



# Philips Wake-Up HF3520 Power supply repair

Flashing or flickering light when using radio can be caused by a malfunctioning switchmode power supply IC.

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## INTRODUCTION

The IC (chip) inside the lamp seems to die slowly resulting in flickering/flashng lamp operation when using the radio. Also the buttons may become unresponsive.

The problem occurs specifically when the device is cold and/or humid. Heating up the IC makes it work again.



### PARTS:

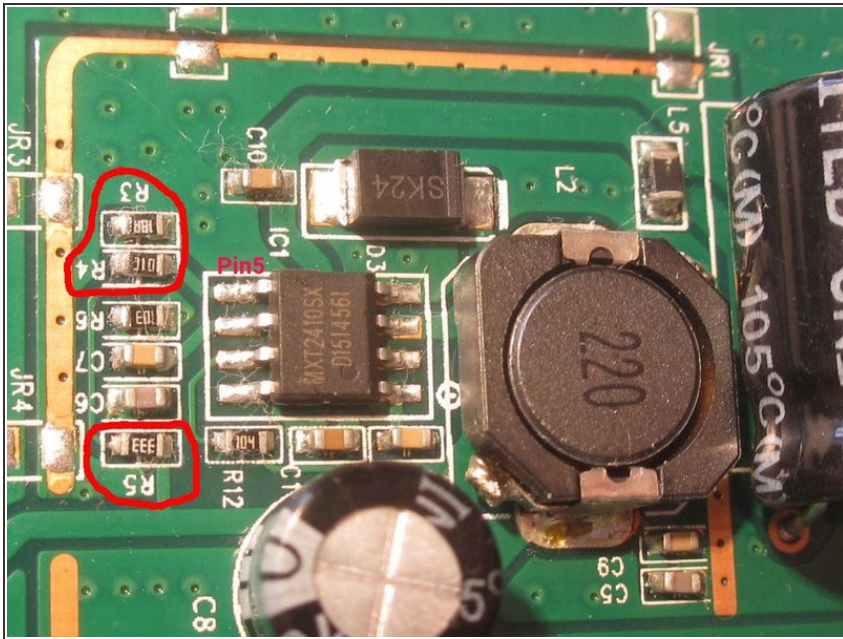
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## Step 1 — Disassembly



- Disassemble according to this guide:
- <https://de.ifixit.com/Anleitung/Philips+...>

## Step 2 — Replace IC



- On the main PCB with the power-jack, replace the MXT2410 switchmode regulator IC (SO-8 Package).
- There is a pin-compatible device from Quorvo (ACT4060ASH-T) which has a different internal voltage reference but otherwise works fine. Only a resistor must be changed for this to work.
- Feedback Voltage for MXT2410 is 1.222V, for ACT4060 is 1.293V, so voltage divider on Pin5 must be changed accordingly.
- One can best adjust R4+R3 (series). Remove R4, measure R3 and R4, and increase. It should measure about 10.67kOhm (R3 plus R4), and it can be slightly increased to 11.51kOhm. So basically add 1kOhm to R3+R4.

Arbeite die Schritte in umgekehrter Reihenfolge ab, um dein Gerät wieder zusammenzubauen.