



RF



ORANGE COUNTY AMATEUR RADIO CLUB, INC.

VOL. XLV NO. 6

P.O. BOX 3454, TUSTIN, CA 92781-3454

JUNE 2004

THE PREZ SEZ:



June is upon us and it seems only yesterday when we had our previous Field Day. A big mystery is how band conditions

will be this Field Day. Propagation may be fantastic or it may be poor. Either way we will have fun meeting the challenge, and learn to operate in under those conditions.

Doris, WB1CDD and I will contribute a nice Cheese Cake for everyone's enjoyment (by the way, we don't want any of it back!).

This being a Bully Pulpit, I want to thank everyone who contributed their time and efforts to putting Field Day together and making it a good success.

Don't forget about the next monthly meeting and enjoy HHC's presentation of Field Days Past; it promises to be an interesting presentation especially since Ken has moved up to using DVD's rather than photographic slides for his show.

73,
Steve, KB1GZ



ARRL Field Day JUNE 26th and 27th

OCARC will be operating Field Day from Portola Park in Santa Ana. (22 Fwy. to Grand Ave., S on Grand two lights to Santa Clara; E on Santa Clara; the park is on the right) We will be setting up at 7:00 AM on Saturday. Operations will be from 11:00 AM Saturday to 11:00 AM Sunday. Teardown should be complete by 1:00PM.

Please come out and join us. We need help from as many members as possible. We need operators (both voice and CW); and people to help setup and teardown.

Members and guests are welcome to come out and participate, or just visit the operation and see what Field Day about.

As of the writing of this article we are still looking for a member to help out with the food. (Two meals, Dinner Saturday evening and Breakfast Sunday morning.)

Meeting Notice

Due to recent security changes at our meeting place, you may find the door locked if you arrive at the meeting late. This is an automatic lock and the club has no control over it. Please give W6ZE a call on 146.55 MHz, and someone will come down and let you in. Additional methods for our radioless friends are being studied.

JUNE PROGRAM:

The June Program will be a DUD presentation by Ken, WACO, on **Field Days Past of the Orange County Amateur Radio Club**. Ken is busy digitizing photos from years past and putting them into a presentation for the meeting. This will be a club first. Be sure to attend; it will help us all prepare for Field Day which occurs one week after the meeting. Final Field Day plans will also be discussed at the meeting.

The next regular meeting will be:

**Friday, June 18th 2004
@ 7:00 PM**

We will be meeting on the 2nd floor in the east bldg.

In This Issue:	Page
THE PREZ SEZ	1
FIELD DAY PLANS	1
MEETING NOTICE	1
THE JUNE PROGRAM	1
CLUB INFORMATION	2
THREE LITTLE HAMS	3
RADIO ROW – Part II.....	3
TECH TALK: Transistor Checker	4
MAY MEETING MINUTES	7
JUNE BOARD MINUTES	7
LETTERS to the EDITOR	7
ERRATA	7
MAY MEETING PIX	9
UNSUNG HEROES	10

**Next Club Breakfast &
Open Board Meeting
Sat. July 3rd 2004**

**THE ORANGE COUNTY
AMATEUR RADIO CLUB,
INC.**

P.O. Box 3454, Tustin, CA 92781



2004 Board of Directors:

President:

Steve Brody, KB1GZ
(714) 974-0338
stevebrody@sbcglobal.net

Vice President:

Ken Konechy, W6HHC
(714) 744-0217
kkonechy@pacbell.net

Secretary:

Rich Helmick, KE6WWK
(714) 343-4522
r2535@sbcglobal.net

Treasurer:

Bob Buss, KD6BWH
(714) 534-2995
kd6bwh@aol.com

Membership:

Chris Winter, W6KFW
(714) 543-6943
cwinter727@aol.com

Activities:

Carl Schmid, WA6BSV
(949) 679-6970
wa6bsv@arrl.net

Publicity:

Matt, K6LNK
(714) 546-2228
k6lnk@arrl.net

Technical:

Tom Thomas, WA6PFA
(714) 771-2917
eelmert@aol.com

Members At Large:

Larry Hoffman, K6LDC
(714) 636-4345
k6ldc@earthlink.net

Lowell Burnett, KQ6JD
(714) 997-0999
LBur729028@aol.com

2004 Club Appointments:

W6ZE Trustee:

Bob Eckweiler, AF6C
(714) 639-5074
af6c@arrl.net

Club Historian:

