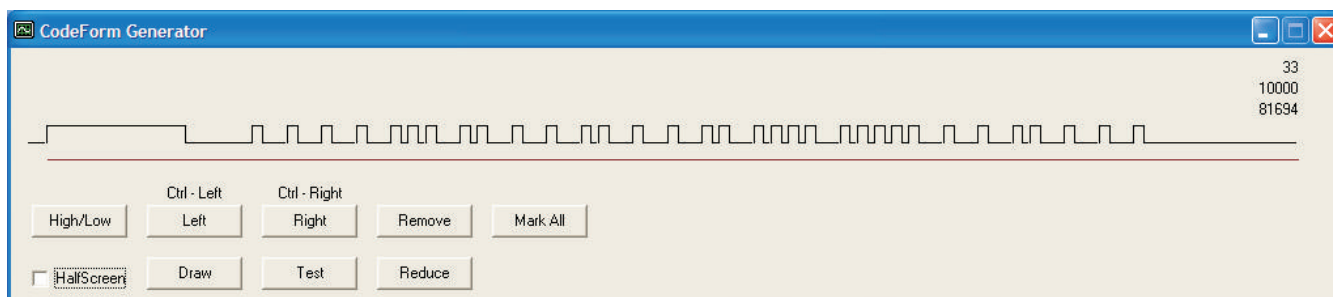


# LinTronic

<http://www.lintronic.dk>

**CREATE YOUR  
OWN NEC CODES**

**USE YOUR LEARNABLE  
REMOTE AS TRIGGER  
FOR THE TT455-RT-238**



## Foreword

The TT455-RT-238 signal converter is often used to control many products like: audio/video devices, computer, curtains, relays, light systems, projectors, etc.

Either by sending out IR, RS232 or X10 signals.

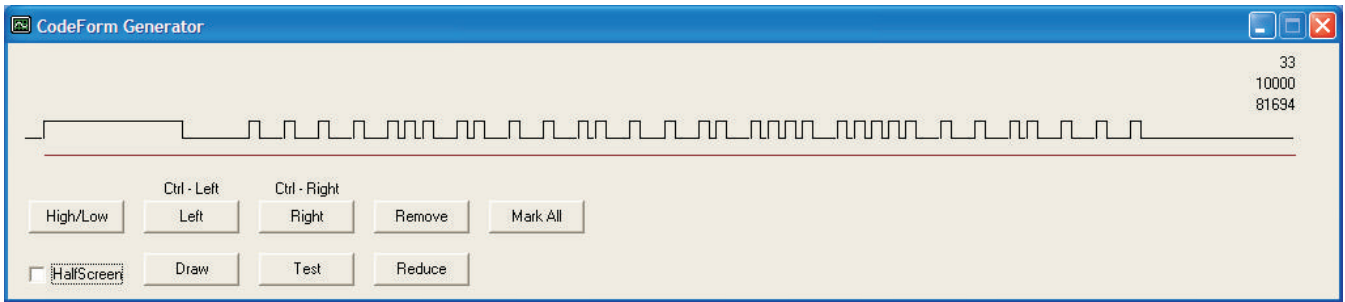
A great deal of our customers use a Bang&Olufsen remote control, to trigger the TT455-RT-238, but other remote controls can be used as well.

For example a remote control sending out NEC codes.

If you own a learnable remote control you wish to use to trigger the TT455-RT-238 ... which will make it possible for your remote control to control a much wider range of products ... then you can create your own NEC codes in our Configurator programs CommandList section.

When you test the commands, the TT455-RT-238 transmits the commands for your learnable remote to read/copy/save and hereafter you can use your learnable remote to trigger the TT455-RT-238, by sending out NEC codes.

