September 2020

<Bits & Bytes Newsletter/>

Email:
support@ccsinfo.com

sales@ccsinfo.com
Ph: 262-522-6500

CCS Inc

www.ccsinfo.com

New Compiler Versions
>Downloads>Compiler Software

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TECH NOTE: Identifier Explorer Compiler Feature

TECH NOTE: Introduction to Our Subsidiary Company

SPECIAL OFFER: Fall Special!

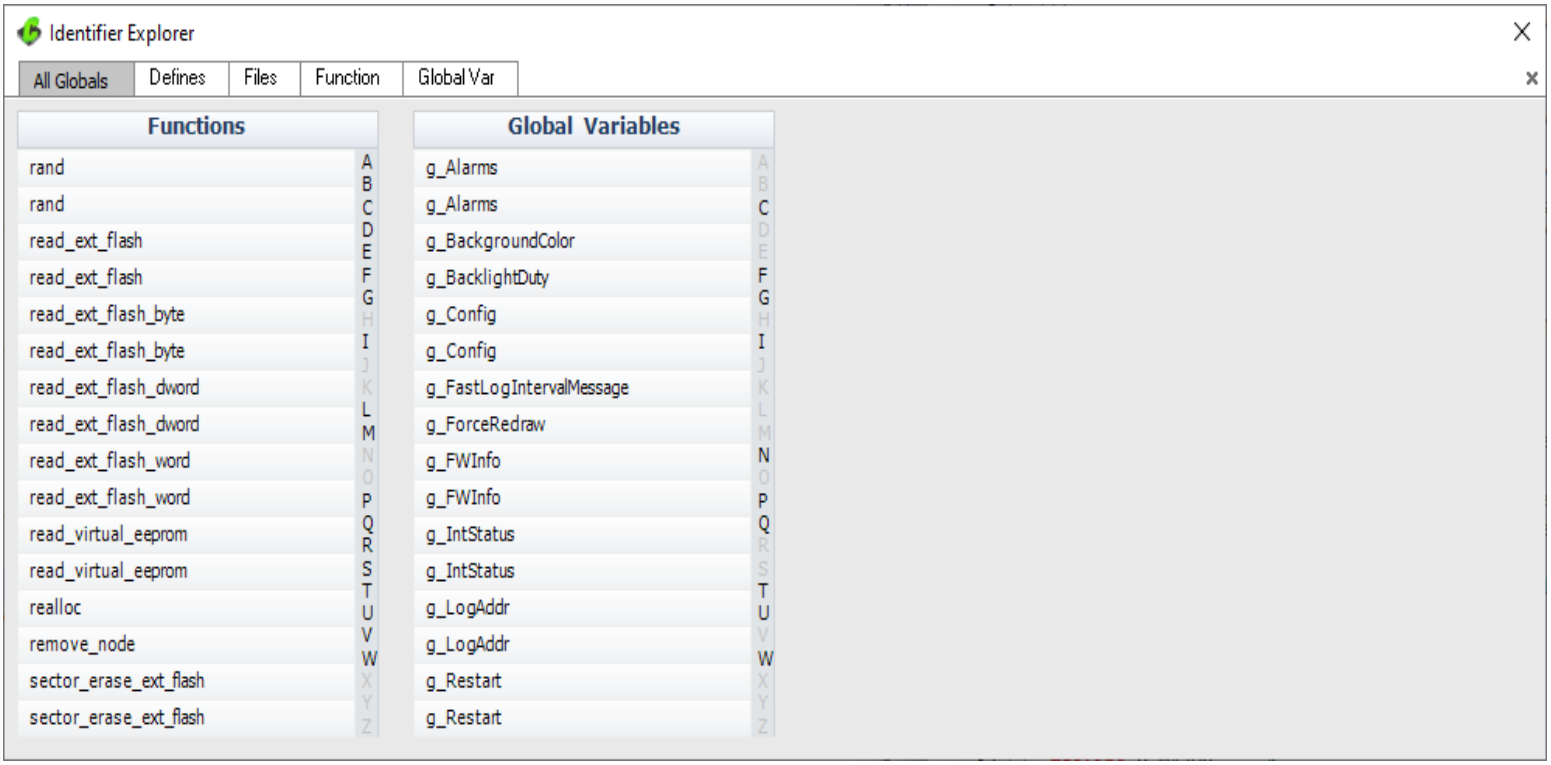
Product Spotlight

RAPID-18

Identifier Explorer Compiler Feature

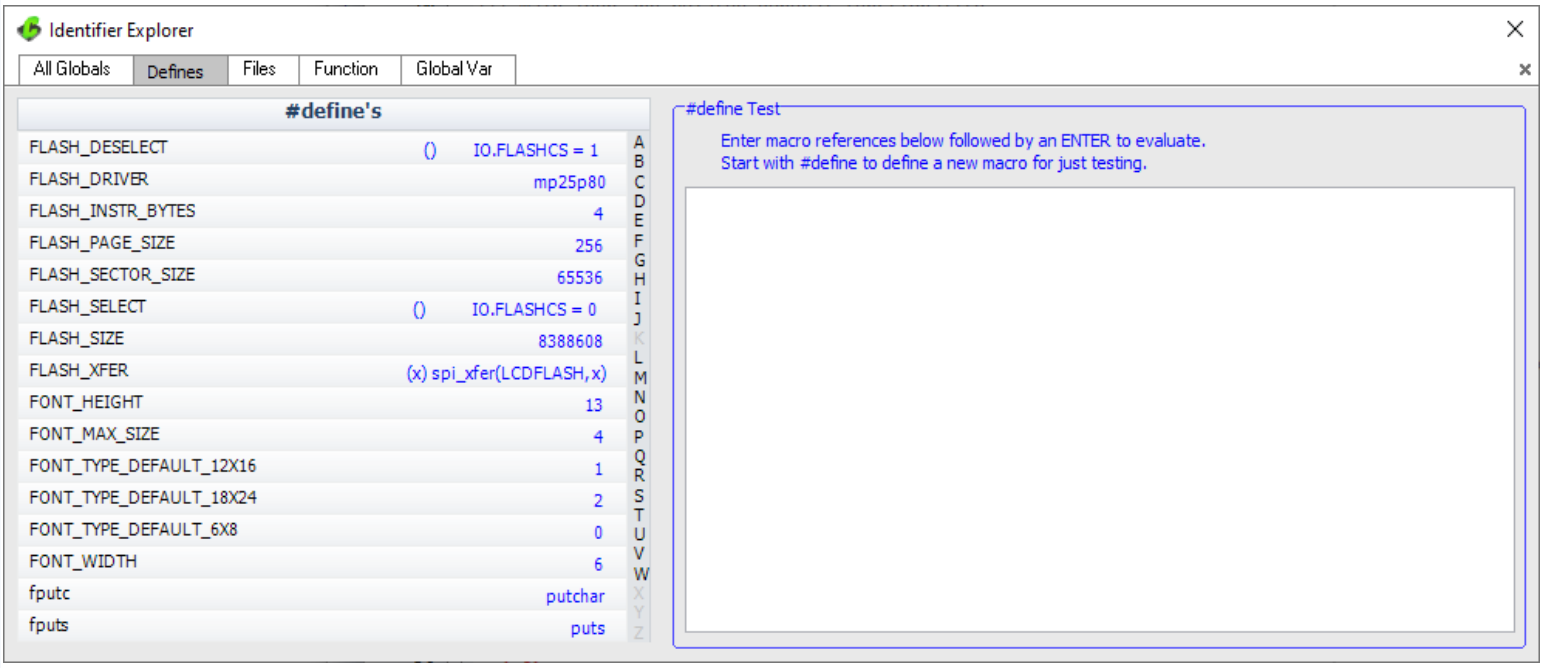
All Globals:

Here we can see all the functions and global variables in the program. Click on any one to get a cross-reference.



