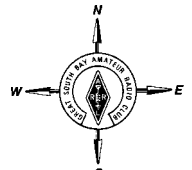


THE COMPASS



THE OFFICIAL NEWSLETTER OF THE GREAT SOUTH BAY AMATEUR RADIO CLUB

VOLUME 30 ISSUE 5

"..serving the community through Public Service."

May, 2003

GSBARC 2003 OFFICERS

President: Walter Wenzel, KA2RGI
Vice Pres: David Wandell, N2UHR
Treasurer: Tom Carrubba, KA2D
Corr. Secretary: Scott Verity, KC2FBV
Rec. Sec: PattyLynn Wandell, KC2AUX
Director 1: Dom Stengele, WA2UJI
Director 2: Frank Spinazzola, KC2EGK
Director 3: Phil Lewis, N2MUN
Director 4: Charles Rousselet, N2MZK

UPCOMING EVENTS

GSBARC General Meeting – 8:00PM

Thursday May 29, 2003
Thursday Jun 26, 2003
Thursday Jul 31, 2003

GSBARC VE – 12:00 PM

Sunday May 25, 2003
No session in June – Field Day
Sunday Jul 27, 2003

GSBARC Board Meeting – 8:00 PM

Thursday Jun 12, 2003
Thursday Jul 10, 2003

GSBARC Open House 12:00 – 2:00PM

Every Saturday @ Town Hall EOC

NETS

Newsline Report -

Monday 7:00 PM 146.685/R

Club Info Net -

Monday 7:15 PM 146.685/R

DX/Contest Info -

Monday 7:15 PM 146.685/R

TOBARES Net -

Monday 8:15 PM 146.685/R

Swap 'n Shop Net -

Tuesday 7:30 PM 146.685/R

10 M Net -

Tuesday 8:00 PM 28.320

REPEATERS

2 M 146.685/146.085 PL 110.9
1 1/2 M 223.860/222.260 PL 131.8
70 CM 440.850/445.850 PL 114.8
70 CM 447.625/442.625 PL 114.8*

*Repeater owned by Chris Baumgartner, WA2AMX

President's Message

By Walter, KA2RGI

Here it is the month of May and we are just a few days away from the Hamfest at the Sunrise Mall, our first Outdoor Hamfest. The date in case you have been under a rock some place or maybe out of town is May 25, 2003. The location is the Sunrise Mall in Massapequa, NY. We will be setting up at the north parking lot (opposite Sears) about 6:00 AM so we can get the vendors in by 7:00 AM and the buyers at 8:00 AM.

We will need more people to assist so please let me know who is available. The event is scheduled to continue until 2 PM so we will need people to help cleanup the area after the event. Please remember that there is also a VE scheduled at Town Hall at 12 Noon so those that need to assist with that function will not be at the end of the hamfest.

We can still use more vendors so if you know anyone that would like to attend as a vendor let them know about of the event. This hamfest because it is outside is able to handle many more vendors and each space is only \$10.00. This is listed as a Hamfest and Electronics Show so we can handle more vendors than just the ham equipment, computers, cb equipment. If you know anyone in the electronics or tool industry and would like to be a vendor let them know of the show.

There is no prior reservation required like the indoor hamfest because of the extra space we have.

We DO NOT have power for all of the vendors so they will have to supply their own. ALL vendors must also supply their own tables, chairs, and umbrellas.

I am pleased to see the support we have had so far with the hamfest and I am sure that with your continued assistance it will be another GSBARC successful event, so if you have not planned to assist with the event please do so.

Thank you,
Walter M. Wenzel, KA2RGI
President GSBARC

P.S. The June 26th meeting will be the final preparation plans for Field Day. We are also working on the Field Day plans at the Saturday Open House meetings at 12 Noon to 2 PM.

More information will be at the upcoming meetings. May will be an update with the June Meeting being to final prep and information meeting because Field Day is a few later.

