

## C.M.I.A. NEWSLETTER

Central Coastal Chapter

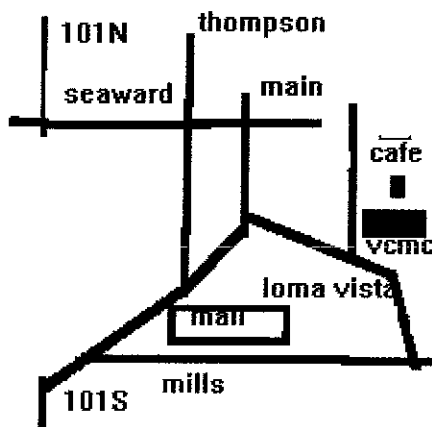
P.O. Box 360

Camarillo, Ca 93011

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**The February meeting will be held at Ventura County Medical Center on Thursday the 21st in the new small cafeteria conference room. Dinner is at 6:30 pm with the monthly meeting to follow. Please RSVP to Randy Cook at 805 652-6676.**



Directions: From the North, exit at Seaward Ave, go left and cross over the freeway on Seaward Ave. Take Seaward to Main St (four stoplights) Make a right on Main and go to Loma Vista. Left on Loma Vista. Pass CMH hospital on right, VCMC is on the left. Parking is behind the Medical Center. Cafeteria conference room downstairs in the new cafeteria addition behind the hospital. From Ventura South, Exit on Main St. Make an immediate right on Mills Rd (before the Mall) Take Mills to Loma Vista (4 lights) Make a left, VCMC is on the right as you head downtown.

**A general discussion of chapter business is the main topic for this meeting. We want to know what the members desire as topics in future meetings. It may not sound interesting, but it is critical to the future of this chapter. One item that will be addressed is moving the meeting date to Thursdays and making VCMC the main meeting site. Be there and make your opinion known.**

**Please note the date and time--THURSDAY the 21st at 6:30 PM. Not a Tuesday!!!**

**News off the Net:** Here is an interesting website: [www.generalmanual.com](http://www.generalmanual.com)  
General Manuals - User manuals, instruction sheets, installation guides and owner's manuals. Paul Kelley, CBET

### **Baxter Colleague Pumps, problems anyone?**

Who out there are using the newly updated/upgraded Colleague single channel infusion pumps? How many of you are experiencing problems of any kind. For example since mid 2007, when we went live with our upgraded pumps, I have received a large percentage of our Colleague pumps with the "DAMAGED BATTERY" alarm. This alarm, according to Baxter, means the batteries are bad and must be replaced. Any and all input is appreciated. Jeff Ruest WVUH-East City Hospital

We have 150 colleague cx pumps manufactured July-Aug of 2007. We took delivery of them in Nov.

#1

I have seen at least 10 come down with "damaged battery" in the past 3 months. I couldn't believe that the battery was bad, so I let it charge over night and ran the pump on battery the next day. They all run a half hour with no problems. **The problem with this is you have to tell the pump that you replaced the battery to reset the alarm. That makes the "date battery installed" info useless.** This is a real problem, I'm not going to replace good batteries.

#2

I have seen at least 5 come down, "will not turn on" on the work order. Somehow the loading mechanism does not reset itself correctly when they removed the tubing. They turn it off, but cannot turn it back on. The simple solution is to reset the loading mechanism manually. But the question remains, why is this happening and why so often.

#3

This problem has only occurred once, failure 715:00 and 812:05 at the top of the screen. The loading mechanism sounded loud, I went to check the voltages and it would not let me select channel service data, very odd. This one got sent to Baxter.

Question: How is everyone else going to handle the time change on these pumps.

We are not wireless so it would have to be done manually.

I really don't think they are all going to get done Sunday morning

Suggestions?

Tom Crouse Biomed Charge Tech CHWC Hospital

We had our pumps upgraded in October. Since then, we have seen the "battery bad" alarm. The battery in fact is not bad, just discharged. Our best guess is that the nurses are not plugging back in. At I believe 10.2 volts, you get the battery bad alarm. Charge it up, tell it you changed batteries and you should be good. At least that's been our experience.

