LinTronic

http://www.lintronic.dk

TableTop series

Hardware Version 4

Receives, Transmits and Converts
InfraRed, RadioFrequency, RS232, RS485

Note:
Products are illustrated in Grey but are always delivered in Black.

Updated: 050301

LinTronic

http://www.lintronic.dk

Foreword

This test produce will help you determine whether the basic hardware of your TableTop product is working.
For further information on the hardware, please see the 'TableTop, Technical Manual' available from the Support section on our web-site.

If your software version is older than version 1.23 you will need a software update to run a complete software test.
In such case, please contact LinTronic.

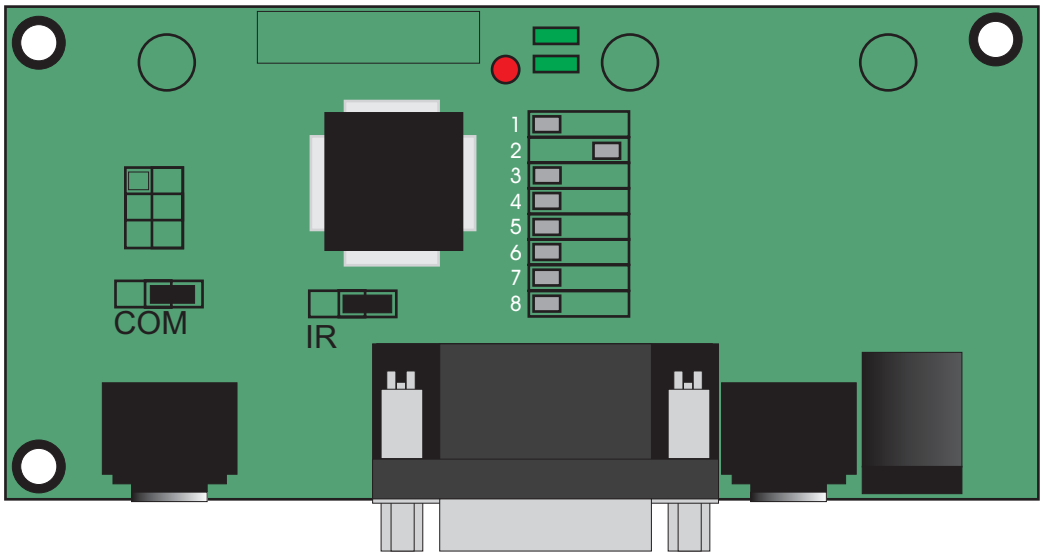
If the hardware apparently works satisfactory you might need a software update.
In such case, please contact LinTronic.

LinTronic

http://www.lintronic.dk

QUICK TEST

Hardware Version 4



1. Start up the SETUP program and wait 10 seconds.

2. Then power up the TableTop and verify that the ^ (chineese hat) char is send to the SETUP program. Goto next page.

   The PC's reception of the ^ char indicates that the LinTronic product is requesting the PC BootLoader program for new software. In other words, if the ^ char is received, then the TableTop can be flash reprogrammed.

   The red LED will flash for 2 seconds, which is the time the TableTop will wait for a respons from the PC BootLoader.

3. If the PC BootLoader does not response, the TableTop will turn on all 3 LED's for 0.5 second (LED TEST) to show they all work. Then it will check the switchblock to learn the switch settings.

   3a. If switch 3 is On, the TableTop will run the LED test once more and then enter the built-in TestProgram. See Testprocedure on the next pages.