Field Day 2003 Coordinators	
Equipment Preparation	KB2SIE / KA2RGI
Food Preparation	KA2RGI / N2UHR
Logs / Reporting	KA2D
Safety Manager	Position Open
Station Manager 1 – 80M	Position Open
Station Manager 2 – 40M	Position Open
Station Manager 3 – 15M	Position Open
Station Manager 4 – 20M	NY6DX
Station Manager 5 – 10M	Position Open
Station Manager – G.O.T.A.	Position Open
Emerg Pwr Management	N2CRV / KA2RGI
Natural Power	KC2FBV
Satellite Operations	K2JY
ATV Operation	W2FBB
VHF/UHF Operations	Position Open
W1AW Field Day Message	Position Open
NTS Msg. to ARRL SM/SEC	KA2RGI
Media Publicity	KC2FBV / KA2RGI
Information Booth	WA2UJI / KA2RGI
Equipment Take Down	Position Open

GSBARC VE Exam Schedule

May 25	Babylon Town Hall EOC – 12 Noon
June	NO VE - Field Day -6/28-6/29Babylon Town Hall
July 27	* New Tech Test eff. July 1 Babylon Town Hall EOC – 12 Noon
Aug 24	Babylon Town Hall EOC – 12 Noon
Sept 28	Babylon Town Hall EOC – 12 Noon
Oct 26r	Babylon Town Hall EOC – 12 Noon
Nov 23	Babylon Town Hall EOC – 12 Noon
December	NO VE - <i>Season's Greetings</i>

SWAP & SHOP

If you have items for the Swap & Shop and can not get onto the weekly net then contact Bud, WA2QAV at 631-643-7071 or send him an email: the-budman@woldnet.att.net.

CLUB APPAREL

Frank "Spin", KC2EGK has club apparel for sale. A new T shirt and hat order has been placed. There was an issue with the supplier of the jackets and that has caused a delay in the delivery of the jackets.

CLUB NET SCRIPTS

If anyone is interested in a copy of the basic 2 meter Monday night net script for GSBARC give Dave, N2UHR a call on w2gsb/r, home: 631-842-6340, or via email at : n2uhr@arrl.net

'73 de Dave, N2UHR!

Committee Chairpersons

Club Apparel –	Frank "Spin", KC2EGK
Club Station/Equip –	Walter, KA2RGI
DX/Contesting –	Tom, KA2D
Education –	Phil, N2MUN
Hamfest –	Walter, KA2RGI
Library –	Dom, WA2UJI
Membership –	Tom, N2MIG
Newsletter –	Walter, KA2RGI
Home page –	Tom, KA2D
DX Cluster –	Tom, KA2D
Repeaters –	Walter, KA2RGI
VE Sessions –	Tom, KA2D

New Two-Ham ISS Crew Makes Human Spaceflight History (Apr 28, 2003) --

There are five Amateur Radio operators aboard the International Space Station this week. The Expedition 6 crew of Commander Ken Bowersox, KD5JBP, NASA ISS Science Officer Don Pettit, KD5MDT, and Nikolai Budarin, RV3FB, today welcomed Expedition 7 crew members Commander Yuri Malenchenko, RK3DUP, and Ed Lu, KC5WKJ.

Hamvention Announces 2003 Award Winners (Apr 25, 2003) --

Hamvention has named the winners of its 2003 Amateur of the Year, Special Achievement and Technical Excellence awards. Well-known contester Larry "Tree" Tyree, N6TR, will receive Hamvention's 2003 Amateur of the Year Award. Tyree is the creator, organizer, and promoter of the successful [Kid's Day](#) --now administered by the ARRL. Kid's Day is an operating activity designed to give young people a chance to experience Amateur Radio firsthand and possibly inspire them to become licensees. Tyree also developed the popular *TR-LOG* contest logging software. A ham since 1967, Tyree lives in Boring, Oregon, with his wife and three daughters.

Former W1AW Chief Operator Chuck Bender, W1WPR, SK (Apr 24, 2003) --

Former W1AW staff member and chief operator Charles R. "Chuck" Bender, W1WPR, of West Hartford, Connecticut, died April 17. He was 79. Bender served as an operator at Maxim Memorial Station W1AW for more than 37 years--from 1952 until his retirement in 1989--the last 17 years as chief operator.