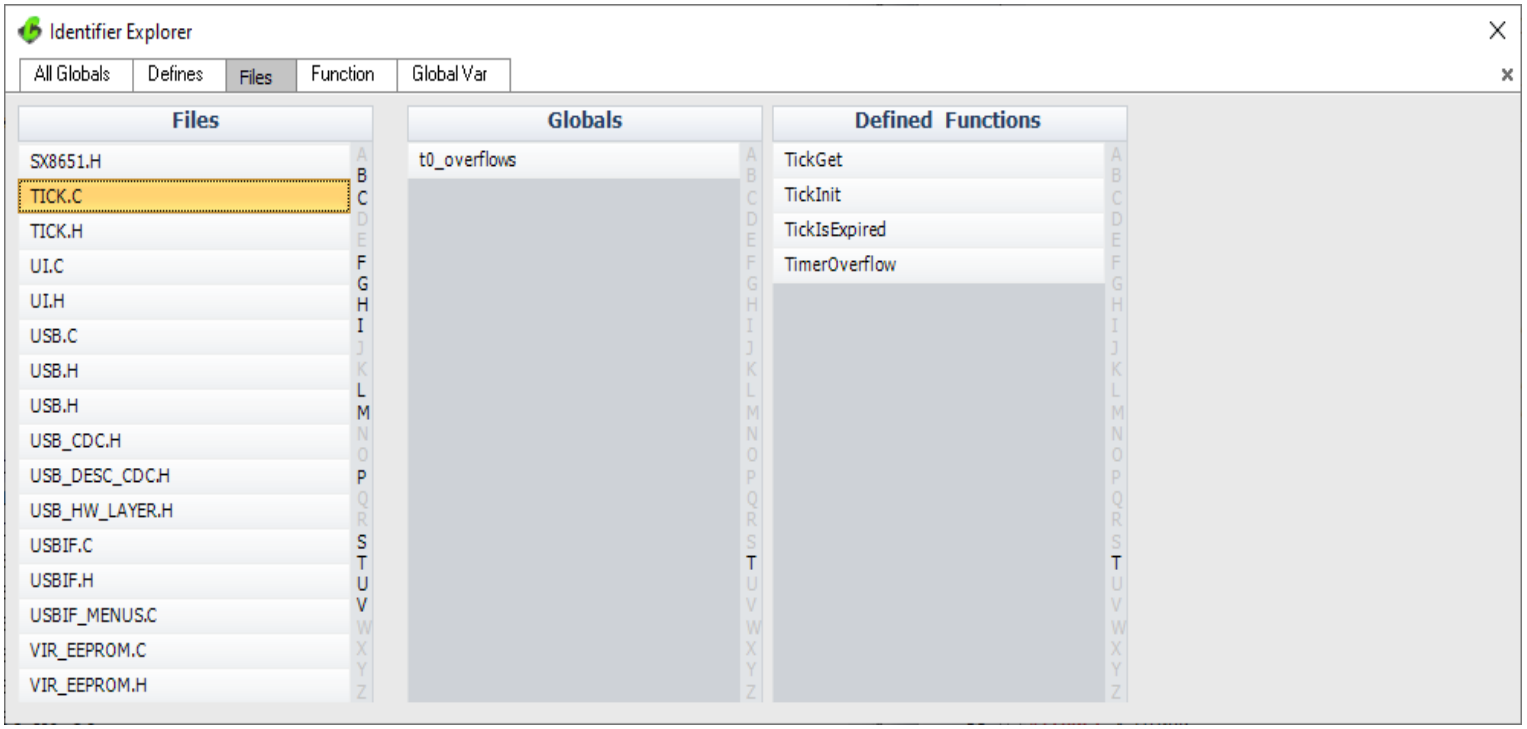
Defines:

On the left side are all the #defines in the program and the blue shows how they are defined. On the right is a play area where you can type in a macro and it will show you how it is evaluated. For example if you typed FLASH_XFER(4) then it would show you: spi_xfer(LCDFLASH,4). This can be very helpful with complex and/or nested macros.