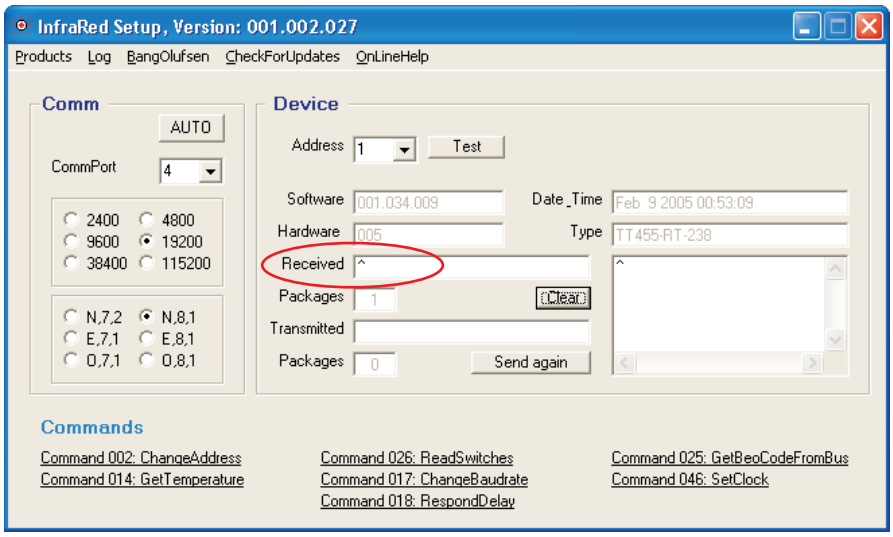
   3b. If switch 3 is OFF, the TableTop will entern normal operation.
   The green LED closest o the center will blink one time pr. second.

LinTronic

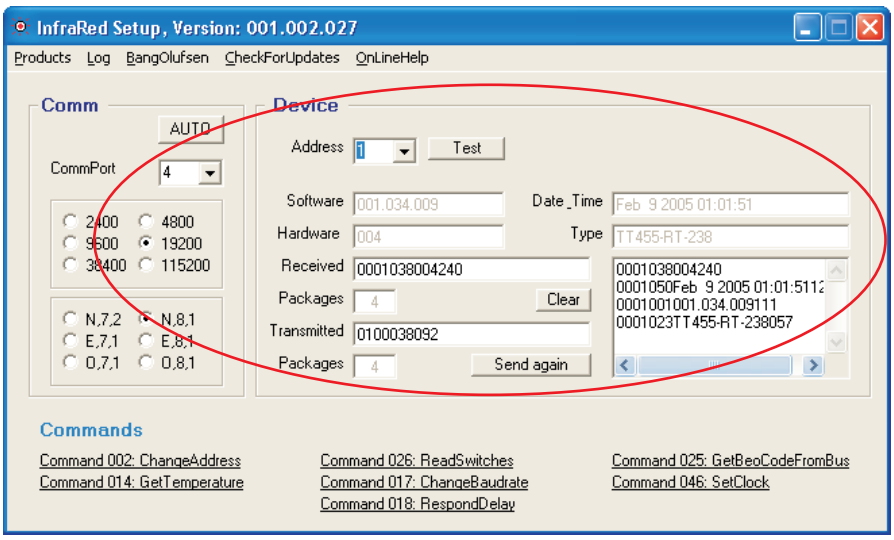
http://www.lintronic.dk

QUICK TEST

Hardware Version 4



If ^ is received then check commport number and address of the LinTronic product, and click "Test". Verify that Software and Date_Time, Hardware and Type is filled out.