**MINUTES OF THE GENERAL MEETING
BABYLON TOWN HALL EOC LINDENHURST, NY
Thursday April 24, 2003**

called to order by KA2RGI at 8:00PM

BOARD MEMBERS PRESENT

President	KA2RGI	Walter Wenzel
Vice President	N2UHR	Dave Wandell
Director 1	WA2UJI	Dom Stengele
Director 2	KC2EGK	Frank Spinazzola
Director 3	N2MUN	Phil Lewis
Director 4	N2MZK	Charles Rousselet

BOARD MEMBERS NOT PRESENT:

Treasurer	KA2D	Tom Carrubba
Corresponding Sec.	KC2FBV	Scott Verity
Recording Secretary	KC2AUX	PattiLynn Wandell

KC2EXO, KC2KMD, KB2SIE, N2GBM, N2PIK

RECORDING SEC. REPORT: PattiLynn, KC2AUX

Reading of the previous months minutes were suspended because Sec. was not present.

CORRESPONDENCE SEC. REPORT: Scott, KC2FBV

Sec. was not present. What was received at PO Box was forward by email from Tom, KA2D.

Bank Statement - checking

Dues - K2DD

Newsletter - LARC

Payment notice - Marsh, club equipment insurance due 5/1/03

TREASURER'S REPORT: Tom, KA2D

Checking: \$1796.97

CD: \$2777.73

Grand total of all funds: \$4574.70

Membership Dues received.

KC2EXO – Family Dues

KB2SIE – Individual Dues

APPAREL: Spin, KC2EGK

Club apparel is available. Jackets are ordered.

CLUB STATION & EQUIPMENT: Walter, KA2RGI

Nothing new to report

DX & CONTESTING: Tom, KA2D

New IP Address for DX Cluster is 24.47.176.32

For current DX bulletins check in to KA2D-8 on 145.07

Also check into W2GSB DX Cluster.

CQWW WPX Contest, SSB this weekend.

DX Cluster will be working in contest mode.

EDUCATION: Phil, N2MUN

March 4th new Tech Classes started at 7:30 at TOB EOC.

Classes to run about 8 weeks to end of April.

May 6th General Class to start.

FIELD DAY JUNE 28-29, 2003: Doug, KB2SIE

Needs more committee personnel to help check out

Field Day equipment. Equipment checks will done during "OPEN

HOUSE" on Saturday's unless otherwise requested. New

category "F" has been added (working out of EOC). Need to

schedule time of on the operations.

HAMFEST: Walter, KA2RGI

Scheduled for May 25 at Sunrise Mall, Massapequa, NY

Hamfest approved by ARRL and on website. Hours are 8AM-

2PM for buyers. Vendor setup starts at 7:00AM.

LIBRARY: Dom, WA2UJI

Nothing new to report

MEMBERSHIP: Tom, N2MIG

Member are asked to submit their email address if they have one. Your email address will be added to the roster. Total membership 115, 95 full, 10 family.

April is cutoff month for dues/membership.

NETS:

News line: MP format working, has better quality

2-meter club info net: needs person for DX report,

also needs backup net control

Swap -n- Shop: All Good

10 meter net: All good with 14 check-ins

NEWSLETTER: Walter, KA2RGI

Deadline for submissions to the newsletter is the

10th of the month. Gene Howley, KB2TXZ is

new editor of the newsletter.

HOMEPAGE, WEBSITE, DX CLUSTER: Tom, KA2D

GSBARC is on line, DX Cluster running OK

REPEATERS: Walter KA2RGI

144: Receiver needs a circulator to keep out unwanted frequencies. Investigating procurement of unit.

220: Tested and will be back up as soon as the weather breaks.

440: purchase a larger amp to increase coverage

Spoke about recent meeting with Town and Tower Management.

N2OJA donated some backup radios for use for repeater system.

VE SESSIONS: Tom, KA2D

2003 Test Fee is \$12.00

Next test session will be held on Apr. 27rd at Town Hall

March VE served 9 candidates. Great VE Support.

SPECIAL COMMITTEES:

Nothing to report

ARES/RACES: Walter, KA2RGI

EMS Exercise for March 30, 2003 went ok

SC Half Marathon critique is April 17 7:30 PM.

On the air training is continuing on weekly nets

HEALTH & WELFARE / ANNOUNCEMENTS:

KA2D is feeling better and TNX for the card.

KA2RGI TNX for berevment card.

KC2AUX back at work but still has to take it easy.

TNX to all concern.

