KUSSMAUL TIMES

SPRING 2013

FDIC EDITION

President's, Message...

It's been a while since we published the Kussmaul Times; we hope you enjoy the new format and information content.

This is my first newsletter writing to you as President. I was handed the reins when Ernie Kussmaul, who founded the company 47 years ago, sold the business in 2011. Many of you are acquainted with Ernie and will be pleased to know he still is active in the company and comes in nearly every day to assist in engineering projects.

I've been fortunate to be associated with Kussmaul Electronics for 30 years and now have the responsibility to guide the company into the future with the view of constant improvement in customer service, new product development and leveraging the talents of our staff to the ever-changing needs of the market. Customer satisfaction is our goal and I encourage you to contact us with your comments and suggestions on how we can better serve your needs.

The future of the company is bright and I'm excited to be leading so many talented people. You can look forward to each quarterly issue of the Kussmaul Times for updates on the pulse of the company.

Thomas H Nugent

The 80 LPC, Our Newest Charger

This latest addition to the Low Profile Charger series produces 80 amps yet is only 4" high, fitting easily under seats, or occupying minimal space in compartments.

The 80 amp charge rate quickly restores batteries and eliminates discharge due to parasitic loads. The clean output poses no interference with radios, and a 15 amp auxiliary circuit powers air compressor pumps, charges hand lights and handheld radios. A Remote Bar Graph Display is provided as standard. Alternatively a Digital Status Center in a watertight case is available.

Recent installations include a high use heavy rescue with large DC loads, and a police command trailer with 65 amps of DC power draw. Both required a high capacity charger, and the 80 LPC did the job.

The Regional Sales Management Team

In late 2011, Kussmaul Electronics chose three experienced Regional Managers to assist our OEMs, Dealers and Customers in the education and service of our products. Initially they helped introduce the rebranding of the company and now represent us in their territories, in a responsive manor throughout the United States and Canada providing products, service, solutions and training.

Brian Scott
Western
U.S. & Canada

Shaun Salvino
Southwest U. S.

Colin Chambless
Eastern
U.S. & Canada

You may have already met these three dynamic individuals, our Regional Sales Management Team at a trade show or perhaps they have individually visited your facility. The most important goal of our Regional Sales Management Team is service to you our Kussmaul customers. Their regions are …

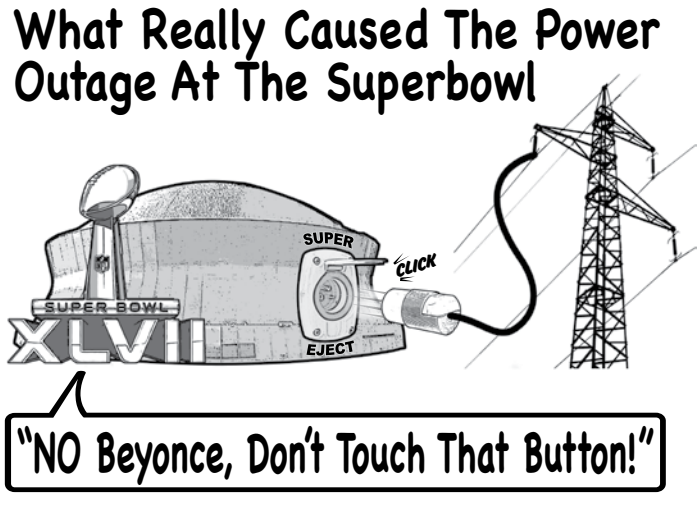
Brian Scott
Western United States & Western Canada

Shaun Salvino
Southwest United States

Colin Chambless
Eastern United States & Eastern Canada

Please look for them at FDIC in Indianapolis at our Booth 9155 in Lucas Oil Stadium. They look forward to talking with you.

On The Lighter Side



Upcoming Shows

APRIL, 25-27
FDIC • #9155
Lucas Oil Stadium,
Indianapolis, IN

MAY, 5-6 Ontario Association of Fire Chiefs
Toronto Congress Centre,
Toronto, Ontario

MAY 17-19 FIRE EXPO • #428
Farm Complex,
Harrisburg PA

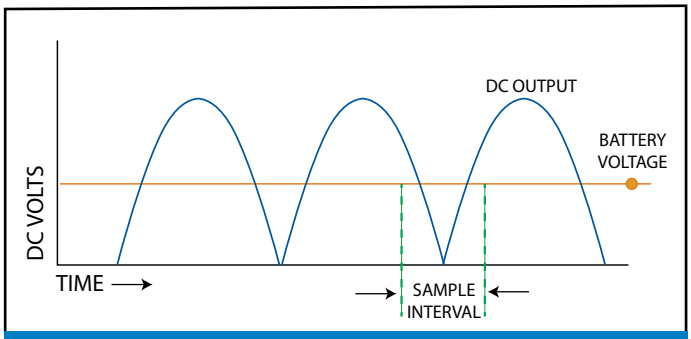
MAY 23-24 Police Fleet Expo Southwest • #324
Fort Worth Convention Center,
Fort Worth TX