Bob Evans, WB6IXN
(714) 543-9111
bobev@netzero.net

RF Editor:

Bob Eckweiler, AF6C
(714) 639-5074
af6c@arrl.net

WEB Master:

Ken Konechy, W6HHC
(714) 744-0217
kkonechy@pacbell.net

ARRL Assistant Director:

Ken Konechy, W6HHC
(714) 744-0217
kkonechy@pacbell.net

ARRL Awards Appointee:

Larry Beilin, K6VDP
(714) 557-7217
k6vdp@aol.com

OCCARO Delegate:

Bob Buss, KD6BWH
(714) 534-2995
kd6bwh@aol.com

Monthly Events:

General Meeting:

Third Friday of the Month
At 7:00 PM

American Red Cross

601 N. Golden Circle Dr.
(near Tustin Ave & 4th St)
Santa Ana, CA

Club Breakfast:

First Saturday of the
month at 8:00 AM

CowGirl's Cafe, Too

2601S. Harbor Blvd.
(just south of Warner)
Santa Ana, CA

Club Nets (Listen for W6ZE):

7.086 MHz CW OCWN

Sun - 9:00 AM - 10:00 AM
Rick KF6UEB, Net Cntl.

28.375± MHz SSB

Wed - 7:30 PM - 8:30 PM
Bob AF6C, Net Control

146.55 MHz Simplex FM

Wed - 8:30 PM - 9:30 PM
Bob, WB6IXN, Net Control

VISIT OUR WEB SITE

<http://www.w6ze.org>

for up-to-the-minute club information, the latest membership rosters, special activities, back issues of *RF*, links to ham-related sites, vendors and manufacturers, pictures of club events and much much more.

Club Dues:

Regular Members \$20
Family Members* \$10
Teenage Members \$10
Club Badge** \$3

Dues run from January thru December & are prorated for new members.

*Additional members in the family of a regular member pay the family rate up to \$30 per family.

**There is a \$1 charge if you'd like to have your badge mailed to you.

The Three Little Hams (A Bedtime Story)

Copyright: Larry, K6LDC

The Characters:

P one G *Netherlands*,
P zero RK *Indonesia*,
BC one N *China*,
W zero LF *Colorado*,
T zero ST *Tuvalu*, and
M one LK *Great Britain*.

Once upon a time...

...in lands called DX lived three little Hams. Their calls were P1G, BC1N and PØRK. They had built their own amateur radio stations in the forests and were happily logging other stations from around the world.

P1G had based his station in a straw shack in the forest and his antenna was an all-band HF dipole that was held between trees in an opening atop a hill.

PØRK didn't have any trees to use to hold a dipole, so in the desert sand he erected an all-band HF trap vertical antenna held up by nylon line and fastened to the ground by tent pegs. He built his shack from bamboo and palm fronds to protect his transceiver and power supply from the rains and monsoons.

BC1N, after contacts with P1G and PØRK, while using his mobile rig mounted on his ox-cart with the monkey treadmill, attached to a generator supplying 12 volts of power (it was a two monkey wheel and delivered seven amps/monkey), decided that the others didn't exactly plan for future environmental problems such as earthquakes, monsoons, hurricanes, or landslides. He built his station of cinder blocks far from the base of the mountain, on high ground above the river basin, and within a circular stand of very hearty matured trees. He mounted his 4 element tri-band beam on a 45 foot steel tower that was guyed and mounted in a large concrete footing.

Things went well for many months with Q-5 conditions and wonderful rag-chews with stations, everywhere. They were certainly in demand for all of the Amateurs around the world attempting to earn awards such as DXCC.

One day, while all three were having their regular roundtable discussion with each other, there came a breaker; "this is WØLF in Gaughtcha, Colorado." The conversation became long and sort of very friendly and when WØLF mentioned that he'd like to visit their countries, the three little hams were very excited at the prospect of an American Ham coming to visit. They each gave WØLF very explicit directions to their QTHs.

Soon, WØLF visited the QTH of P1G. P1G saw WØLF coming down the driveway and immediately, recognizing the danger of dealing with a "bootlegger," he locked his front door and wouldn't open it. The bootlegger, WØLF, bellowed to P1G, "open your door or I'll blow your shack down!" P1G replied, "not by the S-units of my 100 watt rig." Then came the mighty rush of air molecules as WØLF pumped out 200 decibels of audio at 250 Hz. from his huge truck mounted-amplifier, power supply and humongous speakers. Sure enough the straw shack collapsed from the rush of air molecules and P1G was off the air and quite literally an SK in hot water.