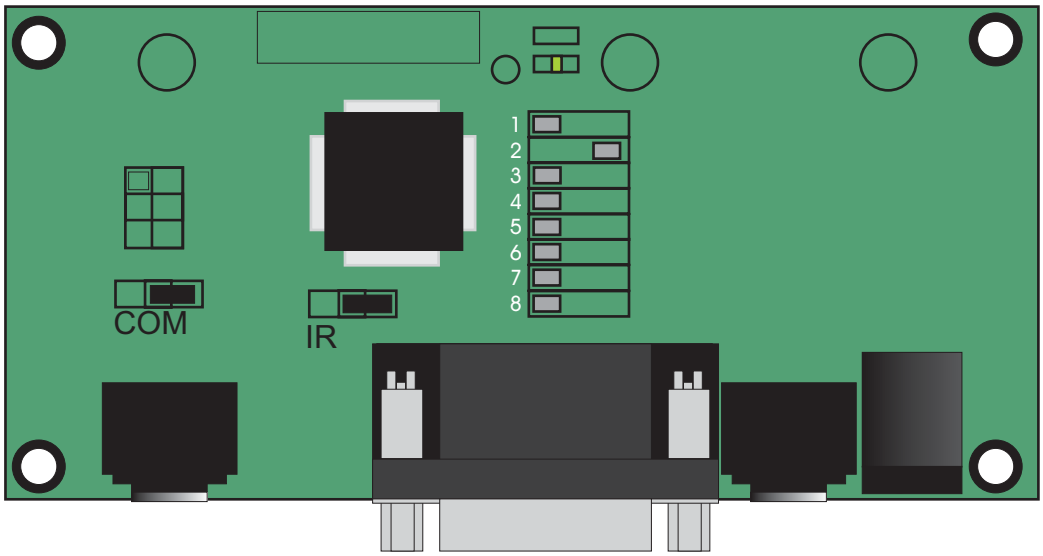
If the SETUP program is filled out with data like the above shown data, then your LinTronic product is responding correctly. If not you may want to test the communication to/from the product as described on the following pages.

LinTronic

http://www.lintronic.dk

SET DEFAULT BAUDRATE

Hardware Version 4
Software version 1.24 and up



NOTE:
The below is only to be carried out if the ^ char is not received by the SETUP program.
If the ^ char is received, then proceed to next page,

If you set switch 2 to position On, and then apply Power, the communication speed (Baudrate) will be set to whatever is default for your particular software.

Watch the Lower Green LED produce a short flash every second.
This indicates the internal heart-beat indicator is running.

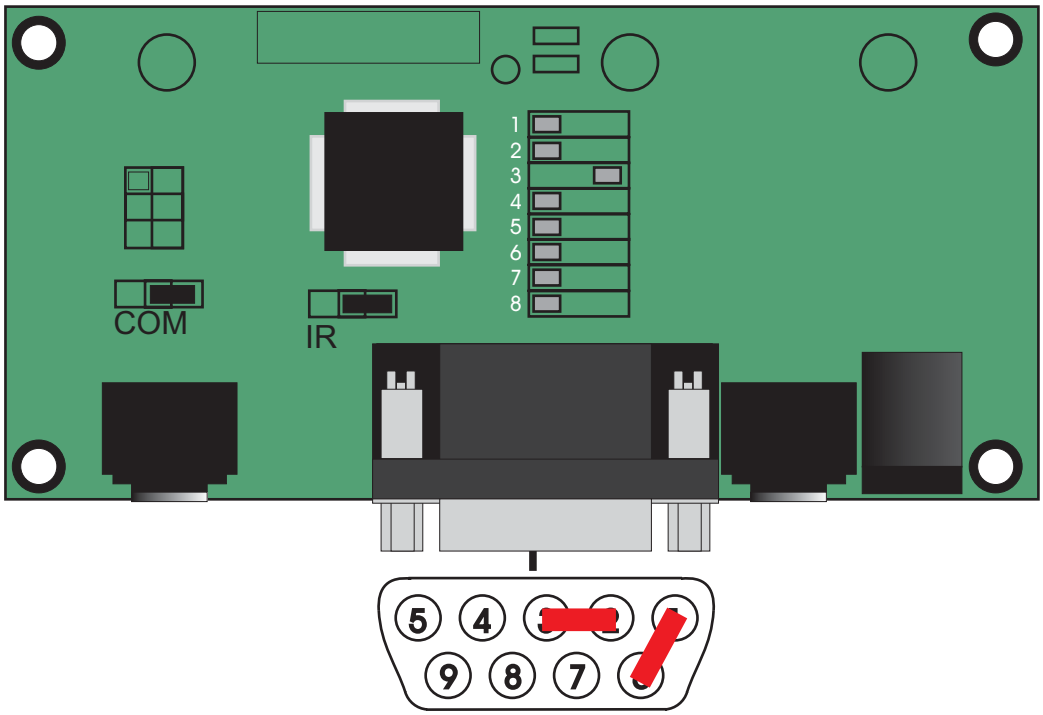
Set switch 2 to position Off.