Dave Reed Biomedical Coordinator Weirton Medical Center Weirton, WV

When I used to work on the Colleague I had an issue with the battery installed date having not been updated by the previous serviceperson so as the battery installed date was labeled on the case I changed the date to the one on the case then went in and told it a new battery was installed then charged the date back to the correct one. Can't you do that to the upgraded ones? Terry Corin Ak, NZ

I apologize but this is going to be long-winded.... I have been having this "damaged battery" problem starting from a few weeks after going live back in Mid 07. We have 165 of the single channels in use and to date have had at least 50 pumps come back with this problem, that's **almost 33%**. Baxter has visited our site multiple times trying to "re-emphasize" the need of **plugging in the pump** with their "Keep It Green" program. This slowed our numbers down but this is never going to go away until a software fix is implemented. Because they are still **under warranty**, it has cost Baxter a butt-load of money sending us over 100 batteries. I asked Baxter

about the option of plugging the pump in and then 12-24 hours later resetting the battery install date. **They told me not to do this that it would void warranties. So they require that we remove and discard batteries that are not bad but discharged once, rather than charging and placing them back into service.** Along with these problems Baxter engineers sent my rep in to get/download histories off of the pumps that had the "Damaged Battery" alarm **but the problem that I found trying to use the history is that events are not recorded into history when the unit is powered off so how will they know if the pump was either plugged in or unplugged???** This has become a very sore spot in my day to day work because we are seeing about 3-5 failures a week now. I have considered contacting the FDA to see what can be done but the bad thing is the FDA approved this battery protection circuitry and software upgrade. I have spoke to a couple "engineers" that have not been able to explain to me how these batteries are dead after one discharge. The resolution I suggest to everyone I talk to at Baxter is to write the software so that the user cannot use the pump who will then send it to Biomed who then plugs the pumps in and once the pump has been recharged to its full potential, require Biomed reset the error and place it back in service. Jeff Ruest

I think we all sympathize with your problems. When I first looked at the schematic for a Baxter Colleague I was horrified. **There is no charging circuit and I would describe it as "brute force charging". The 12v switchmode supply is wired directly across the internal battery system so the setting of the supply voltage is critical to proper charging. I do not recall seeing this method of charging batteries in any other brand pumps I have worked on.**

Originally the single channel pump had one battery installed with space for another in parallel. Then the ultimate sin of putting the additional battery in parallel with another was seen and a modification to the wiring board had to be made to protect one battery from the other. The danger of putting two batteries in with different batch dates then had to be spelt out in the manual. Anybody else think this design went from bad to worse or am I too old school? 37 years in the game is probably making me too critical of equipment design, but then again they may have to use one of them on me one day! Terry Corin AK, NZ

We recently had our Baxter CX single channel infusion pumps upgraded. In less than two months we have had 12 pumps come up with defective batteries (both batteries). I too, questioned/questioning the design of the charging circuit. To have these many failures is unacceptable. I've brought it up to the sales and engineering's attention, but to date nothing. Only...we'll send you new batteries. Prior to the upgrade we (CE) replaced all the batteries and had a good track record going. Furthermore, our 3 channel pumps that were not upgraded haven't had a battery issue since we changed out the batteries 5 months ago. Tony Grimaldo

### **Sterrad 100S training**

Wondering if anyone maintains the Johnson & Johnson Sterrad 100S system in house? The biomed training is very expensive and with our single unit being under warranty, I don't have a feel yet for maintenance requirements. Tim Nagel

We maintain 2 Sterrad 100's. We do have a parts only contract for \$7200/year. The parts are expensive and not readily available in the marketplace. We usually make out pretty well financially by doing this service in-house. Chris Nowak, CBET

The last hospital I was @ we took care of the Sterrad 100S in house. I would definitely recommend a parts contract. Parts are very expensive for this unit and not readily available from any other vendor. If you keep up on the maintenance however it is a trouble free unit for the most part. You will go through injector valves periodically and @ around \$2,000 each a parts contract is definitely worth it. Tom Gallagher CBET

### **Ultrasonic Cleaner question**

Our sterile processing manager went to a conference and at the conference they made mention of a technique for testing ultrasonic cleaners. Now we had never heard of this test before so I wanted to see what the list thought

**The test is to place a sheet of aluminum foil in the ultrasonic cleaner and run the cycle; when the cycle is complete the aluminum should have some holes in it.**

Now, of course our ultrasonic cleaner did not make holes in her piece of aluminum foil and she is up in arms about how the unit cannot be working properly.

