



C.M.I.A.

Central Coastal Chapter

P.O. Box 360

Camarillo, Ca 93011

Reminder from December 17th email from our President about the CMIA dinner meeting to be held on January 26th. If you plan on attending, then you need to get your money and reservation in by the 16th.

California Medical Instrumentation Association  
Los Angeles Chapter

Presents the 2008  
Annual Officers Installation  
Dinner Banquet & Training Seminars

When:

Friday January 25th 2008 8am till 4:30 pm &  
Saturday January 26th, 2008 1:00pm till 10:00 pm

Where:

Radisson Los Angeles Airport Hotel  
6225 W. Century Blvd. Los Angeles, CA 90045  
Phone: 310-670-9000 Fax: 310-670-7852

Discounted rooms for the CMIA are available as of Nov 14 2007

R.S.V.P.

Please return the enclosed registration card or register on line with Pay Pal/Credit Card no later than:

Wednesday January 16th, 2008

This year we will have two full day training classes on Friday January 25th.

There will also be three complimentary one-hour informational seminars on Saturday January 26th.

The Vendor Fair will be in the penthouse over looking LAX with appetizers and a no host bar.

After dinner JPL will have a presentation on the Cassini Project.

Friday January 25th 2008 RSTI and Drager training classes are from 8:00 to 4:30  
Continental breakfast and lunch are included.

**Drager** will be presenting a class on Anesthesia Machines Presenter: Fritz Westerhout, RRT

**RSTI** will be presenting a Class on CR, Dicom and PACS  
Presenter: John R Drew RSTI PACS and DICOM Instructor

### **UPS on Sensormedics 3100 series Oscillators:**

Anyone installing backup power sources on these devices? And if so where did u get your UPS's at? Kent Miller, CBET, RRT Respiratory Care, CCSS Univ. of Michigan Health System

We use the 3100A's a lot and considered UPS's briefly until the NICU found out the cost. A number of years ago the only units that we could find, that were rated for life support equipment, were made by Clary Corporation and cost about \$5K. I'm sure the price has gone up now. They decided that since the NICU staff was never more than a few steps away from the infants they could respond fast enough to justify not spending the money. The amp draw on a 3100A is rated at 7.5A/115vac, so it's a lot more than a regular UPS can deliver for very long. Rick Barnett RRT Information/Equipment/Supply Specialist Respiratory Therapy Alegen Health-Bergan Mercy Medical Center

Don't you have Generator backup in the hospital. The red plugs in a NBICU indicate generator back up power. We were always told to keep all vents on red plugs in case of a power outage? Douglas / MC

Hey Doug. Does seem silly at first, and yes we do have emergency B/U generators which are tested per code and yes clinical staff are instructed to plug into "Red" outlets. However, unless u have experienced, at the bedside, a power-bump, outage, or other momentary interrupt in your "dedicated" power and had to go into crisis mode to rush to each room to ensure your vent(s) regained their original settings after the short power bump, then you really don't know how long 10 seconds is. As an old RT I personally had to reset my patient settings on 7200's which for some reason did not retain them as u would expect, or in cases of some of these specific devices that have no battery backup whatsoever and when they lose power for a millisecond, stop dead in their tracks. Talk about pressure (staff) rising moments when u are trying to bag the patient with one hand and then trying to restart your device with the other. Not trying to be critical or obnoxious but while it is great to have backup power behind the walls, it is not the 100% fix and u need a transitional source for those 1 - 10 seconds. Kent

A few years ago, I had located a vendor willing to remove the "Not for use in patient care environment" disclaimer but for the life of me I can't remember who they were.