In the next few days, PØRK and BC1N wondered what had happened to P1G. PØRK told BC1N that it must be a power failure due to heavy rains or something similar keeping P1G away from their daily roundtable. BC1N agreed, "it must be something like that."

WØLF, the bootlegger, next visited PØRK and again as he walked up the path to PØRK's shack, he was recognized as a bootlegger. PØRK locked all of the doors and windows

See: Three Little Hams on Page 6

Radio Row, New York - Part II by Bob, AF6C

The Death of Radio Row:

In the early 60's Radio Row was a very popular place. Enthusiasts filled the streets on Saturdays, and weekdays saw a lot of trade from the neighboring financial district as well as from across the Hudson River; The ferry terminal was right at the foot of Cortlandt Street, and Radio Row was just a short boat ride from the Jersey shore. However, a storm was brewing.

Chase Manhattan Bank President David Rockefeller was looking for a place in lower Manhattan to build a "center of international commerce"; he had already built the 66 story Chase Tower a few blocks north of the New York Stock Exchange. Rockefeller charted the *Downtown Lower Manhattan Association*, made up of local important business people, to achieve this goal. Originally, the site of the Fulton Fish Market in lower east Manhattan was chosen for the new center. Soon, however the site shifted across town to the west side to accommodate New Jersey, which lay just across the Hudson River. A deal was struck between the New York Port Authority and the Governor and former Governor of New Jersey linking construction of the center with the NYPA acquiring the then bankrupt Hudson & Manhattan railroad that ran between New Jersey and Manhattan in tubes under the Hudson River. The subway rail line, renamed the Port Authority Trans-Hudson or PATH was rerouted to the middle of the radio row area. The Port Authority then used the existence of PATH to justify eminent domain proceedings against the businesses around a 564 acre site centered on Cortlandt and Greenwich streets.

At the time the center was first proposed, a group of merchants from Manhattan's lower West Side

See: Cortlandt Street on Page 6

A Simple Transistor Checker:



Figure 1: The 1980 Era Prototype Transistor Checker

We've gotten into some interesting theory over the past few years. Perhaps it is time to change pace and build something! To be honest, my initial idea was to build a fancy code practice oscillator (CPO) – something every ham should have. The CPO I was planning would have three stages and plenty of audio; and we could discuss each stage and how it worked as we went along. However, much of my free time recently was used taking an ARRL antenna modeling class, and I wanted to breadboard up the circuit before passing it on to others to build. So look for it in a not-to-distant *Bob's Tech Talk* series. I've also had a request to talk about inductors, those mysterious components that make radio possible. Look for that in an upcoming series too.

This month I'm going to show you how to build a simple transistor checker. This checker can measure

a transistor's beta (β) and can check for leakage (we'll discuss beta later in the article.) It can also tell you if a transistor is NPN or PNP. Figure 1 shows a prototype of the transistor checker that I built some years back. It is powered by four common alkaline AAA batteries and reads beta on a 1 mA meter. The prototype has two scales: 0–500 β and 0–50 β . The latest version has scales of 0–500 β and 0–100 β . The latest version also has a battery test function. While accuracy could be improved by using 1% precision resistors for R1, R2, R4 and R6, standard 5% quarter or half-watt resistors will give adequate precision for most uses.

What is Beta?:

Beta is one of the most important parameters of a transistor. Actually, there are two beta parameters – β_{DC} and β_{AC} ; we're mostly interested here in β_{DC} . The ARRL handbook has a good chapter on the basics of how transistors work, so I won't get into the physics of their operation here. Instead, let's look at figure 2, which is a simple representation of an NPN transistor.

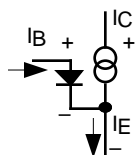


Figure 2: Ckt. equivalent of an NPN transistor

The two overlapping circles is the symbol for a current generator. Looking at the figure, the base circuit is just a simple diode with the anode connected to the base (B) lead and the cathode connected to the emitter lead (E). When a positive voltage is applied across the diode as shown, no current will flow (other than leakage current) thru the base diode until the voltage reaches the about 0.7V for a silicon transistor or 0.3V for a germanium transistor. If a voltage is applied between the collector and emitter as shown, with no current

flowing in the base circuit, the current generator will allow no current to flow from the collector to the emitter. (again, other than leakage current). Things get interesting when current begins to flow in the base circuit; then current will also flow between the collector and emitter. The amount of current flowing in the base circuit controls the amount of current flowing between the collector and emitter. Usually the collector current is much greater than the base current and this current gain is called the DC beta of the transistor. Thus beta is the ratio of the collector current vs. the base current when the transistor is properly biased.

$$\beta = \frac{I_C}{I_B}$$

A PNP transistor is similar except the voltages, currents and diode junctions are reversed.