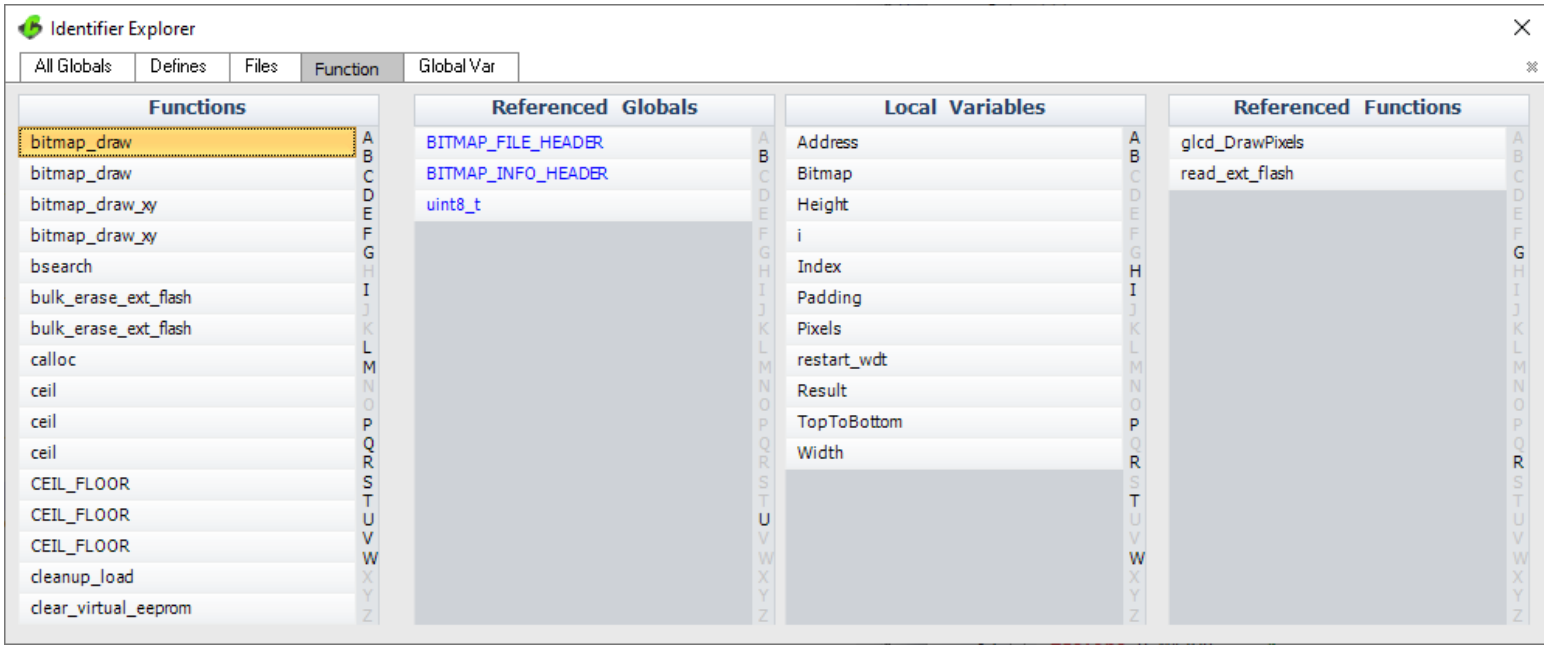
Files:

Here for each file it will show you the global variables and functions from that file. Clicking on the file moves to that file and clicking on a global or function brings up the cross-reference for that item.