LinTronic

http://www.lintronic.dk

TEST PROCEDURE

Hardware Version 4
Software version 1.23 and up



Power OFF the TableTop product

Make a Test plug from a 9-pin male SUB-D connector (computer RS232)
- Connect pin 2 and 3 (self-test of RS232)
- Connect pin 1 and 6 (self-test of digital input and output)
- Insert the Test plug into the TableTop's female 9-pin connector

Set switch 3 in position ON (to the right)
- Forces the TableTop to enter test mode upon power up

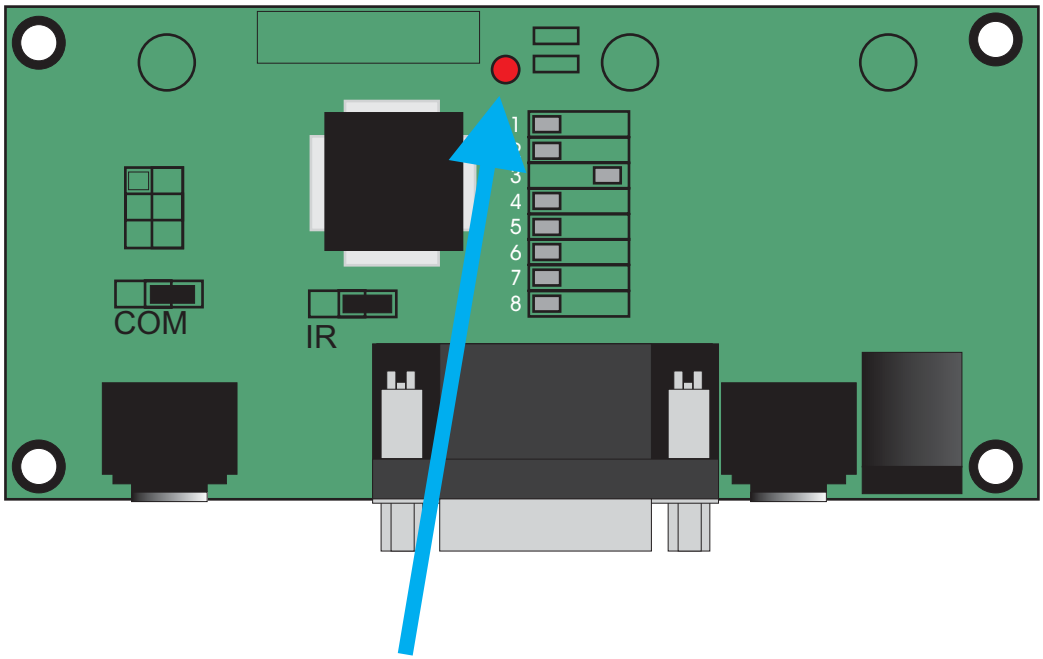
Go to next page

LinTronic

http://www.lintronic.dk

TEST PROCEDURE

Hardware Version 4
Software version 1.23 and up



Connect power and watch the Red LED flash for 2 seconds

This indicates that the TableTop is trying to communicate with the computer to verify whether new sofware is to be uploaded.

If you have the TableTop connected to the PC and the SETUP program is running you should now see a '^' character being received.

