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Front Cover:

John Lyles using the DroidPSK app on a smartphone along with a PSK31 transceiver module, connected to a compact loaded 10MHz dipole.

Image: *Martin Kavanaugh*

Table of Contents

News and Notes

Publication Delay, Field Meeting Cancelled, *Rob Gill*.

Stereo Micro-Photography Using Focus Stacking

The depth of field of an image decreases as the subject reproduction ratio increases. As a result, it becomes very shallow at high magnifications, as is the case in macro-photography and, even worse, in micro-photography. It is therefore difficult to obtain optimal sharpness over the whole subject, even with small apertures. *Daniel Chailloux* explains how the 'focus stacking' technique uses software to combine a set of images to restore sharpness. He illustrates it with some stereo pairs of micro-mineral samples, photographed by *André Marent*. Contributions also from *Roger Huet* and *Béatrice Serre*.

We Hear

Roundup of news and events: *Mike Bedford* brings us the latest to impact the world of cave radio and electronics. Gamma Ray Measurement, Ultimate Cave Surveying Instrument, The Magna Doodle as a Caving Note Pad?

First Impressions of a Home-made 3D Laser Scanner

Encouraged by building and using the Caveatron cave surveying and handheld 3D laser scanning tool, *Ian Cooper* turned his hand to designing a tripod-mounted scanner. While not yet a ready-to-go project, the results are impressive, as illustrated here.

2 The Mobile Ultraphone and Capacitive Coupler Options 12

Following his recent introduction to the Ultraphone, a new single-wire telephone for very long-range operation under suboptimal conditions, *Brian Pease* describes a portable version together with construction details that offers a way of coupling to the line without making a direct electrical connection.

15

Building Blocks

Pros and cons of using licence-exempt RF spectrum, by *Tony Haigh*.

17

Power Line Interference in Baseband and VLF Cave Communication

With some cave communication experimenters turning their attention from LF to VLF, and even audio frequencies, the subject of interference from high voltage mains distribution could become an issue. Here, *Mike Bedford* discusses the problem and outlines some methods of mitigation.

8

19

Position Encoder Uses Single-Track Gray Code: Update

This is an update to *David Gibson's* article in Journal 118 where he described an unusual single-track position encoder that encoded absolute position using a Gray code.

9

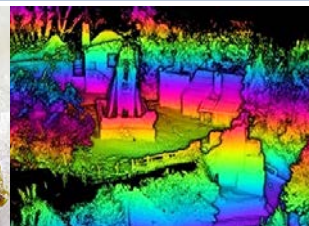
20

Poster-Sized Stereo Photos: Update

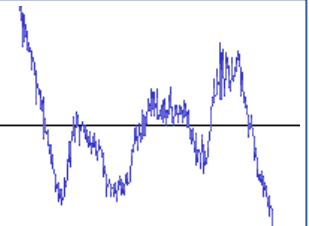
David Gibson makes some further comments about viewing poster-sized stereo photos and asks for feedback on how other people manage with this technique.



Focus Stacking: page 3



3D Laser Scanner: page 9



Interference: page 18

News and Notes

Publication Delay

I apologise for the late publication of this issue. The Journal is an all-volunteer effort by a very small group of members and, just occasionally, events conspire to delay either individual articles or the production of the finished Journal.

We would like to think that this is an isolated occurrence, though the probability of it occurring again would certainly be reduced by the involvement of additional people in the production team and offers of more articles for publication.

Field Meeting Cancelled

Despite promising early indications, we have not received sufficient interest from potential attendees to proceed with the field meeting scheduled for the weekend of 22/23 October.

This meeting was to be held in the Yorkshire Dales, reverting to our traditional two-day format. To support such a weekend, it is important that there is a sufficient mix of equipment, demonstrations, tests, and trials to justify people making the commitment to travel, often long distances.

We hope for better luck next Spring and will post further updates on Field Meeting plans in this Journal, on creg-announce, and the CREG Forum.

Rob Gill



John Rabson conducting a spectrum survey at a previous CREG Field Meeting, held in Derbyshire