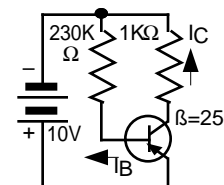


Figure 3: PNP transistor example

If you look at figure 3 (which uses a PNP silicon transistor just to be different), you can determine the base current I_B as:

$$I_B = \frac{10V - 0.7V}{230K\Omega} = 0.04mA$$

Now that we know the base current, the collector current is:

$$I_C = \beta I_B = 25 \cdot 0.04mA = 1.00mA$$

Thus, if we know the base current and measure the resulting collector current we can easily calculate the transistor's DC beta. Note that the 1K Ω collector resistor doesn't play

a part. However, there are three things you must watch out for; they are: *saturation*, *cutoff* and *drift*.

Saturation:

If you continue to raise the base current the collector current will increase; as it does more of the 10 volts is dropped across the 1K resistor. finally when the collector current reaches 10 mA the collector current cannot increase any more because the current is being limited by the 1K Ω resistor. The voltage across the transistor is nearly zero. This is saturation. The saturation current is set by the resistor in the collector circuit.

Cutoff:

The base current is usually determined by a voltage flowing through a resistor. If the voltage at the base drops below about 0.7V for a silicon transistor or 0.3V for a germanium transistor no collector current will flow. This is cutoff.

Drift:

The beta of a transistor is not very stable in value. It changes from transistor to transistor of the same type and is also very subject to change with temperature. When you learn about biasing transistors you learn about the *K-value* which is the sensitivity of a transistor circuit to changes in beta. Many biasing circuits are designed to make a transistor circuit much less sensitive to changes in beta.

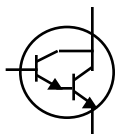


Figure 4: An NPN Darlington transistor symbol.

Different transistors have different DC beta values. Numbers from 10 to around 300 are often encountered. *Darlington* transistors, which are two transistors with their collectors wired together and the emitter of the first connected to the collector of the second have values of beta in the tens of thousands! Figure 4 shows the schematic symbol

for a Darlington transistor.

A Simple Transistor Checker:

Figure 5 is the schematic of the latest version of my transistor checker. The circuit is very simple. Power is supplied by six volts from four AAA batteries. The meter normally reads a full scale of 5 mA, corresponding to a beta of 500, because of the shunt resistor R1. S3, a normally closed pushbutton switch, removes the shunt resistor (R1) from the meter, so the meter reads 0–1 mA full scale, corresponding to a beta of 100, a five fold increase in sensitivity. A **Battery Test** pushbutton, S4 (not on the prototype) checks the condition of the batteries. When pressed it causes the meter to read the battery voltage with 6V being about 4/5s of full scale.

The two transistor sockets are wired identically except for polarity. We'll discuss the NPN socket circuit; the PNP socket circuit works similarly except for polarity. When an NPN transistor is placed in the NPN socket, the only current that will flow is the collector-to-emitter leakage current. This is read directly on the meter and should be almost zero on the most sensitive meter position, though it may be measurable on a germanium transistor. Pushing the NPN TEST pushbutton sends a current of 10 μ A into the transistor's base. The resulting collector current is measured on the meter. Meter scales of 0 - 500 and 0 - 100 will read beta directly and read leakage times 10 μ A on the normal position and the high sensitivity position (S3 pressed.) Add a green arc on the meter scale between 360 and 420 on the 0 - 500 scale to indicate the condition of the batteries.