OLD BUSINESS:

Nothing to report

NEW BUSINESS:

KC2EGK made a suggestion to have the club dues reduced to

\$20.00 because of the amount of funds in the club treasury.

Motion was discussed and no further action was made.

KC2EGK made a motion to make the club president's dues

waved for the term he/she was in office. Motion was discussed

and no further action was made.

Meeting was adjourned @ 9:13 PM

Respectfully submitted by: Walter, KA2RGI for PattiLynn,

KC2AUX



GREAT SOUTH BAY AMATEUR RADIO CLUB

MINUTES OF EXECUTIVE BOARD MEETING

BABYLON TOWN HALL EOC, LINDENHURST, NY

Thursday May 8, 2003

called to order by KA2RGI at 8:12 PM

BOARD MEMBERS PRESENT

President	KA2RGI	Walter Wenzel
Vice President	N2UHR	Dave Wandell.
Recording Secretary	KC2AUX	PattiLynn Wandell
Corresponding Sec.	KC2FBV	Scott Verity
Director 1	WA2UJI	Dom Stengele
Director 2	KC2EGK	Frank Spinazzola
Director 3	N2MUN	Phil Lewis

BOARD MEMBERS NOT PRESENT:

Treasurer	KA2D	Tom Carrubba
Director 4	N2MZK	Charles Rousselet

ADDITIONAL MEMBERS PRESENT:

N2GBM, N2PIK, KC2ADN, WA2QAV, WA2LUY

RECORDING SEC. REPORT: PattiLynn, KC2AUX

Walter,KA2RGI made a motion to suspend with the reading of the previous months minutes, and accept them as published. Dave, N2UHR seconded the motion. Motion was accepted by majority of members present.

CORRESPONDENCE SEC. REPORT: Scott, KC2FBV

Bank Statements, Dues Renewals ARRL:Notice to update and renew SSC status, HOSARC flyer : Hamfest June 1, General Meeting notice: Friends of LI Wireless History Saturday, May 24 @ 1 PM, George Flanagan will demonstrate "the spark gap transmitter" at the Long Island Mairtime Museum in West Sayville.

TREASURER'S REPORT: Tom, KA2D

Checking: \$1909.70
CD: \$2777.73
Grand total of all funds: \$4687.43

APPAREL: Spin, KC2EGK

Club apparel has been ordered

CLUB STATION & EQUIPMENT: Walter, KA2RGI

Nothing new to report

DX & CONTESTING: Tom, KA2D

For current DX bulletins check in to KA2D-8 on 145.07
Also check into W2GSB DX Cluster

EDUCATION: Phil, N2MUN

Tech Classes have concluded, General classes started on May 6th at 7:30 at TOB EOC.

FIELD DAY JUNE 28-29, 2003: Doug, KB2SIE

Needs more committee personnel to help check out Field Day equipment. Equipment checks will be done during "OPEN HOUSE" on Saturday's unless otherwise requested. A new category "F" has been added(working out of EOC). N2UHR will be station manager 1- 80M, for See April's Compass for additional info.

HAMFEST: Walter, KA2RGI

Discussion followed the conclusion of meeting

LIBRARY: Dom, WA2UJI

Nothing new

MEMBERSHIP: Tom, N2MIG

Members are asked to submit their email address if they have one. Your email address will be added to the rooster.

NETS:

News line: MP3 format working, has better quality.
2-meter club info net: needs person for DX report, also needs backup net control. Now will start at 7:30pm
Swap -n- Shop: All Good.
10 meter net: All good

NEWSLETTER: Walter, KA2RGI

Deadline for submissions to the newsletter is the 10th of the month. New editor of the newsletter will be KB2TXZ(Gene).

HOME PAGE/ WEBSITE/ DX-CLUSTER: Tom, KA2D GSBARC

is back on line and updated, DX Cluster running OK.

REPEATERS: Walter KA2RGI

4 new antenna's mounted on new tower
144: will be relocated to main building
220: will be online in a day or so
440: no change

VE SESSIONS: Tom, KA2D

2003 Test Fee is \$12.00
Next test session will be held on May 25th at Town Hall

SPECIAL COMMITTEES:

Nothing to report

ARES/RACES: Walter, KA2RGI

May 17-18 24 Hr. Remembrance Walk for Good Samaritan Hospital Hospice, Saturday 11 A.M. to Sunday 11 A.M.