What is the opinion out there on this test and has anyone seen the test performed and knows whether or not that: A. it works B. is it a valid technique for testing ultrasonic cleaners. C. if it does work what are the correct procedures for running the test? Dan Hauer

What is "cavitation"?

Cavitation is a general term used to describe the behavior of voids or bubbles in a liquid.

Cavitation is the rapid formation and collapse of millions of tiny bubbles (or cavities) in a liquid.

Cavitation is produced by the alternating high and low pressure waves generated by high frequency (ultrasonic) sound. During the low pressure phase, these bubbles grow from microscopic size until, during the high pressure phase, they are compressed and implode.

**This is what the foil test verifies.** There is also a slide test that can be done

Cavitation is usually divided into two classes of behavior: inertial (or transient) cavitation and non-inertial cavitation. Inertial cavitation is the process where a void or bubble in a liquid rapidly collapses, producing a shock wave. Such cavitation often occurs in pumps, propellers, impellers, and in the vascular tissues of plants. Non-inertial cavitation is the process where a bubble in a fluid is forced to oscillate in size or shape due to some form of energy input, such as an acoustic field. Such cavitation is often employed in ultrasonic cleaning baths and can also be observed in pumps, propellers etc.

You may want to show her this as well. **Cavitation is not necessarily a good thing for metals. Cavitation is, in many cases, an undesirable occurrence.** When the cavitation bubbles collapse, they force liquid energy to very small volumes. Thereby, creating spots of high temperature and emitting shock waves (which are a source of noise). Although the collapse of a cavity is a relatively low energy event, **when it is highly localized it can erode metals, such as steel, over time. The pitting caused by the collapse of cavities produces great wear on components and can dramatically shorten a propeller or pump's lifetime.** Bruce McGuire BS, BMET III  
MedEquip Biomedical Physiological Monitoring Specialists [WWW.Medequipbiomedical.com](http://WWW.Medequipbiomedical.com)

### **GE Unity ID Boot Loop**

Has anyone else experienced boot loops with their GE Unity ID devices. If so, are you still experiencing the problem or has it been resolved. GE tech support is un-aware of the problem, but our sales rep was able to inform me that there is another facility that is experiencing the same issue. Basically the unit just keeps rebooting. We have had the units installed for less than a month and have had 2 out of 8 units do this. The other facility has had 9 of their units do this, with one device failing more than once. Removing and returning power to the unit doesn't stop it. Reloading the software doesn't stop it. The only way to resolve the issue is to clear the configuration and reconfigure the unit. Adam Parsons Bloomington Hospital

The only time I have seen GE Unity devices in a boot loop was with IP conflicts. I have also seen it with their CIC systems. Might be a good place to start. Edgar Newell Robert Wood Johnson University Hospital

**Solar 8000 LCD's** Does anyone have any recommendations for an LCD to replace the original CRT's on the Solar 8000? Michael O'Brien Hillsboro OR

We are using NEC Multisync LCD1570NX on our Solar 8000i and m's. They work great also I believe a 3 year warranty. Not a bad price around \$200 00. Not bad for hospital pricing.  
Edgar Newell Robert Wood Johnson University Hospital

The NEC Multisync LCDs are amazing at how they can adjust to resolutions. I've had to manually adjust the resolution once, but once I did, it looked perfect. Cheap LCDs I've tried will try to adjust to the resolution and then look terrible because the native resolution is off and they can't adjust, but the Multisync is able to do it. David Longstreth

We use Imaginable for all displays; including GE ( touch and non-touch)  
Contact: Richard Bray [[dbray@imagenable.com](mailto:dbray@imagenable.com)]

### **GE APEX PRO:**

HAD A GE CIC PRO COME UP WITH A HARD DRIVE FAILURE. WE USED OUR SPARE UNIT IN ITS PLACE. HAS ANYONE REPLACED A HARD DRIVE ON A GE CIC PRO? IF SO DID YOU BUY THE HARD DRIVE FROM GE OR A THIRD PARTY? JOHN CLANCY

They're no problem to replace, unfortunately you have to get them from GE. Have you tried reloading the software? That will actually fix them sometimes. Craig Muehling