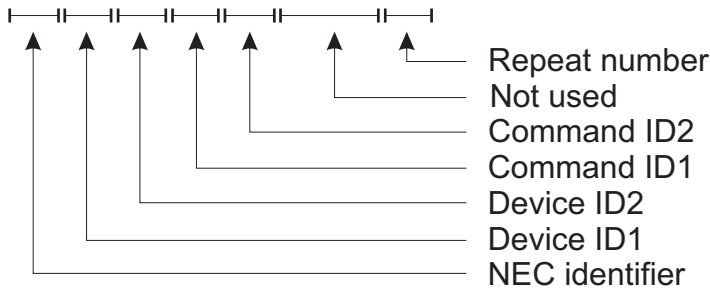
Very simple, very smart ... have fun :o)



A NEC code consist of two Device-ID numbers and two Command-ID numbers. These 4 numbers are send out as 8-bit digital information. This produces 32 bits illustrated above as 32 pulse/pause combinations.

In LinTronic, a NEC code is presented as 8 pcs 3-digit numbers (24 characters):

716001002000255000000002=COMMAND 000



Device ID1, Device ID2 and Command ID1 can be any number in the range 000 - 255. Command ID2 must be (255 - Command ID1).

The Device ID's ensure that only the correct device react to the command. If you are sending the commands to your learnable remote to trigger the TT455-RT-238, then the numbers have no reaction-relevans, but must simply be part of the code.

Examples:

716001002000255000000002=COMMAND 000 (Device ID1 = 001, Device ID2 = 002)

716001002001254000000002=COMMAND 001

716001002002253000000002=COMMAND 002

...

7160010022550000000002=COMMAND 255

Or:

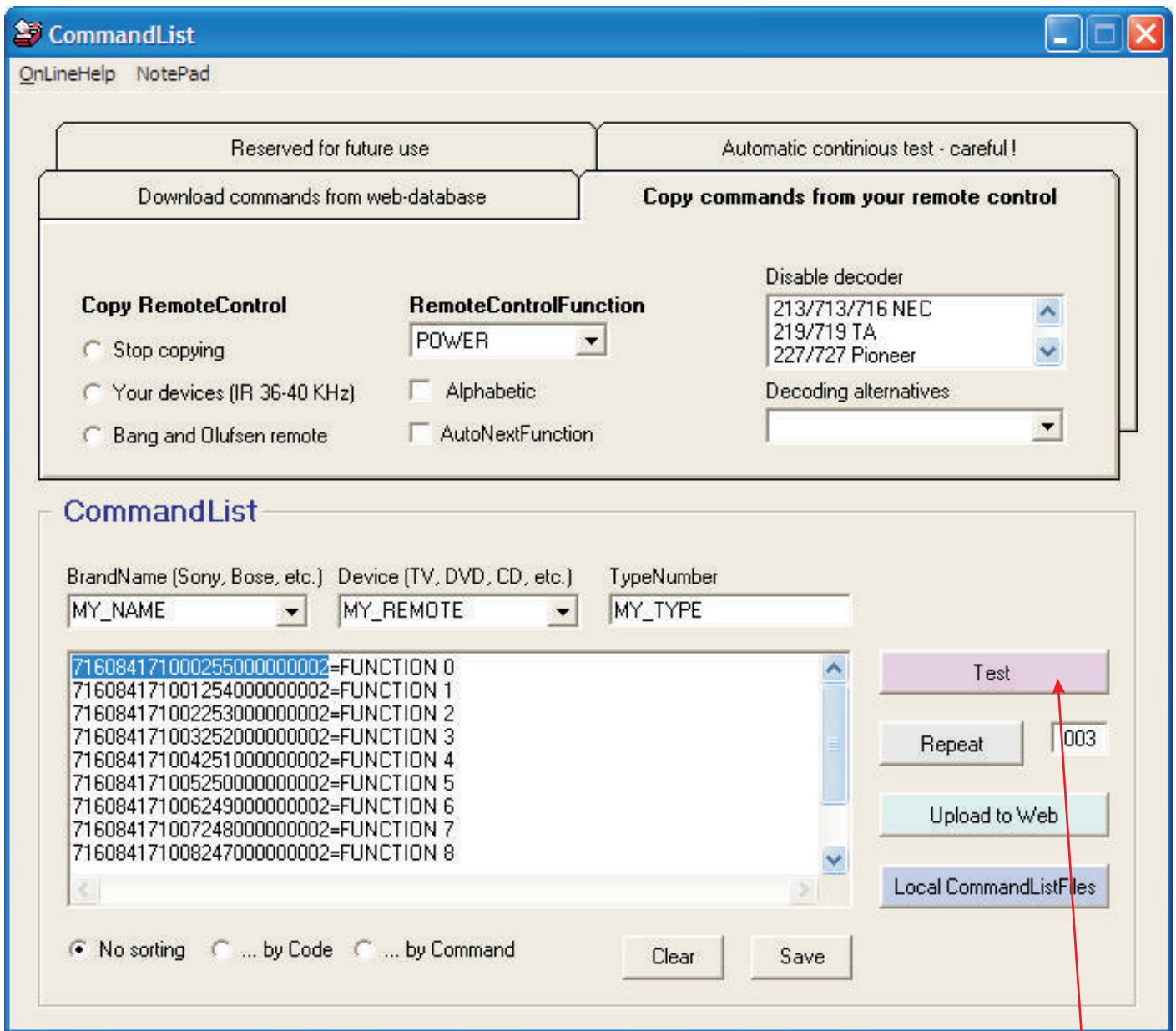
716117204000255000000002=COMMAND 000 (Device ID1 = 117, Device ID2 = 204)