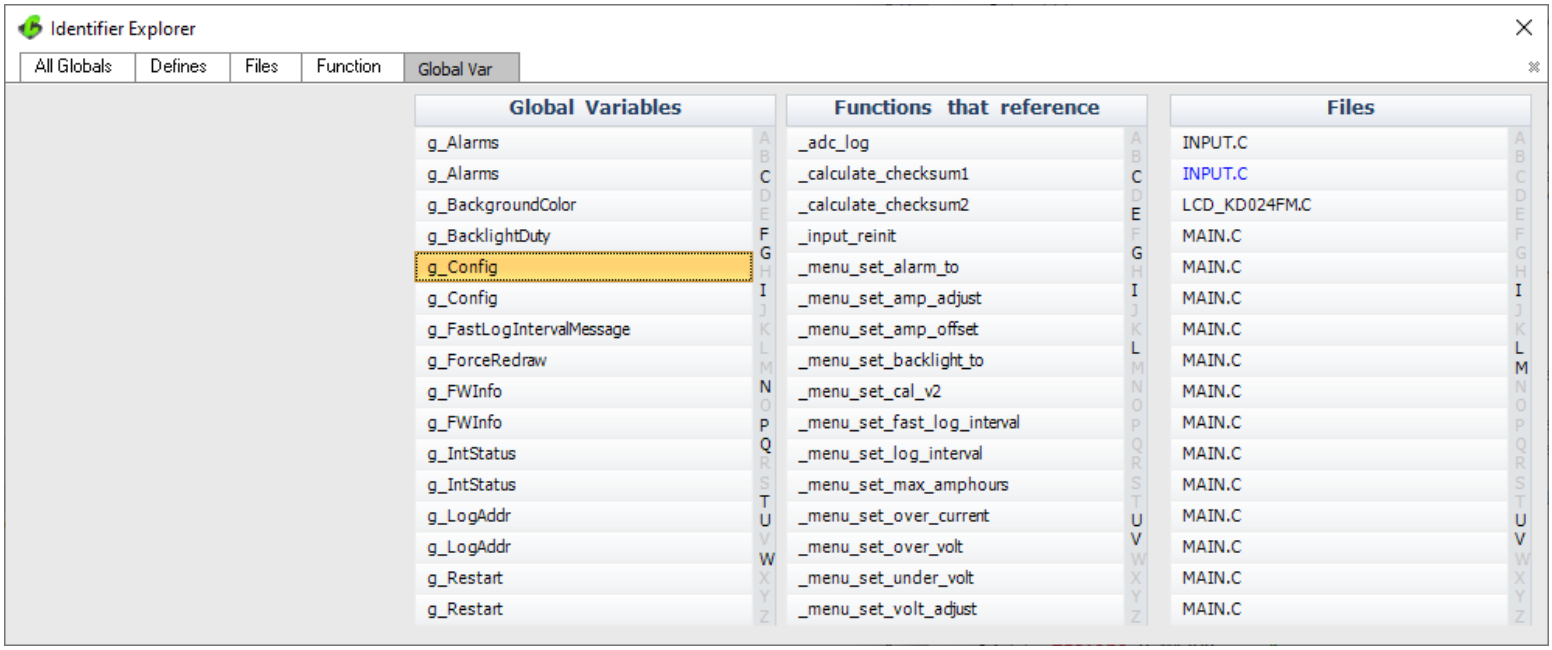
Functions:

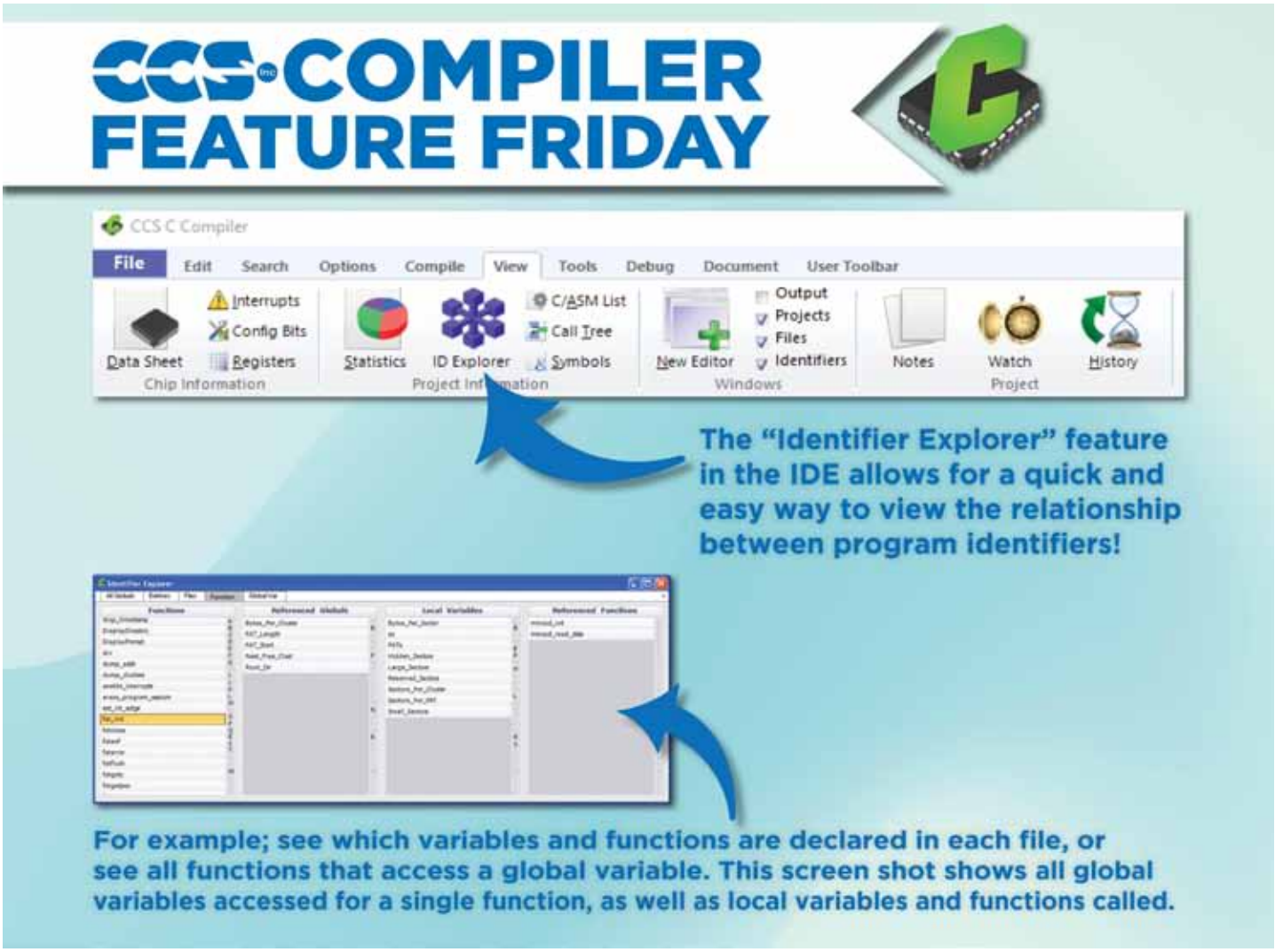
This is the cross reference for the functions. Click on a function and you can see the global variables it uses, local variables it defines and functions it calls.



Global var:

Click on a global variable name and it shows you each function that uses it and each file that has one of those functions in it.