HEALTH & WELFARE/ANNOUNCEMENTS:

K2LI (Frank Canota's) mother passed away

OLD BUSINESS:

Nothing to report

NEW BUSINESS:

Nothing to report

GUEST SPEAKERS & PROGRAMS:

Nothing at this time

A motion to adjourn was made @ 9:00PM by KA2RGI and seconded by N2UHR

Respectfully submitted by: PattiLynn, KC2AUX

CHARGING NiCd AND NiMH BATTERIES

[By Marc Venis B.A.Sc., M.A.Sc., P.Eng.](#)
[President Vencon Technologies Inc.](#)

STANDARD CHARGING

In this article I discuss the two methods of NiCd and NiMH charging -- standard and trickle. The "overnight" charger that comes with most rechargeable powered products charges at a rate of C/10 (the C rate is the hour capacity of the battery, i.e. a typical AA NiCd battery of 600mAh capacity has a C rate of 600mA, and a C/10 rate of 60mA). There is a very good reason why the manufacturer chose this rate. If the charger uses a higher rate, it would have to detect when the batteries are fully charged and shut off, or risk damaging them. This would make the charger more complex, and hence more expensive. Lower charge rates than C/10 unnecessarily extend the charging time, and in fact at very low rates (below C/50) the batteries never fully charge no matter how long you wait.

Thus the C/10 charging rate is a compromise between keeping the charger simple, yet charging the batteries in an acceptable amount of time. At the C/10 rate the battery will reach a full charge after approximately 14 to 16 hours. If the actual battery capacity was the same as its rated value, and its charging efficiency was 100% then only 10 hours would be necessary to fully charge a battery. But, actual capacity is usually greater than rated and charging efficiency is always less than 100%, thus 14 to 16 hours of C/10 charging ensures a fully charged battery. At this point any further charging only results in an increase in temperature and internal cell pressure. This does not damage the battery, although it accelerates their deterioration thus reduces their reliability.

Now that we know what the standard charger is, how do we use it? Most important, follow the manufacturer's instructions. A typical manufacturer recommends a 15 hour charge to fully charge a discharged battery. If your battery is only partially discharged, you can prorate the charge time. For instance, a battery that is one third discharged will fully charge in only 5 hours. If you don't know the condition of your battery, then you should charge it for the full 15 hours. What happens if you forget to disconnect the charger and end up charging for more than the required amount? If you overcharge by only a few hours, don't worry. If you leave your charger connected for a couple of days, then you're unduly stressing your batteries. If you're the forgetful or worrying type, then you might want to use a timer. I like to use the standard 24 hour security timer, used to switch lights on and off when you're away. It is sold almost anywhere, usually less than \$10 on sale. To use a timer with removable ON/OFF pins for standard charging, first rotate the time dial until 12 midnight. Now insert an OFF pin at the 3pm position (15 hours) and remove any remaining pins. Now plug your charger into the timer and the timer into a wall socket. Rotate the on/off switch on the timer until your charger turns on, and leave it alone. After 15 hours your charger will shut off and remain so. If you have a timer without removable pins set it up as above, but instead of inserting an OFF pin at 3pm, set an ON/OFF pin (or if separate pins, the ON and OFF pins together) at 2:30pm such that the timer will turn on at 2:30pm and off at 3pm. It will operate similar to a single cycle timer, except on subsequent days the charger will turn on for one half hour each day (actually an advantage as we'll see later).

TRICKLE CHARGING

I'm calling this section "Trickle Charging" because that's the term we are all familiar with. This section is really about keeping your batteries fully charged. Trickle charging is one way to do that, charge replacement the other. To avoid confusion, I'll use the term "trickle charging" to refer to any method of keeping your batteries fully charged.

Now that we know how to fully charge our batteries, when do we trickle charge? If you usually charge your batteries the day before you intend to use them, you don't need to trickle charge. If, on the other hand, you're like me and want to have all your batteries charged and ready to go, you need a trickle charging system.

NiCds and NiMH cells, like all batteries, self-discharge. NiCds and NiMH actually have a relatively high self-discharge rate of about 1% per day at room temperature (i.e. a 600mAh cell loses about 6mAh each day). The purpose of trickle charging is to replace the charge that is continually draining off.