...

Or:

716084012000255000000002=COMMAND 000 (Device ID1 = 084, Device ID2 = 012)

...



In the Configurators CommandList, insert your 24 character custom designed NEC codes and end it with an equal-sign and a command/function name:

Example:

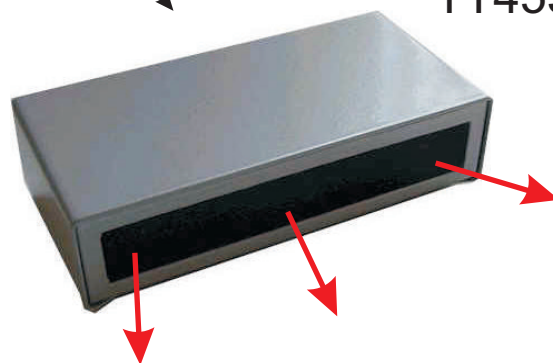
716084171000255000000002=FUNCTION 0

To transmit the code, double-click it or mark it as shown above and then click Test.

## Create your own NEC codes



When you click Test, the code is transmitted by the TT455-RT-238, allowing your learnable remote to save/copy/read it.



TT455-RT-238

Learnable remote



# Create your own NEC codes

Codeset 716 generator: 716.xls

	A	B	C	D	E	F	G	H	I
1	ID1	ID2	COMM 1	COMM 2	CODE	FUNCTION	STRING		
2									
3	84	171	0	255	716084171000255000000001	FUNCTION 0	716084171000255000000001=FUNCTION 0		
4	84	171	1	254	716084171001254000000001	FUNCTION 1	716084171001254000000001=FUNCTION 1		
5	84	171	2	253	716084171002253000000001	FUNCTION 2	716084171002253000000001=FUNCTION 2		
6	84	171	3	252	716084171003252000000001	FUNCTION 3	716084171003252000000001=FUNCTION 3		
7	84	171	4	251	716084171004251000000001	FUNCTION 4	716084171004251000000001=FUNCTION 4		
8	84	171	5	250	716084171005250000000001	FUNCTION 5	716084171005250000000001=FUNCTION 5		
9	84	171	6	249	716084171006249000000001	FUNCTION 6	716084171006249000000001=FUNCTION 6		
10	84	171	7	248	716084171007248000000001	FUNCTION 7	716084171007248000000001=FUNCTION 7		
11	84	171	8	247	716084171008247000000001	FUNCTION 8	716084171008247000000001=FUNCTION 8		
12	84	171	9	246	716084171009246000000001	FUNCTION 9	716084171009246000000001=FUNCTION 9		
13	84	171	10	245	716084171010245000000001	FUNCTION 10	716084171010245000000001=FUNCTION 10		
14	84	171	11	244	716084171011244000000001	FUNCTION 11	716084171011244000000001=FUNCTION 11		
15	84	171	12	243	716084171012243000000001	FUNCTION 12	716084171012243000000001=FUNCTION 12		
16	84	171	13	242	716084171013242000000001	FUNCTION 13	716084171013242000000001=FUNCTION 13		
17	84	171	14	241	716084171014241000000001	FUNCTION 14	716084171014241000000001=FUNCTION 14		
18	84	171	15	240	716084171015240000000001	FUNCTION 15	716084171015240000000001=FUNCTION 15		
19	84	171	16	239	716084171016239000000001	FUNCTION 16	716084171016239000000001=FUNCTION 16		
20	84	171	17	238	716084171017238000000001	FUNCTION 17	716084171017238000000001=FUNCTION 17		
21	84	171	18	237	716084171018237000000001	FUNCTION 18	716084171018237000000001=FUNCTION 18		
22	84	171	19	236	716084171019236000000001	FUNCTION 19	716084171019236000000001=FUNCTION 19		
23	84	171	20	235	716084171020235000000001	FUNCTION 20	716084171020235000000001=FUNCTION 20		
24	84	171	21	234	716084171021234000000001	FUNCTION 21	716084171021234000000001=FUNCTION 21		
25	84	171	22	233	716084171022233000000001	FUNCTION 22	716084171022233000000001=FUNCTION 22		
26	84	171	23	232	716084171023232000000001	FUNCTION 23	716084171023232000000001=FUNCTION 23		
27	84	171	24	231	716084171024231000000001	FUNCTION 24	716084171024231000000001=FUNCTION 24		
28	84	171	25	230	716084171025230000000001	FUNCTION 25	716084171025230000000001=FUNCTION 25		
29	84	171	26	229	716084171026229000000001	FUNCTION 26	716084171026229000000001=FUNCTION 26		
30	84	171	27	228	716084171027228000000001	FUNCTION 27	716084171027228000000001=FUNCTION 27		
31	84	171	28	227	7160841710282270000000001	FUNCTION 28	7160841710282270000000001=FUNCTION 28		
32	84	171	29	226	7160841710292260000000001	FUNCTION 29	7160841710292260000000001=FUNCTION 29		

To help you generate your own NEC code, an Excel sheet has been created.

Contact LinTronic for a copy or download:  
<http://www.lintronic.dk/716.xls>

If you need help, feel free to contact LinTronic.

## Create your own NEC codes



When your learnable remote has learned the NEC codes, you can activate the learnable remote, and send the NEC codes back to the TT455-RT-238.