We installed a new hard drive that we bought from Insight Direct Inc. This is on an older model CIC so there may be some differences. Had a little problem loading the software but we got it done. Cost \$200 Harold Camp, CBET CHI Clinical Engineering Memorial Health Care System

Look at the hard drive they have a FIVE YEAR WARRANTY on them. Of course GE would never honor such a warranty, but the true OEM will. We have purchased them third party. They MUST be certified hard drives though. Mark Nelson Manager, Biomedical Services  
941-483-7592

You can purchase the hard drive from a computer hardware distributor like CDW, etc. They don't mfg. the exact size anymore, but as long as you purchase the drive w/ the same specs, it will work, and save you a few hundred \$\$\$\$. You should have the imaging software (ghost disks) that came with the system. David Pesavento

Clarification, please... I have been told that you need to have an\*identical\* drive in order to ghost a drive. Anybody with some real world specifics and experience, here? I have been after our uppers to let us "ghost" hard drives on our many tele floors(Philips), so in the likely event of a crash, recovery would be as quick as swapping a cable. Bill W

There are programs (even freeware ones) where you can copy (Ghost) an existing drive to a new one, as long as the new drive is the same size or bigger. **You can even copy from a "platter" hard drive to a compact flash drive.** You can search for them on "mp3car.com" or others about "embedding" an OS and you'll find lots of info and even how-to's on drive imaging. I used to keep a box of new spare drives for the Centralscope central station, all of them imaged from the original, and not the same exact model number but a larger drive, as the smaller had been discontinued. Cliff Shelby, Castle Rock, Colorado

**AMX4 Plus- tube park sensor:** Is the Hall effect sensor used with the Tube Latch a big problem around the world or is it just me?

I have just spent 4 hours assisting the GE Tech? And still No good. Why is it necessary to have the magnet line up within a fraction of mm (inch)?

What is in series with the solenoid to prevent it working without the sensor aligned?

Is the latch solenoid (which is 110v direct from the main Batt) parallel with the brakes arm and column? Geoff Ticehurst Biomedical Engineer, CRE, Sydney South West Area Health Service

It appears to me....by looking at schematics .that the tube park Hall effect sensor is definitely not involved in the latching. It is used as a feedback for the drive motors. Its output goes to the cpu. If the switch isn't made then the AMX will drive at a much slower rate. The latch solenoid doesn't have anything to do with the Hall effect sensor. The solenoid not working is being caused by something different. **There is a thin metal flat spring (sheet metal like) that if not installed properly can keep your latch in the wrong position even if it looks right. I personally would look at that flat "spring."** Check to make sure that that flat metal piece is all there too. If a piece is broken off on it, it may not be "springy" enough. It could be causing the alignment issue. The solenoid is not working either because it isn't getting signal (voltage) to work or it is bad. When you hit the collimator switches, the voltage is sent out to release brakes and latches. They are two different beasts. Michelle Holycross Clinical Engineer

Actually, not really. This shop used to go through them, but once we figured out the issues, it has become quite rare. Our latches are actually a bit sloppy, and work fine. Biggest problem we have had with this is the little steel part of the solenoid plunger coming off. Hard for a solenoid to work without the armature attached to the pin. There is a little bit of spring steel under the latch to prevent the tube coming unlatched on a bump. We have seen release problems when we get the latch position wrong and the latch can not release because the little horizontal pin is pushed right up to the back of the latch lever.

The solenoid latch will only work when it senses the tube parked. My quick test is raise the tube and slap an HDD magnet onto the latch and see if it works when I hit the brake handles.

Alternatively, I will go into diagnostics to see if the tube parked shows up and then jerk the tube all around in the latch to see if the park message is lost indicating I need to tighten the tube latch alignment up a bit.

As to your question of what is in series with the latch, the CPU board. (See first sentence of last paragraph). If the latch/magnet is not sensed, the tube latch solenoid will not work. And for reference the schematic is a bit bugged on this as it shows parallel to the column brake solenoids. Operational observation says this is wrong. Frank Freedman SJHMC-PHX

The latch sensor was originally designed because the latch relay was arcing on and burning out the solenoid. Distance from the sensor has never been a problem. Perhaps you have a defective assembly. George Kelly Senior Imaging Engineer Provena Health

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