As for the question by Douglas,

**These unit do not restart after a power loss.** Someone has to press the start button to resume ventilation. Also, in a NICU setting, the facility I was in at the time was looking for ways to allow for controlled evacuation in the event of a catastrophic power failure (Commercial and generator power loss) Sandy Mason Manager, Biomedical Engineering Queen of the Valley Medical Center

Here is a link to a company that supplied a UPS to the Fisher Paykel Cosycot <http://www.powervar.com/>. I am unsure if their power will fit your needs but Fisher Paykel markets this as a battery backup for their Cosycot suring transport. Their site does specifically say MEDICAL UPS. Mindy Gonzales, CBET SWMC

We have installed the TRIP-LITE Smart1200XLHG on our 3100s. **It is hospital grade**, and will provide enough power until the generators kick in. They can be purchased from McMaster-Carr. Troy Peterson, BMET Clinical Engineering St. Luke's Regional Medical Center

We also use the Trip- Lite medical grade. We have used it for about 3 years on 4 vents. We test it with the vent PM and it will actually hold up the vent for about 30 minutes. Bob Stanford Clinical Engineering Manager University Hospital 1350 Walton Way Augusta, Ga. 30901

From experience, the few seconds that it takes for the generators to kick in is enough to stop the 3100. I have also seen the vent not want to restart immediately for some reason and need a few moments to get it's head together before allowing us to restart it. Even the red plugs on the emergency circuits are normally on the secondary "emergency" feed from our local utility and can also fail, and have. Rick Barnett

Actually...NFPA allows up to 10 seconds for a generator to pick up the load; I wouldn't characterize that as a "few seconds." This was the standard before most of today's "computerized" medical devices and was a compromise between how fast the generator could be started and how long a surgeon could pause the case in a dark OR. I've never heard of a vent, or any other of today's sophisticated, computerized medical equipment that would function or hold without power for that long. In that situation they either have to be (manually) restarted as Richard said or go through a prolonged reboot then need to be (manually) restarted. By the time that happens, it's a coroners" case. From an engineering standpoint, it wouldn't take much of a UPS to cover that 10-seconds, though, as long as the device's cord is \*ALWAYS\* plugged into one of those red outlets (powered by "the Essential Bus" if my terminology recall is current), so you can get by with one that's considerably smaller than one would first think. **Be sure to get one with line conditioning – some generators still kick up a good bit of electrical noise.** Robert Dondelinger

#### **Philips Ultrasound Training:**

A brief update on Philips IU22/IE33 training. Prior posters sure hit the nail on the head. Glad we were not actually paying for it, came as part of a first response deal, and we got a slot for nearly every machine, I think about 6 or 8, so the airfare and hotel gets you a basic course, not even a great deal of theory, and certainly nothing about the new Unified Mother Board systems. I did ask why there was no mention of the software, or the architecture of the backend, and was told that at a very high level the decision was made to keep that info internal- not even Philips FSE can get parts, ENTIRE module replacement only of the back end, although it was hinted that there were pre-loaded harddrives available. Not verified. As someone who has worked on ultrasound since my FIVE WEEK 8 HOURS A DAY training with Philips Ultrasound in the very early eighties (ouch), this was basically an expensive lesson in how to remove a couple of hardware items. Bill Walker

#### **GE Hard Drives FREE REPLACEMENTS:**

I had GE here yesterday for a Tele CIC Computer. While talking to the Tech I found that the Hard Drives used in the GE Computers are certified drives and come with a 5 year warranty. GE only warranties it for a year but the "REAL" Manufacturer covers them for 5 yrs. Just an easy way to save about \$800 per drive. Mark Nelson Manager, Biomedical Services

**BMET wiki:** A guy I work with has started a BMET wiki. It looks like it could be pretty useful with a little work from a community of users. The following is a definition of a wiki, if you didn't know: A website or similar online resource which allows users to add and edit content collectively. So basically this site could be a living source of information for our field. Right now he only has it "seeded" meaning that he has lists set up but not a lot of information yet, but the beauty of a wiki is that the community can help fill the info in. Each member may have a special area of interest that he or she would like to write about.

[http://bmet.wikia.com/wiki/Main\\_Page](http://bmet.wikia.com/wiki/Main_Page)

### **Paced rhythms and alarms:**

I have a clinical problem that I am certain that you all can help with.

