This is a list of mail order companies of different countries where you could buy the components. The tips where collected by MIDIbox Users in the last few years. Note that I cannot guarantee that these distributors offer the best prices. If you know better shops, just add them here (hey, thats the power



# **Circuit Boards and Kits**

There are a couple of sources of circuit boards, parts kits, programmed PICs, etc. within the MIDIbox community. Details at where to order pre-made printed circuit boards pcbs and parts kits

# **Rotary Encoders**

#### SmashTV

Bourns encoders (detented type - very good quality, fast delivery!) at SmashTV's MIDIbox Store (US) for \$1.00USD or with push switch for \$1.25USD. Ships worldwide.

#### Distrelec

ALPS STEC16B02/03/04 and STEC11B01/02/03/04 (detented/non-detented type) at Distrelec (Switzerland, Austria, Italia, Poland) for around EUR 1.70

#### **Goldmine Elec**

Panasonic EVQ-WTEF2515B - 30 Detents + Switch, US\$1.49... For a quantity of 100, US\$1. Group buy, anyone?

#### Mouser

318-ENC160-24P at Mouser for around US \$2

#### Pollin

http://www.pollin.de/shop/detail.php?pg=NQ==&a=Njg2OTU3OTk= German Seller, 16 detentes - nice & cheap 0,75.- Euro/Piece

#### Voti

M-SW-ROT (detented type - very good quality, very fair price, fast delivery!) at Voti (NL) for around 1.20 Euro. Note that the pinning is the same like for ALPS STEC16B - see also http://www.voti.nl/common/sw\_rot\_1\_doc.gif

DIY

Make encoders from an old PC mouse

# **Electronic Parts Suppliers by Country**

(Don't be shy about ordering international - prices vary a lot!)

**Note:** Reichelt offers the best prices for hobbyists in Europe - the minimum order for shipping to germany: 10 EUR, to foreign countries: 150 EUR (new policy) (!)

### Germany

You can order all components at http://www.reichelt.de <sup>1)</sup> (cheap and fast!)

PIC18F452, LCDs and cheap rotary encoders: http://www.voti.nl PIC18F4620 and other components: http://www.farnell.de

nice LCDs : http://www.tronico.net

Encoders, cheap LEDs and more : http://www.pollin.de

### Austria and Switzerland

You can also purchase the components at Reichelt<sup>2)</sup>, but need to order for at least EUR 150. PIC 18F452: Distrelec for ca. 11 Euro!

### Switzerland

Conrad

# Scandinavia

Norway/Sweden/Finland/Denmark BHIAB, Kjell, AD-Teknik, JEC, Bejoken. Further Elfa (Expensive, but

with a few walk-in shop outlets around Stockholm etc) — See also this forum article.

### Holland

- Ace Systems
- Conrad
- Reichelt<sup>3)</sup> (EUR 150 minimum order!)
- Voti (English) Very fair prices and low shipping costs for special parts of the MBHP (PIC18F452, ICs, Crystals, LCDs, rotary encoders, etc)

### France

- Conrad
- Electronique Diffusion
- GoTronic
- Radiospares
- Selectronic PIC18F452 for 15 Euro.

# Spain

• Micropik

# Portugal

- Leiritronica
- Dimofel
- CEC Coimbra

### UK

- Crownhill
- Reichelt<sup>4)</sup> (minimum order!)
- Maplin

# Ireland

- Radionics / RS Ireland (No minimum order, Cheap shipping)
- Farnell (Minimum Order is €35 (ex Vat) Free same day dispatch shipping)
- Maplin (Expensive! Stores Nationwide)
- Conrad (€12 minimum shipping fee)
- Digikey (€18 min shipping fee, free shipping on orders over €65)

### **Czech Republic**

• GM Electronics Gzech

### Serbia

- Mons Elektronik A reseller shop where you can order components from Conrad, Reichelt, etc.
- Nikola Tesla Radio Club Most of the components can be found here.

# Poland

PIC18F452 is available at Gamma for ca. 38 Zlotych. 16×2 backlit LCD for ca. 30 Zlotich in (nearly) all shops for electronics's hobbyists or at AVT. STEC16B03 Rotary Encoders can be purchased at microdis for about 11.50 Zlotych.

### Australia

Don't order from Farnell or RS-Components, you can get it 90% cheaper elsewhere. Shop around! Good local stores like Jaycar, Dick Smith Electronics and Radio Parts General have most of the components at reasonable prices, but you can get things much cheaper from Australian electronics distributors such as Rockby Electronics for resistors, capacitors, sliders, pots, chips etc. and Switches Plus for harder-to-get things like ALPS switches, rotary encoders, sliders, pots, etc. Other retailers for PICs include: Dontronics and Microzed.

A great source of harder to find LCDs in Australia is Crest Technologies. They stock PLED's as well as various Character LCDs and Graphical LCDs. They pack their products well and ship fast. Another great supplier is Aztronics who have a lot of what you may need and I think ship nation wide, they mostly stock product from Altronics. Aztronics stock rotary encoders almost all the time and they are reasonably priced.

# USA/Canada

#### **Wide-Range Electronics Distributors**

Distributors that distribute for many different brands. If you wanted to get Everything you needed for one project on one bill, you'd probably go here.

