Superdrg radio

Written by Hans Summers
Saturday, 11 July 2009 10:42 - Last Updated Monday, 22 December 2014 03:29

[Features and Specifications](#)
[How to open the radio without breaking it!](#)
[Circuit Diagram of main board](#)
[Frequency Counter board](#)
[BFO Circuit by Jim G4NWJ](#)
[Fine tuning circuit by Jim G4NWJ](#)
[More modification ideas](#)
[Superdrg Radio goes DX!](#)
[Datasheets and Further Information](#)   {gallery}superdrg/title{/gallery}

Many thanks to Tony Saunders G4LLW for the tip-off about this cheap 10-band radio that was on sale in December 2005 at the UK's Superdrg chain for GBP 2.99 (normal price GBP 7.99). I forwarded the information to the [GQRP club forum](#) which started a wave of panic buying, mass modifications and loads of fun! All the radios in the special offer are now long since sold out, but thanks to an email from Alan Edwards we now have a new source. The "Gelert" range is stocked by lots of camping retailers. Alan got his from

Great Outdoors

who have a store in the Chester area. He reports that his cost him about GBP 7, works well and is STILL good value for money even at the higher price. See also
http://www.comparestoreprices.co.uk/camping-equipment/gelert-compact-travel-radio.asp
or google for
[Gelert UK](#)
.

Click images for larger photos!

The main board contains a D1191 AM/FM radio IC, 28-pin SMD. There are also 6 discrete transistors and a ribbon cable to the LCD/buttons PCB which has another IC to take care of frequency counter and clock functions. There are several canned IF transformers, and a plastic-cased 455kHz ceramic filter. Tuning is via a polyvaricon variable capacitor, i.e. this radio is not synthesised PLL. The tuning knob is not geared, so tuning CW could be tricky unless the band could be narrowed somewhat.

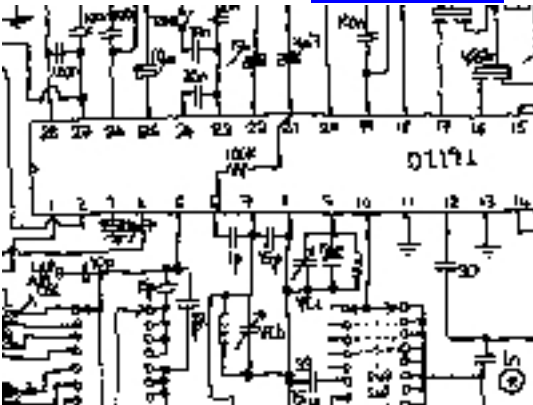**Features and Specifications**

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Basic information about the capabilities of this little radio, and band coverage measurements from two ra

How to open the radio without breaking it!

On the back there is a flap plastic which flips out and allows the radio to stand up on a table. When th

Circuit Diagram of main board
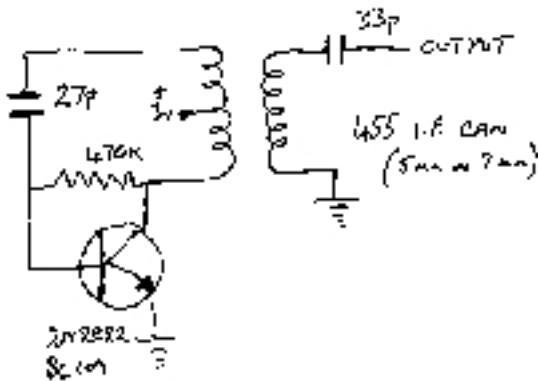
I have traced the circuit diagram of the main radio PCB.

Frequency Counter board

Lots of connection data of the frequency counter board, how to use it, how to dismantle it, etc. Informati

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Jim Kortge K8IQY used this 455kHz IF can to make a simple but effective BFO to resolve CW and SSB signals. **Read more**

Jim Kortge K8IQY used this circuit to resolve CW and SSB signals. He used a zener and a miniature 9mm pot to... **Read more**

Superdrg radio goes mobile! Here is Pierro F4DYT with his Superdrg radio at 2550m above sea level in the F... **Read more**

More modification ideas

Superdrg radio on Topband!

Richard Constantine G3UGF discovered that by fiddling with the band selector switch between first and second positions (MW and SW1 bands), at a certain setting it is possible to tune Topband from 880kHz to 1.97MHz. This appears to be some shorting in the switch doing wierd things with the oscillator circuit configuration. This strange feature was also verified by others including Chris Baker G4LDS, Tony Fishpool G4WIF, George Dobbs G3RJV and Clive Hollins M5CHH. Rick Peterson 2E0JSI also reports that by sliding the switch to the far right it appears possible to tune 43.80 to 48.12MHz.

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Superdrg radio on 80m

Jum G4NWJ found that the radio can easily be made to work on 80m. He says: "80mtr enthusiasts may be interested to know that padding the blue tuning can with 56pf and re-tuning, the radio works well on that band. The downside however is that you loose 30mtrs and top band."

2m Superdrg radio?

Martin M3GHE has found that the SC3610 frequency counter module will accept input at frequencies above 180MHz, both on its AM and FM inputs! When using an SA602 to mix a 10.455MHz crystal with a VFO in the AM mode, the counter can be made to read the frequency directly (up to 10MHz, without the leading 1).

Modifications by Trevor G6PSZ:

Trevor notes that the blue core covers SW1-4, and the pink core SW5-8, which he tweaked to get get SW5 to cover up to 14.35MHz). The cores have limited adjustment range and stiff adjustment, but are stronger than most ferrites. (He broke a nylon adjusting tool and resorted to a normal screw driver). The capacitor bank under the band switch appears to be SW2 TO SW7, SW1 cap being on the end of the switch.

Pulling pin 1 of the frequency counter ribbon low with a 3k resistor selects the high resolution 1kHz range on the counter. Trevor removed the transistor above the ribbon, inboard of the volume control and wired a 2k7 resistor from ribbon pin1 to the low pin on the tone switch (under the tuning cap). The tone switch now does double duty of switching the counter between low res 10kHz & hi res 1kHz settings on AM, as well as its intended hi (music) & low (spech/noisy signal) function.

Further thoughts: If the yellow inductor is 455kHx IF it might allow regeneration for ssb/cw detection? He has not yet found any sign of front end filtering on SW, so the image responce might be wide open.

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CD1191CB datasheet - this one is in Chinese (?) but the application circuit is easily readable
CXA1191 datasheet - in English, but the application circuit is printed too small
SC3610 datasheet - frequency counter/clock/LCD controller. Equivalent to the UTC6610.
UTC6610 datasheet - equivalent to the SC3610. This is the IC that was originally thought to be in the radio.
 Shenzhen Kefuda Electronics Co Ltd , manufacturer of the SC3610 frequency counter IC. Similar to UTC... a Chinese copy of a Chinese copy?
 Dissection of another cheap radio , utilising the same 1191 IC.
  Related page on the CXA1019 (not in English)
 Shaoxing Silicore Technology Co. Tim M0CZP reports the radio he brought had their D1961 IC, similar to the D1191.
 Design GO travel clock radio. Link from Steve G0KYA - this radio looks VERY similar to the Superdrg radio.

Thanks to Arv Evans K7HKL for finding some of the above links.

Pay particular attention to the SC3610 IC which is used for the LCD clock and frequency counter in the Superdrg radio. It can also cater for the 70kHz IF offset of TDA7088 receivers (a.g. the   Poundshop radios . There is a pin to control the resolution! It can be set to display 0.000 to 9.999MHz i.e. to 1kHz display resolution rather than the current 10kHz. This is more convenient for amateur band operation.