A patient was admitted to a monitored unit. The patient had history of MI and an implanted dual chamber pacemaker (atrial and ventral pacing). Patient expired while on the monitoring system. The monitoring system was detecting a rhythm and did not alarm. Functional testing of the system revealed no problems with the monitoring system. The manufacture has never heard of this type of problem before.

Risk analysis wants to know if anyone out there has an arrhythmia detection system that can successfully differentiate the subtle difference between a captured rhythm and a non-captured but beating rhythm. Robert Harbick

Any ICU monitor should not count the pacer voltage as a heartbeat. I am not sure that is your question. Also the function must be properly enabled. As someone expires, it is common to have random beats of electrical activity but the rates are usually (especially at the end) low enough to trigger a low rate or other alarm. Sounds like the monitor may have been counting the voltage created by the pacer itself. Ideally this should not occur. Mike Kauffman

We are aware of the pacer filter. And we have seen from the recorded strips taken earlier in the evening, that the pacer filter was enabled. Failure of the pacer filter was the first place we looked. We put the system through all the tests and found that it was functioning properly. We tested the arrhythmia filters and they all passed the tests. From what I could see from the strips that were made, the only indication that there was something clinically wrong was that the ECG voltage was

starting to go a little low, but not lower than many I have seen and certainly not low enough to trigger an asystole alarm.

What we are hoping to find is some additional information on methods used to differentiate a non-perfusing rhythm from a perfusing rhythm. We hope that there is technology out there that can do that task for us. Perhaps is simply a parameter that we should include in our protocol Or maybe a specific manufacture has a really good algorithm for abnormal beat detection. We are hoping that someone can turn us towards something that we can change that will make a difference for the next patient that presents with similar conditions.

In this patient's case, the rhythm on the monitor was indicating that the heart was responding to the pacemaker. However, when the nurse came in to do a 12 lead that was ordered, the patient was non-responsive and cold. If we had had some kind of technology that could have alerted the nurse to the seriousness of the patient's condition, the outcome may have been different.

Without using IBP methods I do not see an easy solution.

In this particular case the patient was also monitored for SAO2. The finger probe read 95% when the nurse found the patient. No alarms were triggered.

Respirations were not monitored.

NIBP was 2hours- too long an interval to be of use in this case. Robert Harbick

Robert: Can't you monitor (w/alarms) a PULSE rate from the SPO2 sensor (i.e. PLETH waveform)??? That parameter is independent of the measured SPO2 value. But the 95% SPO2 number on a cold corpse seems to indicate other simultaneous monitoring problems.

Bill Knight

Usually you can depending on the monitor. Most monitors will have a selection for the Heart Rate Source. Some monitors will even change the color of the HR numerics displayed to give you a visual reminder of the source. Change to Pulse and you should be good to go.

David Wakefield

### **Electrical outlet labeling?**

I have been told that the electrical cover plates need to be identified with the circuit panel number and the breaker number of each electrical outlet. I have been searching for that standard in the NFPA 99 book and I have been unable to locate it. I think it is a great idea in case a patient is connected to an outlet and the breaker trips, you would know exactly what breaker tripped. I just need to see it in writing somewhere so the Plant Operations department would believe me. (You know what I mean) Are there any other hospitals out there that have their outlets identified in this manner? Bill Glaze

We do this in our hospital. I checked and it is not a code but a standard that we have adopted. It has been a big plus for us when you are trying to find a tripped breaker in a rush.  
Dennis Edwards, CBET

We try to keep all outlets labeled, but I am fairly sure there is no building code or regulation that requires it. It sure helps when you are troubleshooting or remodeling. James D. (Jim) Carr

We label ours as well. (Some contractors must be reminded to do so during construction) Not sure it is a code, just something we ask for up front. It makes life a lot easier in the long run.  
Mike Kauffman Reading, PA

The requirement for "Labeling Electrical Outlets" is only identified for "Critical Care Areas" as identified in Article 517.19 of the NEC:

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#### 517.19 Critical Care Areas.