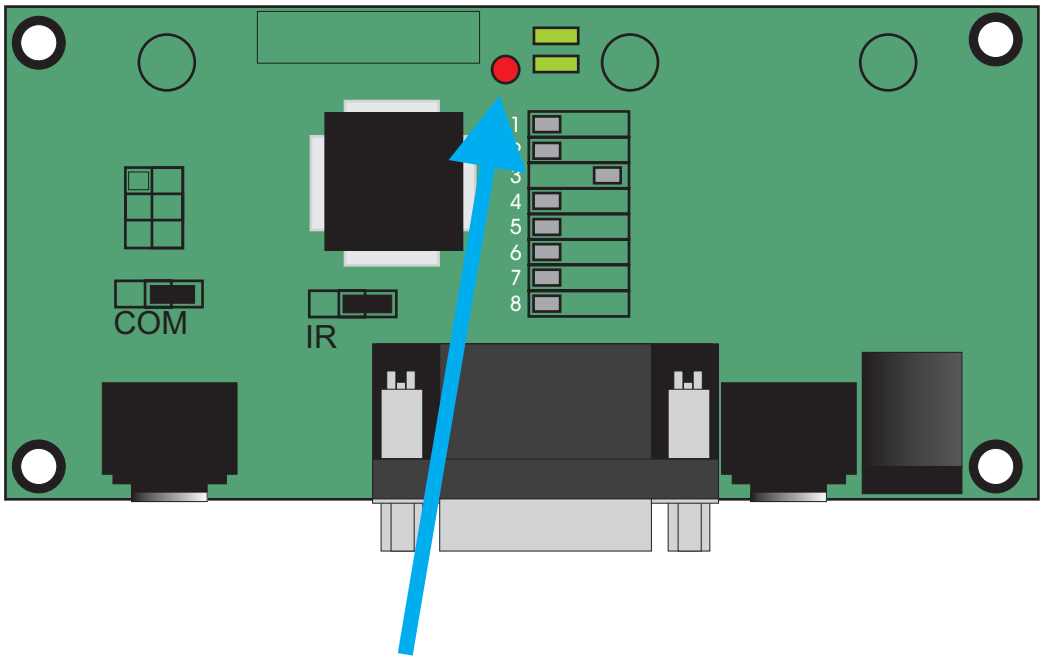
Go to next page

LinTronic

http://www.lintronic.dk

TEST PROCEDURE

Hardware Version 4
Software version 1.23 and up



Watch all three LEDs turn ON for ½ second and then turn OFF.

This is a normal Power Up LED test, regardless of Test mode or not.

When in test mode:
Again, watch all three LEDs turn ON for ½ second and then turn OFF.

2 times On/Off of ½ second indicates that the TableTop is now entering Test mode.

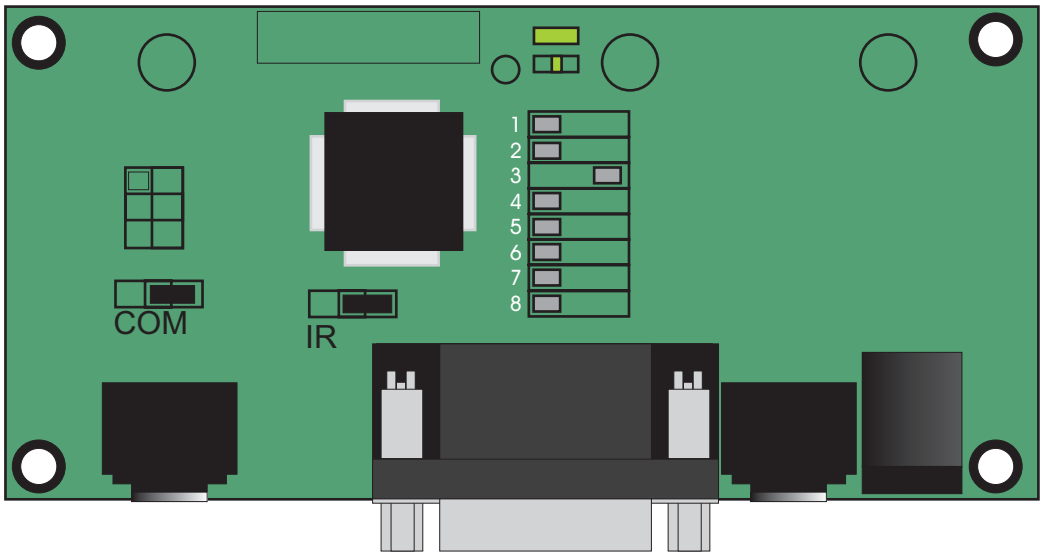
Go to next page

LinTronic

http://www.lintronic.dk

TEST PROCEDURE

Hardware Version 4
Software version 1.23 and up



The RS232 comm port, the digital inputs/outputs, the IR reception and IR transmission is now tested. The test pattern being send on the RS232 is command 912, ie. the time since the test started:
000191200122132 (00 hours, 12 minutes and 22 seconds)

If you want to verify this is being send out then connect the TableTop to the computer, start up the SETUP program and watch the Received text field. In that case please ignore that errors are reported on the RS232 port as the SETUP program does not return the test pattern.