TT455-RT-238

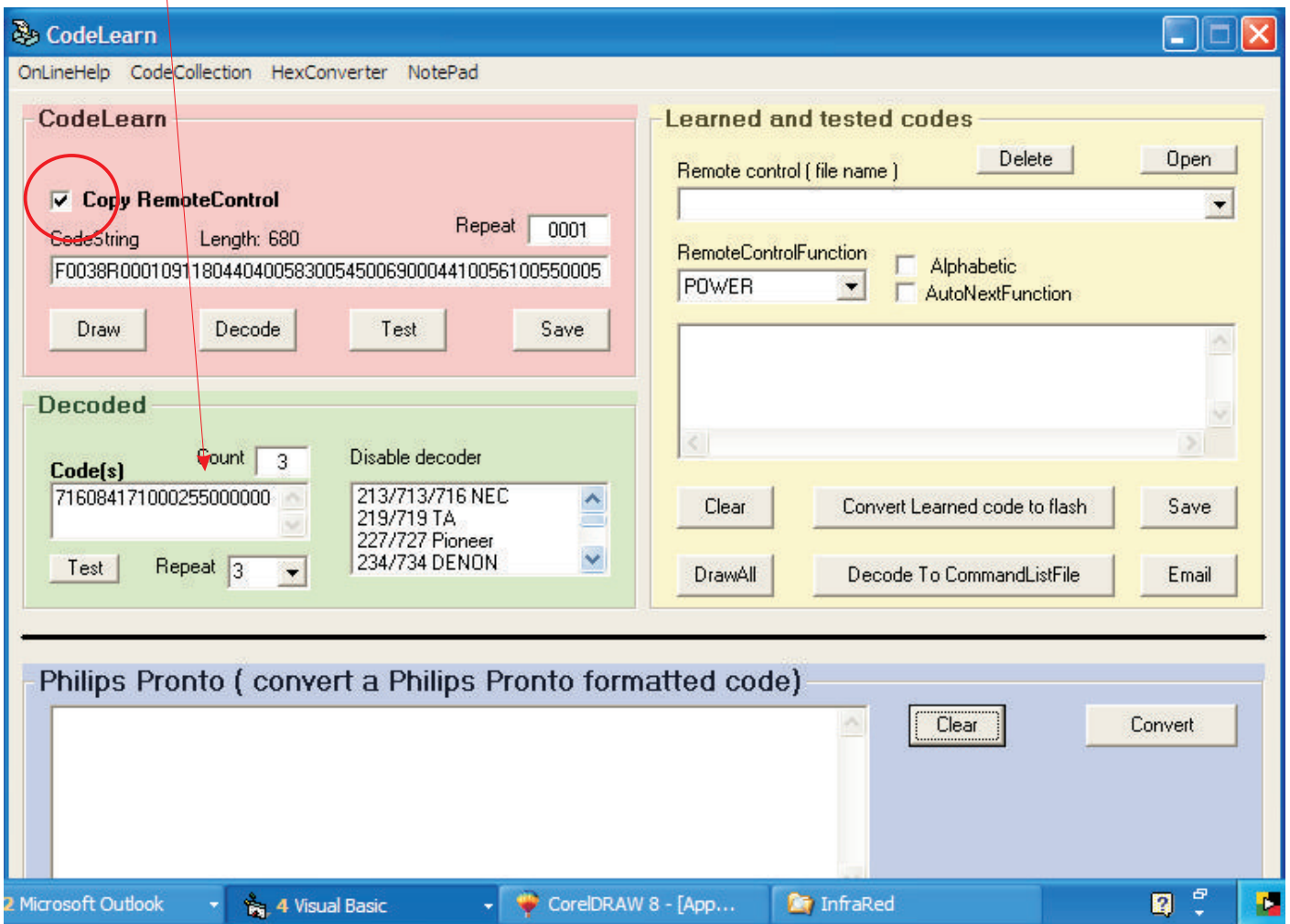
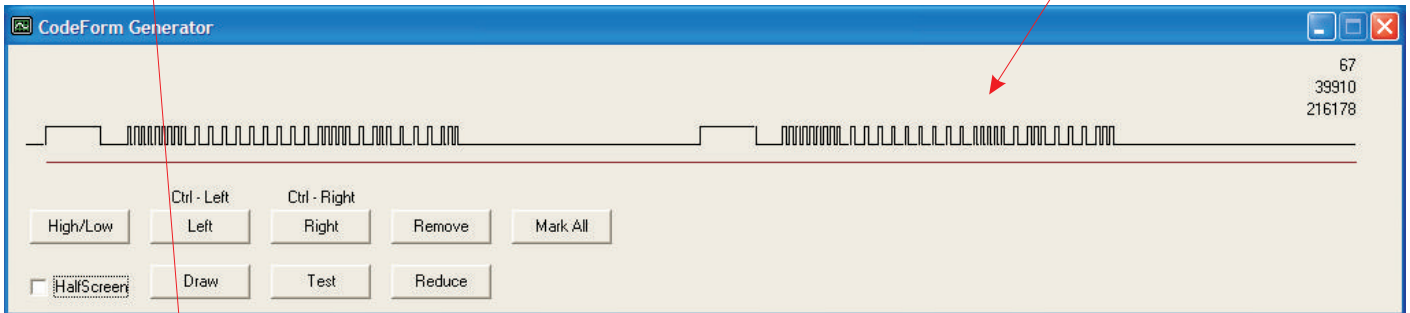