Trickle charging is similar to standard charging (i.e. it uses a continuous charging current), only less current is used, between C/50 and C/20 (i.e. between 12mA and 30mA for a 600mAh cell). This rate is high enough to maintain a charged battery fully charged, yet low enough to permit continuous charging while keeping cell temperature and internal cell pressure at a safe level.

Since I doubt a trickle charger came with your battery, we will need to be a bit more inventive if we want to trickle charge our batteries (or you can go out and buy a commercial trickle charger). There are three basic methods used in our hobby to trickle charge.

METHOD 1. CONTINUOUS CURRENT.

The simplest method of trickle charging (at least for a manufacturer) is to just reduce the charging current to about $C/40$. If the charger already charges at the standard $C/10$ rate, then all the manufacturer need do is add a resistor (and possibly a switch for trickle/standard mode and a charge indicator LED). This is the method used by most trickle chargers.

METHOD 2. PULSED CURRENT.

If we switch a $C/10$ standard charger on and off such that it is on for only 10% of the time, we would be continuously replacing any lost charge. We could do this by switching a $C/10$ charger on for one second off for nine seconds. This is similar to the method used by the [Ultimate Battery Analyzer](#). This is more complicated for the manufacturer than the continuous current method, but easier for the user. If we switch the AC side of our standard chargers, we can simultaneously trickle charge all our batteries. Unfortunately the 24 hour security timer can't switch on and off fast enough for this method, but it can do something else, as shown below.

METHOD 3. DAILY CHARGE REPLACEMENT.

This method allows the battery to self-discharge during the day then it replaces the lost charge once per day. It is a simple and inexpensive method. Set the timer to turn on for at least one half hour each day. Plug your chargers into the timer (a power bar comes in handy here), and the timer into the AC socket. Everyday your batteries will get a top-up charge and will be ready for use.

What would happen if you accidentally connect a fully or partially discharged battery to your trickle charger? Method 1 has the advantage that it will charge the battery in about 3 days (although this isn't recommended because the battery might not reach its maximum capacity, you should always charge at the $C/10$ rate). Methods 2 and 3 with their slower charging could take over a month. Increasing the duty cycle 'on' time of methods 2 and 3 will reduce the charging time, but at the expense of slightly greater heating. You can increase method 2's duty cycle up to 25% (1 second on, 3 seconds off) with little adverse effects. At 25% duty cycle, full charge will take four times as long as at the $C/10$ rate (about 3 days). Increasing method 3's duty cycle to 25% will warm the pack for 6 hours every day.

An important consideration of which method you choose is verifying that the packs are on trickle charge. Method 2 has the advantage that you can see the flashing charge lights and know that the system is working. Method 1 does not draw enough current from the charger to light its LEDs, thus unless you have installed additional charge LEDs it is impossible to tell if the battery is actually charging. Since method 3 only turns on the charger for one half hour each day it is difficult to verify its operation. Method 1 also has the disadvantage in that being a continuous charging system, it promotes cadmium migration. Cadmium migration is something we want to avoid, and pulse charging (methods 2 and 3) reduce the chances of it happening.

Which trickle charging system is best for you? Unless you have a convenient method of pulse charging, I recommend method 3 for its simplicity and economy (and that's the method I use).

A PERSONAL CHARGING SYSTEM

Now let's combine a standard and trickle charger to assemble your own charging system. You can use your security timer to charge your batteries, then automatically trickle charge them. Remember where a timer without removable pins was used to charge up your batteries. During the first day the batteries charge for 15 hours. On subsequent days the batteries charge an additional one half hour. This will keep them fully charged and ready for use. You can do the same using a single cycle timer. Just insert the ON pin one half hour before the OFF pin. You can now leave and forget about it.

If you know that you're not going to be using your battery for more than a couple of months, take your batteries off your trickle charger and just remember to fully charge them before use. Also, even though your batteries are on trickle charge, you still need to do a full discharge test every month or so to ensure their condition. One final note of caution. The first couple of times using a new trickle charger system insure that the batteries are really fully charged before you use them. Ideally, you would measure their capacity at least a day before using them by a discharge test and then fully charge them.

I hope that this information instills in you a bit more knowledge about charging your batteries.