



Specialists in electronic kits, components and products.

KJ8230: SHORT CIRCUIT 2 PROJECT 12 - SIMPLE FM BUG

Rev 1.6

Batch No:

**PLEASE NOTE:
THIS PROJECT DOES NOT INCLUDE INSTRUCTIONS.
THIS PROJECT REQUIRES PROJECT SPECIFIC INSTRUCTIONS
KJ8231 OR THE BOOK "SHORT CIRCUITS 2", BJ8504, WHICH
CONTAINS ALL THE INSTRUCTIONS FOR ALL THE SHORT
CIRCUIT 2 PROJECTS.**

PLEASE READ BEFORE COMMENCING CONSTRUCTION

The guarantee on this kit is limited to the replacement of faulty parts only, as we cannot guarantee the labour content you provide. Our Service Department does not do general service on simple kits and it is recommended that if a kit builder does not have enough knowledge to diagnose faults, that the project should not be started unless assistance can be obtained. Unfortunately, one small faulty solder joint or wiring mistake can take many hours to locate and at normal service rates the service charge could well be more than the total cost of the kit. If you believe that you may have difficulty in building this kit (which is simply a complete set of separate parts made up to a list provided by the major electronics magazines) and you cannot get assistance from a friend, we suggest you return the kit to us IN ITS ORIGINAL CONDITION for a refund under our satisfaction guarantee. Unfortunately, kits cannot be replaced under our satisfaction guarantee once construction has been commenced.

CONTACTS:

For **quality issues** please contact the **Production Manager** at Jaycar Electronics and provide the following information:

- Product Number
- Batch No
- Details of Quality Issue

Notes and Errata (at time of print):

Jaycar Electronics:
*advises that this project does not include instructions.
 advises to use resistor lead off-cuts as wire links.
 uses netlists to confirm that the PCB artwork matches the schematic(s) and parts list(s) published.
 upgrades the original PCB design to use component footprints, possible component shape, value and lead configuration alternatives and aligned polarized components where possible.
 You may wish to bend component leads and use component pads further apart.
 recommends to check the designers/publishers website for further notes and errata since this document was issued, before starting construction.*

KJ8230: SHORT CIRCUIT 2 PROJECT 12 - SIMPLE FM BUG

Rev 1.6

Possible Substitutions			
Original Part	Original Part Desc	Subst Part	Subst. Part Desc.
AM4011+ 2cm WH5530	MIC PCB 2PIN 1.5V D10XH6.5MM+ 2cm heatshrink	AM4010+ 2xHP1250+ 5cm WH3010	MIC INSERT STD 1.5V D9.7xH6.5MM+ 2 x PCB pins+ 5cm hook-up wire

PARTS LIST

Please note that part numbers refer to suitable products from the Jaycar product range. Quantities listed refer to the actual number of items required. When purchasing items separately, take pack quantities into account.

¹ See section about Substitution ² See section about Notes & Errata ³ Processed Panel not part of Case listed
 "E"-Part Nos & "Special Order" Parts (incl. processed panels) are Kit specific and may not be readily available

RESISTOR(S)

Cat.#	Qty	Description	Component Ident. And/Or Location
HP1250	3	PIN PCB 0.9mm GLD	
RR0548	1	RES 0.5W MTL 100R 1%	Brown Black Black Black Brown
RR0552	1	RES 0.5W MTL 150R 1%	Brown Green Black Black Brown
RR0564	1	RES 0.5W MTL 470R 1%	Yellow Purple Black Black Brown
RR0588	1	RES 0.5W MTL 4k7 1%	Yellow Purple Black Brown Brown
RR0596	1	RES 0.5W MTL 10k 1%	Brown Black Black Red Brown
RR0604	1	RES 0.5W MTL 22k 1%	Red Red Black Red Brown
RR0608	1	RES 0.5W MTL 33k 1%	Orange Orange Black Red Brown
RR0624	1	RES 0.5W MTL 150k 1%	Brown Green Black Orange Brown
RR0635	1	RES 0.5W MTL 430k 1%	Yellow Orange Black Orange Brown

CAPACITOR(S)