The RS232 and the IR Transmission is tested once pr. second indicated by a short flash on the Lower Green LED.
The digital inputs/outputs are tested more than 1000 times pr second.
The IR reception is tested continiously.

If no errors are detected, you will see the Upper Green LED turned On and the Red LED turned Off.
The Upper Green LED is the current error state. If turned On, there are no current errors. If turn Off, the error is detected right now.

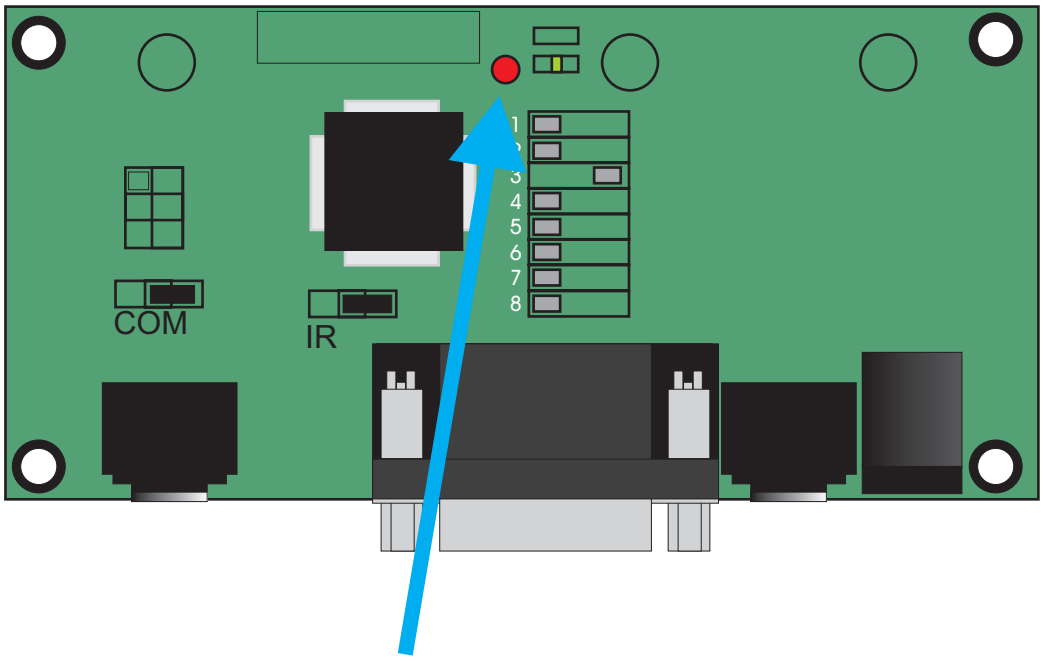
Go to next page

LinTronic

http://www.lintronic.dk

TEST PROCEDURE

Hardware Version 4
Software version 1.23 and up



If errors on the RS232 or digital input/output are detected, you will see the Upper Green LED turned Off and the Red LED flashing every 3 seconds.

- Error on the RS232 ..... Red LED will flash 1 time every 3 seconds
- Error on the input/output ..... Red LED will flash 2 times every 3 seconds
- Error on both RS232/input/output Red LED will flash 3 times every 3 seconds

If errors are detected they will be remembered, This means you can leave the TableTop in Test mode all night long, and if a single error is detected the Red LED will flash accordingly the next morning.

The Upper Green LED is the current error state. If turned On, there are no current errors. If turn Off, the error is detected right now.