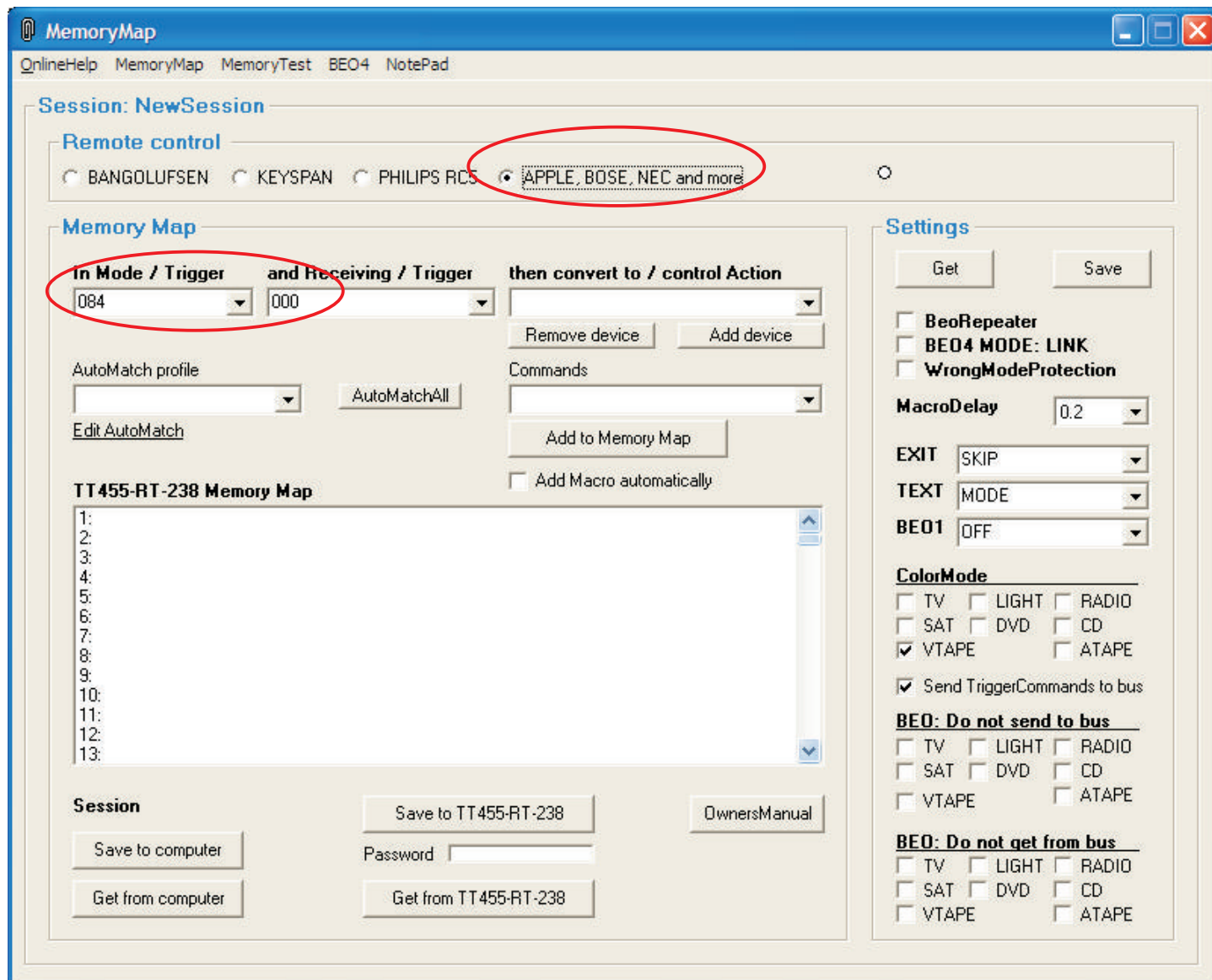
Learnable remote



## Create your own NEC codes

If you go to the Configurator's CodeLearn section and click Copy RemoteControl, and send the code from the learnable remote, you can verify that the learnable remote, saved the code correctly. You will see the code being drawn on the screen and decoded.





To use the codes from the learnable remote as trigger for the TT455-RT-238, go to the Configurator's Memory Map and select:  
Remote Control: Apple, Bose, NEC and more

When you activate the learnable remote, you will see the NEC code been use as Mode and Trigger.

The Device ID1 is used a Mode, and Command ID1 is used as Trigger.