- Allied Electronics Some parts are cheap, some a pricey, so be sure to check other stores as well. Generally ships very fast (at least to Texas)
- Digi-Key (US)
- Digi-Key (Canada) Will charge GST for Canadians so you don't get nailed with Customs. Shadyman
- Electro Sonic (Canada)

- Jameco
- Mouser just a word of warning for Canadians, a 270\$Can order from mouser got me a 84\$Can surcharge from UPS for customs. I wasn't expecting it, I just want to save you from the surprise of the extra bill.
- NewarkInOne

#### Smaller-Range Electronics Distributors

Distributors that are more specialized in the types of products they sell

- PartsExpress Electronics Parts (US)
- Futurlec (US)
- SparkFun Electronics (US)

#### **Exclusively LCD/LED Displays**

Companies that specialize in LCD and LED displays

- 411 Tech Systems LCD Outlet VERY inexpensive LCDs. (Great service and shipping, shipped in ESD bags, in packing popcorn, in strong corrugated boxes. Free Application CD with LCD purchase. Currently, they give a free 10k pot with each LCD, along with a "free gift" for solving a sudoku puzzle. Ships to Canada. Highly recommended. — Shadyman)
- EIO Very inexpensive LCDs
- Scott Edwards Electronics Serial LCDs and related accessories

#### Surplus/Used/Overstock/etc

Companies that specialize in Surplus, Used, New Old Stock (NOS), etc. They're often good for finding interesting parts or rarities

- AllElectronics (US) Some interesting LCDs and keypads, and they carry just about anything.
- Alltronics (US)
- American Science and Surplus (US)
- B.G.Micro (US) Very inexpensive LCDs, and a whole lot of other electronics
- Electronic Goldmine (US)
- MPJA (US) Very cheap 100-packs of LCDs. Also has knobs, cheap voltage regulators, LOTS of cheap heatshrink tubing, and lots of miscellaneous electronics stuff.

# Argentina

www.vantronic-sa.com.ar (Pulsadores Mec y componentes diversos)
www.disipadores.com/tabla\_generica.htm# (Disipadores de aluminio) www.setpla.com/default.asp
(Perillas y Botones) www.copygrafic.com.ar (Circuitos impresos, Frentes y Teclados)
www.frentesymontajes.com.ar/index.html (Frentes y Montajes)
www.impresionesteby.com.ar/index.htm (Gabinetes, Frentes y Serigrafia)
www.electrocomponentes.com www.cika.com.ar www.dicomse.com.ar

www.electronicaliniers.com.ar/principal.htm www.dayton.com.ar www.cklelectronic.com.ar/lprecios.asp www.elkonet.com/productos.php www.semak.com.ar/index.asp www.elecmatro.com.ar/main.asp?section=inicio http://200.117.251.27/elemon/default.aspx www.macsemi.com.ar www.microelectronicash.com www.mstools.com.ar www.rodaronline.com/menucat.htm www.silge.com.ar/index.php www.sycelectronica.com.ar/index.htm

# Chile

All Components are available at Global Electronic Chile globalchile@entelchile.net

### **New Zealand**

Andrew Gow wrote: "I managed to buy all components for your 16 pot design for about \$230 NZ, which is about the same in DM I think - not cheap but better than anything else you could buy for the same price. The problem is that everything is cheap until you try to ship it all the way to New Zealand!!! - I was quoted \$19US for 32 sliders from Song Huei in Taiwan (awesome!!!!) but \$50 US postage!!! (bummer....). Similarly, I could get a PIC for \$6 US, but add \$25 US postage and it doesn't look nearly as good. (Rest of components from Dick Smith Electronics)"

*Mail by Rowan Spicer*: "During the first stages while pricing parts from various sources I discovered a very cheap (By New Zealand Standards) and helpful supplier. All of the parts for the PCB including the A 16\*2 LCD cost less than \$100 NZ (\$1 NZ = Approx \$0.50 US) I've included an invoice to show the price breakdown: NZ pricelist. (Note by TK: the **PIC18F452** requires a **10 MHz** crystal!)

# Ukraine

MICROCHIP in Ukraine city of Dnepropetrovsk: mail to chip@pbox.dp.ua or anton@pbox.dp.ua - they sell and program PICs! And they offer 2\*16 LCDs.

# Lithuania

- Lemona pretty expensive. Only in Lithuania, uses BizPak (DPD) delivery service:
- weight to 2Kg, order 50...300Lt (~15...87EUR) delivery cost 9Lt (~2.6EUR);
- weight from 2 to 5Kg, order 50...300Lt (~15...87EUR) delivery cost 11Lt (~3.2EUR);
- weight from 5 to 20Kg, order 50...300Lt (~15...87EUR) delivery cost 15Lt (~4.4EUR);
- weight over 20Kg, order 300Lt (~87EUR) and more delivery free of charge.
  - Spikare quite cheap. Delivery cost varies (from 2.5 to 14EUR) depending on package price and weight. In some cases delivery is free of charge. Chek their site for detail pricelist.
  - Evita
  - Milgreta
  - Tevalo

# Contribute

If you know some good distributors in your country, add them here to make other people happy!

1) 2) 3) 4) Reichelt Shopping Cart Links

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