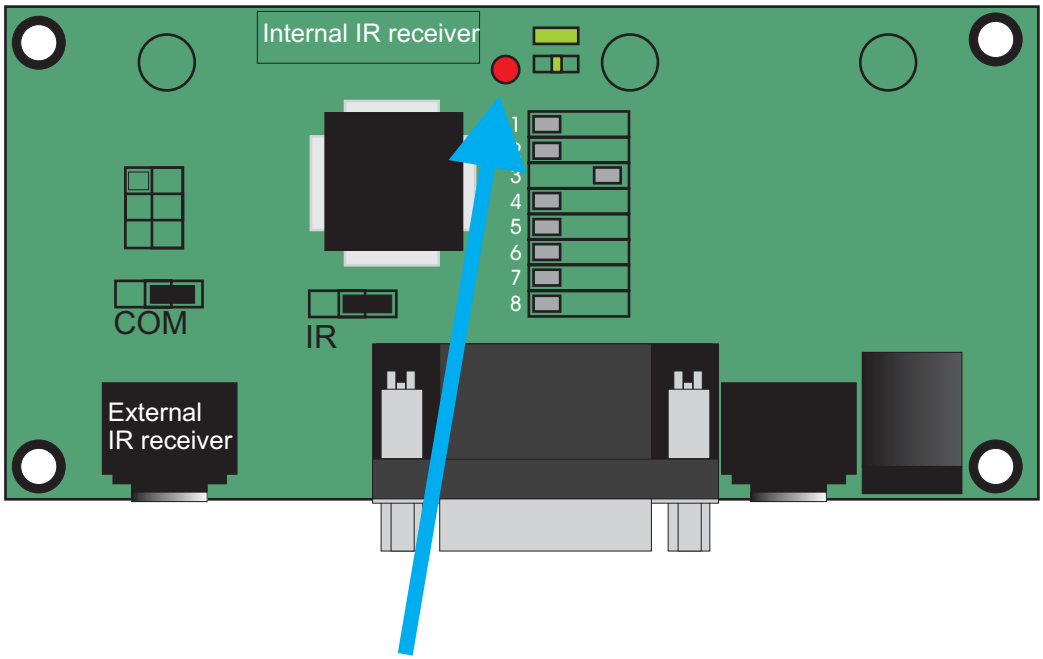
Go to next page

LinTronic

http://www.lintronic.dk

TEST PROCEDURE

Hardware Version 4
Software version 1.23 and up



If you want to test the external IR receiver, then connect the IR receiver to the external 3.5 mm jack connector input.

If you want to test the internal IR reception, the go ahead.

Activate and hold the remote control for 1-2 seconds and whatch the Red LED turn On for as long as you hold the remote activated.

Make sure you select a command that is being send out continiously.
For example Volume Down.

WARNING: Do not choose Volume Up as you might control the sound of a TV or amplfier up to a very high level.

