch17 0-5V	ON	OFF	OFF	OFF	OFF	ON	OFF	OFF	OFF	OFF
Ch18 0-5V	ON	OFF	OFF	OFF	OFF	ON	OFF	OFF	OFF	ON
Ch19 0-5V	ON	OFF	OFF	OFF	OFF	ON	OFF	OFF	ON	OFF
Ch20 0-5V	ON	OFF	OFF	OFF	OFF	ON	OFF	OFF	ON	ON
Ch21 0-5V	ON	OFF	OFF	OFF	OFF	ON	OFF	ON	OFF	OFF
Ch22 0-5V	ON	OFF	OFF	OFF	OFF	ON	OFF	ON	OFF	ON

Ch23 0-5V	ON	OFF	OFF	OFF	OFF	ON	OFF	ON	ON	OFF
Ch24 0-5V	ON	OFF	OFF	OFF	OFF	ON	OFF	ON	ON	ON
Ch25 0-5V	ON	OFF	OFF	OFF	OFF	ON	ON	OFF	OFF	OFF
Ch26 0-5V	ON	OFF	OFF	OFF	OFF	ON	ON	OFF	OFF	ON
Ch27 0-5V	ON	OFF	OFF	OFF	OFF	ON	ON	OFF	ON	OFF
Ch28 0-5V	ON	OFF	OFF	OFF	OFF	ON	ON	OFF	ON	ON
Ch29 0-5V	ON	OFF	OFF	OFF	OFF	ON	ON	ON	OFF	OFF
Ch30 0-5V	ON	OFF	OFF	OFF	OFF	ON	ON	ON	OFF	ON
Ch31 0-5V	ON	OFF	OFF	OFF	OFF	ON	ON	ON	ON	OFF
Ch32 0-5V	ON	OFF	OFF	OFF	OFF	ON	ON	ON	ON	ON

DMX512 relay receiver: Relay switching level

NB: Only 7 levels are shown, 255 are actually possible. Sw1-8 set this level in binary.

Option	Sw10	Sw9	Sw8	Sw7	Sw6	Sw5	Sw4	Sw3	Sw2	Sw1
Relay 1 (32)	OFF	OFF	OFF	OFF	ON	OFF	OFF	OFF	OFF	OFF
Relay 1 (64)	OFF	OFF	OFF	ON	OFF	OFF	OFF	OFF	OFF	OFF
Relay 1 (96)	OFF	OFF	OFF	ON	ON	OFF	OFF	OFF	OFF	OFF
Relay 1 (128)	OFF	OFF	ON	OFF						
Relay 1 (160)	OFF	OFF	ON	OFF	ON	OFF	OFF	OFF	OFF	OFF
Relay 1 (192)	OFF	OFF	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF
Relay 1 (224)	OFF	OFF	ON	ON	ON	OFF	OFF	OFF	OFF	OFF
Relay 2 (32)	ON	OFF	OFF	OFF	ON	OFF	OFF	OFF	OFF	OFF
Relay 2 (64)	ON	OFF	OFF	ON	OFF	OFF	OFF	OFF	OFF	OFF
Relay 2 (96)	ON	OFF	OFF	ON	ON	OFF	OFF	OFF	OFF	OFF
Relay 2 (128)	ON	OFF	ON	OFF						
Relay 2 (160)	ON	OFF	ON	OFF	ON	OFF	OFF	OFF	OFF	OFF
Relay 2 (192)	ON	OFF	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF
Relay 2 (224)	ON	OFF	ON	ON	ON	OFF	OFF	OFF	OFF	OFF