(A) Patient Bed Location Branch Circuits. Each patient bed location shall be supplied by at least two branch circuits, one or more from the emergency system and one, or more circuits from the normal system. At least one branch circuit from the emergency system shall supply an outlet(s) only at that bed location. All branch circuits from the normal system shall be from a single panel board. Emergency system receptacles shall be identified and shall also indicate the panel board and circuit number supplying them.

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Generally speaking if you are building new spaces/buildings or doing an interior retrofit it is in your best interest to have your Engineering Firm supply the Architect with the information for Division 16 Electrical under the AIA Document A701-1997 requiring all receptacles and light switches to be labeled with panel number and circuit. An example would be 2CB25 #3 the 2CB25 is the location of the Critical Branch circuit breaker box and the #3 is the circuit breaker. This is an example of what is used in Division 16 on projects I work on:

#### **ENGRAVED COVER PLATES**

A. All cover plates for control stations controlling remote equipment shall be engraved to identify the device being controlled.

B. Engraved cover plates shall be supplied and installed on all switches serving lobbies, corridors, and other public locations and shall indicate load controlled.

C. Provide factory engraved cover plates for all receptacles indicating panelboard designation and circuit number. Receptacles served from "normal" source shall have black lettering and receptacles served from "emergency" source shall have white lettering.

D. Letter height for engraved cover plates shall be 1/4 inch. Dennis C. Librandi

**Philips MMS \$1500 fuse:**

I almost paid \$1500 for a Philips MMS module fuse. After a power surge, no measurement data was being displayed, replaced with spare module and the my data was back. I called Philips and they said that I had to exchange the module for \$1500, and that there are no serviceable parts inside. Since I had nothing to lose at this point, I disassembled the M3001A module because the module power LED was not on. Located inside the module are **two surface mounted fuses**, one of them was blown. I replaced the fuse and the unit works fine. I had a similar problem with another M3001A module, except in this case a surface mounted power transistor was shorted. I replaced this transistor and this unit is up now. I had to buy these parts from Digikey, as Philips refuses to sell these parts. They will not even provide a schematic. I spent a total of \$6.99 for these parts.

How many hospitals are being charged \$1,500 to repair a 6.99 problem???? Larry Gibbons

This is a problem many have tried to address. Many of the repairs for the MMSs should cost well below \$1500, even well below the \$750-\$900 that third party repair companies charge for flat rate repair. I certainly will use the information and experience you just had in repairing ours, but in case it's something you can't repair there are companies (you can see their ads at the bottom of the postings on Bmetsonline) that do flat rate repairs for far cheaper (see above prices) than Philips will exchange them. I do think it would be great if we all work together to consolidate troubleshooting tips, parts available through third parties, and anything that could make service of these units more cost effective. Mickey Couvertier

I have a Philips Service Bulletin, SB86200577 (16 May 2007) that details replacement of the NIBP pump in the M3001A MMS module. This document also has a few "orderable" module part numbers - the pump, the module/monitor connector assy and the nylon pins, along with bezels and outside covers in many languages. The pump is M3001-64500, the connector assy is M3001-64050, and the pin is 5041-8114.

The next time Philips response center tells you there are no MMS replaceable parts refer them to Philips Service Note M3001-9301A dated 3/2007. This note can be accessed online at:

<http://incenter.medical.philips.com/Default.aspx?tabid=729>

The note is the choice at the top of the menu. This note is about changing the internal NIBP pump and has you remove the power supply board to do it (meaning Philips has implicitly said that WE are able to remove/replace the internal power supply board). This document (online) has recently changed as there was also a listing of all of the Bezels and side panels in all of the languages available, as well as 2 part numbers - the flexstrip/module connector and the nylon case assembly rods. I will do some research and see if I can get these part numbers again, and post them.

Larry, could you do the Biomed community a great service and share a digital photo of where these fuses are, and the component part number you used to replace them? Then we could post this in the BMETSONLINE files section for all to share.

Great work, and great service to your patients in saving all this money.

I hope eventually Philips will reevaluate their position on servicing the MMS module.

Bill Knight UCDMC Sacramento

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