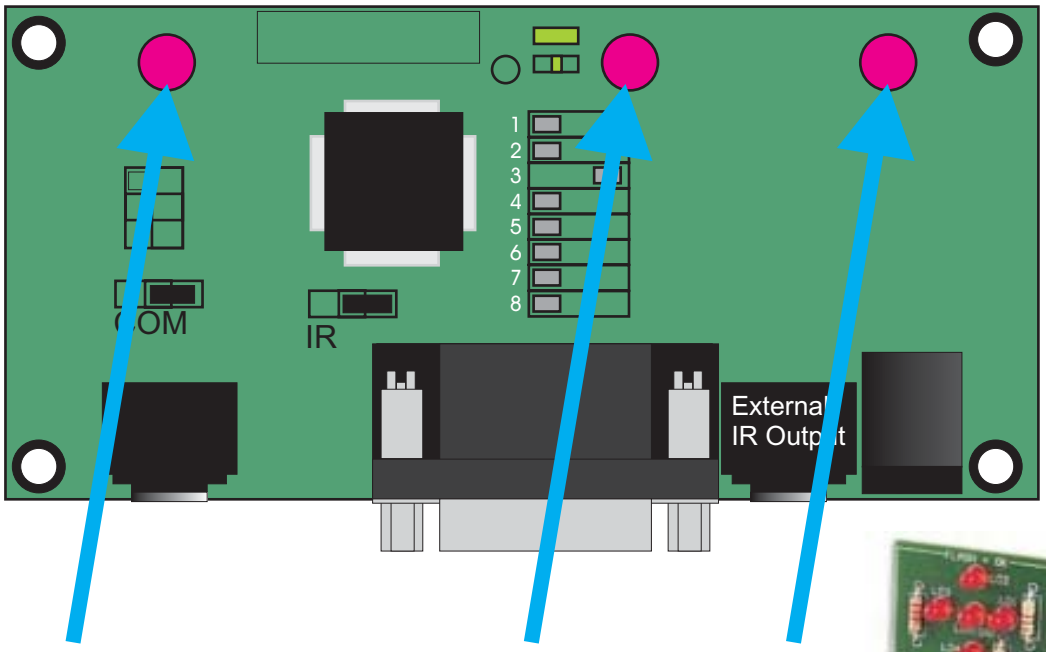
Go to next page

LinTronic

http://www.lintronic.dk

TEST PROCEDURE

Hardware Version 4
Software version 1.23 and up



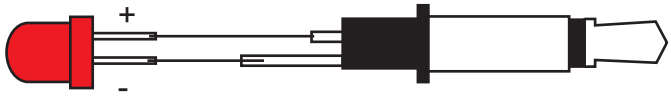
If you want to test IR Transmission, you will need an IR Remote Tester. These are available at most electronic retail stores at very low cost.

One example is the MiniKit MK137 from http://www.velleman.be

Place the IR Remote Tester in front of the TableTop's transmitter diodes and every second you should detect a 38 KHz flash of 50 ms.

If you want test the Low Power External IR Output, you can connect a normal visible LED to a mono 3.5 mm jack connector and insert it the External IR Output.

Go to next page

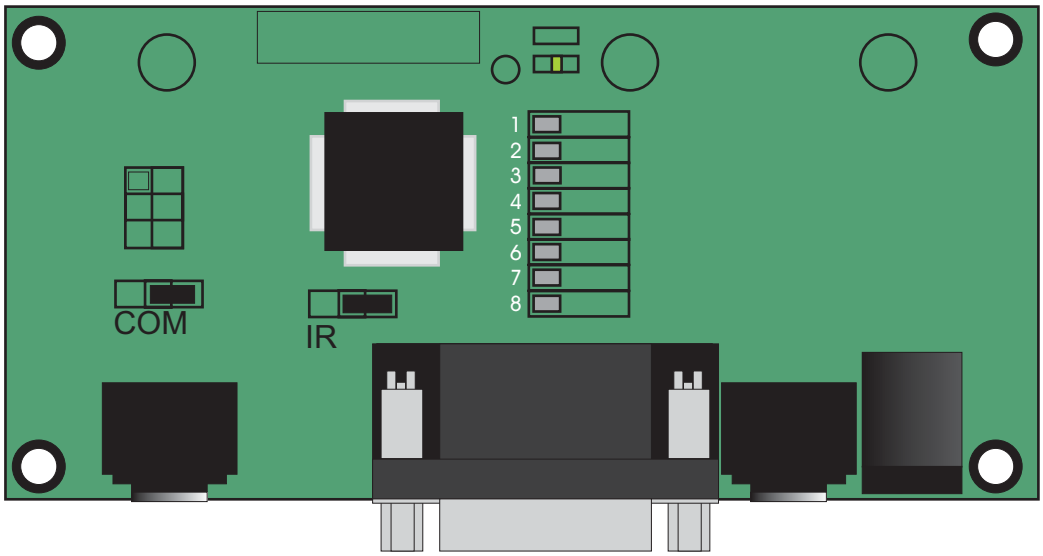


LinTronic

http://www.lintronic.dk

TEST PROCEDURE

Hardware Version 4
Software version 1.23 and up



When you are done testing, set switch 3 to position OFF which will bring the TableTop out of Test mode.

Watch the Lower Green LED produce a short flash every second.
This indicates the internal test procedure is running.

Go to next page