Cat.#	Qty	Description	Component Ident. And/Or Location
RC5307	1	CAP CER NPO 3p9 50V 10% P=5mm	3.9pF
RC5310	1	CAP CER NPO 6p8 50V 10% P=5mm	6.8pF
RC5336	1	CAP CER NPO 1n 50V 10% P=5mm	1n / 1000p / 102
RC5490	3	CAP MONO 100n 50V P=5mm	0.1uF / u1 / 100n / 104
RE6066	2	CAP ELECT RB 10u 16V 105C P=2mm 5x11mm	10uF / 16V
RV5716	1	CAP TRIM 6p2-30p GRN	GRN VC1

SEMICONDUCTOR(S)

Cat.#	Qty	Description	Component Ident. And/Or Location
ZR1004	1	DIODE 1N4004 400V 1A DO41	1N4004 D1
ZT2154	1	TRAN BC548 NPN 30V 100mA TO92	BC548 Q2
ZT2283	1	TRAN PN100 NPN 45V 500mA TO92	PN100 Q1

HARDWARE / WIRE(S) / MISCELLANEOUS

Cat.#	Qty	Description	Component Ident. And/Or Location
AM4011 ¹	1	MIC INSERT STD 1.5V D9.7xH6.5MM	use heatshrink and solder to PCB
EC7230	1	PCB (KJ8230) SC2#12 41X59 FM MIC	plain - 20080421
NS3015	50cm	SOLDER 60/40 1mm	
PH9230	1	BATT SNAP 9V	or suitable alternative
WH3011	80cm	CABLE HU RND 13x0.12mm L/D BLK	Colour may vary A short length may be required for the microphone (AM4010)
WH5530	2cm	HEATSHRINK 1.5MM X 1.2M BLK	for microphone leads

SHORT CIRCUITS

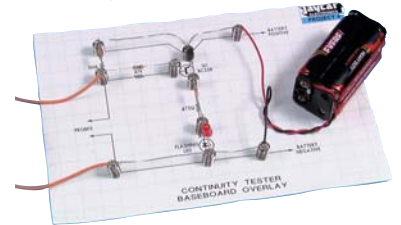
LEARNING SYSTEM FOR ELECTRONICS

"Short Circuits" What it's all about... Since it's inception, the Short Circuits learning system has become the preferred platform from which students can confidently tackle the various levels of modern electronics. The system consists of the Short Circuits books and their own series of construction projects. Although written with beginners in mind, the books are incredibly thorough without being intimidating and, most importantly, they're written with an emphasis on FUN! All books in the series are geared towards specific levels of electronics knowledge.



Short Circuits Volume 1

Our first book in the series uses a leaning system designed around a baseboard, which you use to mount your projects. All components are connected together by our exclusive spring terminals. They are extremely easy to use, and don't even require a screwdriver. At the back of the book is a paper template for each project, which you attach to the baseboard. The springs are then inserted into the baseboard according to the locations shown on the template. The template then shows you EXACTLY where each component goes, making project success almost a certainty. The projects are fun to build and, more importantly, are very relevant to today's electronics. Each of the 20+ projects is powered from batteries and requires absolutely no soldering, making this learning system safe for ages 8+. We guarantee that you will be delighted with this fun and unique learning system.



Short Circuits Volume 2

Once you have the basic skills and knowledge either from a School Design and Technology course, or tackling Short Circuits Vol 1, you can now have some real fun! With this book (and associated project packs available separately) you can make such things as; a mini strobe light, police siren, mini organ, a couple of powerful radio transmitters, an FM radio - even a 'Knight Rider' scanner!! All components are fully described and explained, along with tutorials on soldering iron and multimeter use. All projects are safe and battery powered.



FM Radio with Electronic Tuning



"BEAM ME UP" SIMPLE INTERCOM



Short Circuits Volume 3

This is the definitive electronics training manual and is far more than the weekend "fun-type", superficial approach to electronics. This volume presents more than 30 individual printed circuit board-based construction projects, which are purchased separately. Naturally, soldering techniques are discussed in detail, as is the proper use of a digital multimeter. We describe projects that take from just 20 minutes to make (such as project 2, "Ding Dong Doorbell"), to a fully fledged "Guitar Sustain" which may take several hours to complete, but will give you a music accessory that could last a lifetime. Each project contains a full technical description, with experimental changes to each circuit also explained. After you have built any - or all of the described projects, there is no reason why you would not be able to successfully tackle any of the construction projects published in the electronics magazines; this book will end up giving you the knowledge and skill that will elevate you into a fully fledged constructor!



SIMPLE FM ALARM



VOX - SOUND SWITCH

