

Given that no one has put anything here I (M0BLP) will get the ball rolling.

1) If you have a 10uF cap between pins 1 and 8 of the LM386 then the chip is configured for high gain mode and can go unstable when driving low impedance loads e.g. 8Ohm. The LM386 data sheet says to add a 0.1uF cap from pin 7 (Bypass) to ground if going for high gain. If you want to lower the gain you can either remove the 10uF cap between pins 1 and 8 or insert a 5kOhm preset resistor in series with it.

2) For those interested in adding a simple digital readout for their Epiphyte you may be interested in looking at the following website:

<http://www.geocities.com/CapeCanaveral/Lab/9595/zefi.html>

Clive Hollins' Notes on Epiphyte 3

The Cambridge & District Amateur Radio Club are in the process of building Derry Spittal's EP3. Ron Huntsman (G3KBR) our PRO and Clive Hollins (M5CHH) met Derry a couple of years ago and saw the EP3 demonstrated at our club. We were so impressed that we decided to build a couple as a club project. It turned out to be a bit of a marathon as we had orders for ten units. Thanks to Mike Adlesee (M0BLP) we secured eight CA3020A's and managed to get the obsolete Murata 455J1 filters from a persistent supplier. BB212 (use just half as this is a varactor diode pair) tuning diodes were substituted for the obsolete MVAM108 and SA602's for the NE602's used in the original. Clive managed to get together ten kits and those with more time built them first. Mike and Ron being the front runners.

Modifications

As a result of experience gained by the many builders of this fab design some modifications and improvements have appeared in back issues of SPRAT. These are available from their web site, Ron or Clive may be able to give you copies.

Below are CDARC members further contributions.

RON's CIRCUIT MODIFICATIONS to the VFO to cover the whole of our 80m band, 3.5 to 3.8 MHz.

Remove C33 (470pF) and replace it with a 330pF. Remove C40 (680pF) and replace it with a 330pF in parallel with a 56pF. In the VFO tuning pot circuit break the wire between pin 3 and the 8V rail and add in a small 10 kOhm trimpot. Add a 4K7 resistor into the ground line of the tuning potentiometer. Tune to the top end of the band (3.8MHz) and adjust the 10k trimmer for reception of a 3.8MHz signal. Turn the tuning pot down to the bottom of the band (3.5MHz) and adjust L6 core for reception of a 3.5MHz signal. Repeat top and bottom end adjustments until correct.

FREQUENCY DISPLAY KITS available from Clive M5CHH October 2005

These make a great addition to the Epiphyte 3 and come with all the original design information, full current build information and a ready programmed PROM. Thanks Clive. SOLD OUT but Clive will provide information and assistance.

AUDIO INSTABILITY PROBLEMS RE-VISITED 2006

Several people have experienced audio instability when a speaker is plugged in. David G6KWA, who has had so much fun with his unit built over Christmas (and doing very well in the RSGB Club Championship with it) has come up with a complete cure, easily carried out as well.

The problem is caused output stage currents being "seen" on the 2 decoupling caps that share the same earth return track, if you like an earth loop around the high gain LM-386 output chip.

Cut the track next to pin 4 (earth) of the LM-386 and take a wire from here, on the track side of the PCB back to the (-) power input connection on the PCB. The two decoupling caps earthing arrangement is not altered.

AGC and the audio output stage.

David G6KWA and Ron G3KBR have found that it is better to put a low value pot in series with the speaker/headphone output to control the level. It is much better to keep the audio stage going at the 46db gain setting (10 ufd between pins 1 & 8), as designed, for proper operation of the Audio derived AGC.

On the subject of AGC, audio distortion is caused along with a slow rise in output power on TX, if the LED is put in the wrong way round. Really good AGC action is possible providing the correct LED is used. (some selection may be necessary). The design calls for High efficiency 2.1 Vf type.