JUNE, 13-15 Fire 2013 Fire Industry, Rescue, EMS Expo #1405
Turning Stone Resort,
Verona, NY

JUNE 21-23 New England Fire/ Rescue/EMS Expo
FIRE CHIEF EXPO • #406
West Springfield, MA

JUNE 25-26
Police Security Expo, • #923
Atlantic City Convention Center,
Atlantic City, NJ

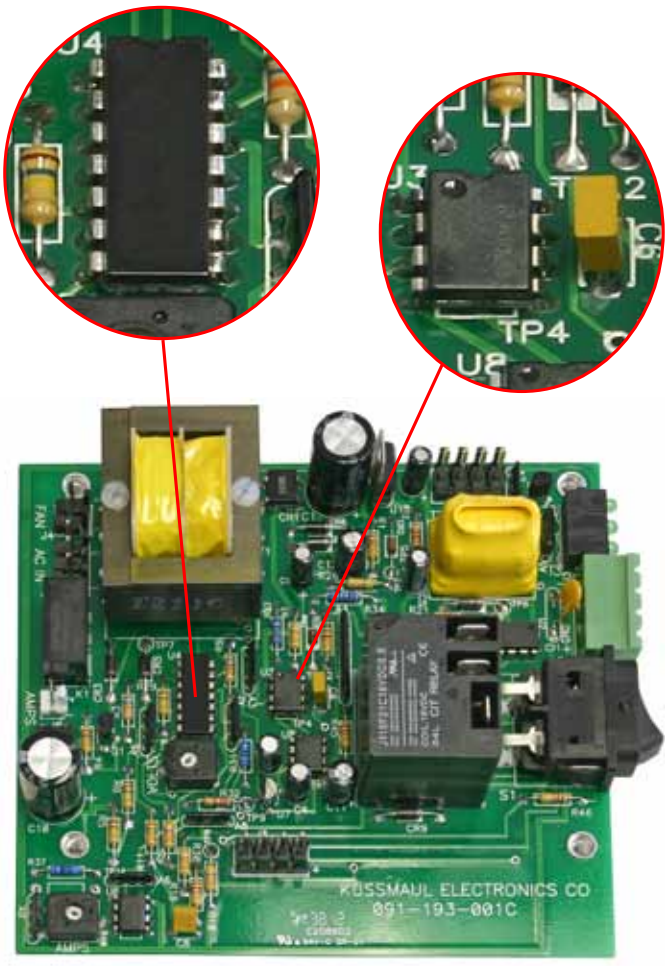
Proper Battery Charging Achieved by Patented SAMPLE & HOLD Circuit



During the sample interval when no current is flowing to the battery, the charger's sense circuit obtains an accurate reading of battery voltage, holds that value and adjusts output precisely to maintain proper charge level.

All Kussmaul chargers are automatic and thus charge the battery "on demand". This is accomplished by the charger's output being controlled by sensing the battery voltage. Charger output continues until "full charge voltage" is sensed and then charging stops. Controlling the charger by sensing precise battery voltage is thus critical to properly charging the battery, otherwise over or under charge occurs. The charger "reads" the battery voltage via its output wires, however, since the wires connecting the charger to the battery have some resistance, the sensed voltage may not be precise. The error is dependent upon the wire resistance and the magnitude of the charger output current. A specialized "sample and hold" circuit, patented by Kussmaul Electronics, has been incorporated in many of our chargers to eliminate this error.

Here's a brief explanation of how the circuit works: Charger output current is D.C., direct current, created by rectifying the alternating current obtained from the utility power line. The rectified voltage varies, continuously rising from zero to a maximum and returning to zero 120 times per second (See diagram). In order to obtain the precise battery voltage the circuit "samples" the battery voltage during that brief interval when the output current is zero, at that time there is no voltage drop in the wires and the precise battery voltage is measured. The measured value is "held" as a reference point that then controls charger output. By utilizing the "sample & hold" circuit the true battery voltage controls the charger and assures that the battery is correctly charged even with a parasitic load. Parasitic loads, i.e. accessories that draw constant current from a vehicle's battery, tend to lower the voltage of the battery. The "sample and hold" battery sensing and control completely compensates for the discharge caused by parasitic loads, maintaining batteries in the fully charged condition.



Patented SAMPLE & HOLD Circuit

Kussmaul Times is Published by Kussmaul Electronics © 2013
President: Thomas H. Nugent
Marketing Manager/Editor: Philip M. Verderosa
Any questions or comments should be directed to Philip Verderosa: philverderosa@optonline.net

Heavy Duty Solar Charging Systems

- 5-15 amps supplemental DC power
- Industrial grade panels & mounts
- Sizes to match available roof space
- Complete kit: panel, solar controller, wiring with water tight fittings, and all necessary installation hardware.

Make your "Green" trucks even Greener!

KUSSMAUL ELECTRONICS
170 Cherry Avenue
West Sayville, N.Y. 11796