Introduction to Our Subsidiary Company

Many of our loyal compiler customers may not be aware that 10 years ago, CCS bought another company that now operates out of our same location. West Mountain Radio ("WMR") manufactures accessories for the Amateur (HAM) radio and DC power markets. We know many of our customers are Electrical Engineers and most EE's seem to at least be knowledgeable about HAM radio even if they do not indulge themselves. Since the beginning, HAM's have been on the cutting edge of RF technologies, electronic design, computers and software. While the rest of the world is downloading apps, HAMs have been using DSP's to replace most analog components in radios. Software defined radios do tuning, bandwidth control, modulation, demodulation and much more all in software. Digital transmissions are used not only for voice, but modes similar to texting, and e-mail, as well has hybrid communications systems using both RF and the internet. HAMs were experimenting with phone line patches to radios before we had cell phones. HAM radio was truly made for tinkerers.

CCS bought WMR to help smooth out the income stream as the PIC market fluctuates. The company had innovative products and is well respected in the market. What CCS could bring to the table was microcontrollers. Many of the products were crying out for microcontrollers to bring the product line to the next level. This is something our CCS engineers can do in their sleep (or spare time between projects). It also helps to keep our guys on top of the development tool needs for real world applications. As a simple example, WMR has a line of DC power strips. CCS was able to add Ethernet and WiFi to some of these power strips so the voltage and current can be monitored and controlled from any web browser. This is a huge help for unmanned radio stations on a mountain top or for those operating a home station remotely from work.

Many of the traditional WMR products that had clever analog circuits have been upgraded to a small micro. This reduced the number of parts, increased the accuracy and reduced the need for calibration and eliminated drift. On some products, we also put in a small internal USB port so the user could change trip points or just monitor the device status.

We have been a little surprised to find many of our long term customers were also a WMR customer or simply HAM operators. We expect to be showcasing more compiler projects that have HAM radio applications. A new development board is also on the drawing table. Educational package offerings normally reserved for students and schools are being extended to licensed HAM operators.

The HAM radio community is very social. Clubs can be found in any medium to large size city in the US. It is even more popular in other countries. These local clubs will usually sponsor a get together called a HAMFEST. This is an event that has educational seminars, a flea market, license testing and much more. Even if you are not a HAM operator these events are a great place to buy vintage computer equipment, electronics of all types or just have a good high tech conversation with like minded people. WMR sets up a booth at approximately 10 of these shows a year. Sometimes we put out a demo and information on our development kits and compiler. We are considering trying a microcontroller seminar to see what the interest is.

Many of the WMR products have applications well beyond HAM radio. For example, the product line includes sophisticated battery testing, DSP based audio processing for noise reduction, and many DC power related products. The DC power products are special because of the high current they can handle. All the products can deal with at least 40A. A licensed HAM can transmit up to 1500W so high current is important. Beyond HAM radio however, our battery testers can be set up to simulate a specific load pattern to figure out how long a battery will last under a certain scenario. They can also be used just as an electronic load to test a power supply, connectors or just traces on a PCB. If you have some high current designs coming up consider WMR for some of your test equipment.

Let us know if you want to learn more about HAM radio, connect with a local club or just meet us at a show.

To sign up for our WMR newsletter go to:
http://www.westmountainradio.com/content.php?page=newsletters

During this time of global uncertainty and change, we want to assure you that we are taking every precaution to ensure that we can safely support our customers during this time.

Despite these challenges, CCS staff is continuing to provide technical support, as well as processing orders. It is essential customers have the tools they need to provide the development of existing or new products that may be necessary in the fight of Covid-19.

Many of our existing customers are having to work from home and we want to remind everyone of our Software Licensing Agreement. We pre-register all compilers in a user's name. You can install your compiler on your home PC and laptops. If you do not have access to the registration files and installer, contact customer service for assistance.

Most importantly, as we work together in this unique and rapidly changing environment, we do so with confidence that we will overcome this challenge. Until then, we hold our enduring commitment to the health and well-being of our employees and customers.

Please let us know how we can help you. Stay healthy.

More than 25 years experience in software, firmware and hardware design and over 500 custom embedded C design projects using a Microchip PIC® MCU device. We are a recognized Microchip Third-Party Partner.

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CCS Inc

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