There is one very minor fault with this circuit! Actually you're not measuring beta on the meter, instead you're measuring beta + 1. This is because the current measured is the base current plus the collector current. Except for very low gain transistors, this is hidden within the accuracy of the circuit

components. However, to be a perfectionist you may want to mark the meter scale as " $\beta+1$ "

Selecting R1:

Since the meter is the most expensive part of this circuit, and since numerous 0–1 mA meters are available on the retail and surplus market, I don't want to specify a meter. Any 0–1 mA meter with an internal resistance less than a few hundred ohms will work. I used a surplus 1-1/2" square Simpson voltmeter (Series 1212) that has a 0–1 mA movement and took out the multiplier resistor. Since your meter will be different from mine, you must choose your own R1. The value of R1 is dependent upon the resistance of the meter. Most meters in the 0–1mA range have an internal resistance on the order of 50 Ω . YOU CANNOT measure the meter resistance with an ohmmeter without probably damaging the meter. Instead, breadboard the simple circuit shown in Figure 6. Set the potentiometer R102 to maximum and attach the 6V battery (Use the 4 AAAs in the battery holder you've obtained for your project) Leave R103 totally disconnected from the circuit. The meter should be reading somewhere near 3/4 scale. Now slowly increase R102 until the meter reads full scale (the last mark on the scale). Being careful not to change the setting of R102, attach R103 and adjust it until the meter reads 1/2 scale. Next, being careful not to change the setting of R103, remove it from the circuit and measure its resistance with your ohmmeter. What you read is the same as the resistance of the meter. Divide this value by four to obtain the needed resistance for R1 for that particular meter.

Operation:

Your Transistor Checker is easy to use. If you haven't used it in a while, first check the battery by pushing the BAT. TEST pushbutton and being sure the meter reads

See: TechTalk on Page 8

Three Little Hams from page 3

and refused WØLF entry to the ham shack. WØLF, in a fit of rage again bellowed “open your door or I’ll blow your shack down!” PØRK replied, “not by the S-units of my 100 watt rig.” Recognizing that the shack was but a little sturdier than P1G’s, WØLF cranked-up the audio to 250 decibels and the massive rush of air molecules from the huge speakers first blew off the palm frond roof, and that allowed the walls to collapse. Before PØRK was also relegated to being an SK in hot water, he was able to broadcast a Mayday that was heard by BC1N, who unfortunately was too far away to help.

Poor BC1N was now very lonely during the afternoon when all other Hams were at work and he could no longer rag chew with his radio buddies, P1G and PØRK. He knew that something sinister must have happened to them. As he mused about what he would do, he looked out his open door and lo and behold, coming straight for his shack was an obvious bootlegger. It was WØLF. BC1N quickly locked all of the doors and windows. That thoroughly aggravated WØLF, particularly after his long flight to BC1N’s QTH and having to deal with long-check-in lines, a strip and cavity search at every airport and having to explain to security that he couldn’t remove his long sharp teeth.

WØLF again bellowed, “open-up or I’ll blow your house down!” The reply from BC1N was “not by the s-units of my 100 watt rig.” Recognizing that the shack was made of cinder block, WØLF cranked the audio power to its max of 300 decibels and let the molecules of air pound against the cinder block shack. The shack shook, the door wobbled and the roof nearly lifted off of the walls, but it didn’t come apart. WØLF was furious, he jumped-up on the bed of the truck and attempted to squeeze more power from his giant amplifier, but couldn’t.

[Editor’s note: Larry offered two ending for his ‘Bedtime’ story, so I’ve included both, and I’ll let you choose the one you like.]

First Ending:

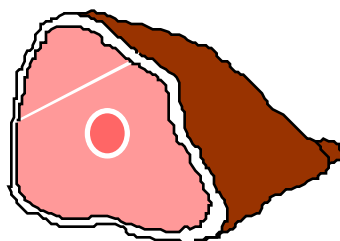
WØLF was so infuriated about his failure to blow down BC1N’s shack, that he forget his own amplifier power and when he jumped down from the truck he mistakenly landed in front of the speakers spewing out 300 decibels and was hurled into the cinder block wall by the rush of air molecules and “splat” instantly became an SK, even though he was, after-all, a bootlegger.

BC1N continued to operate for many sunspot cycles from his cinder block shack. After many QSOs he became an on-air buddy of TØST and M1LK. They were very popular; after all, who doesn’t like milk with their bacon and toast.

Alternate ending:

Within minutes, the shuttered window of the shack opened and BC1N appeared with an RPG (Rifle-Propelled Grenade) in his rifle and WØLF in his sights and alas, a touch of the trigger and the bootlegger was now part of the ionosphere and the audio amp was diminished into cinders. It seems that BC1N was operating portable from IRAQ as HNA/BC1N.

BC1N continued to operate for many sunspot cycles from his cinder block shack. After many QSOs he became an on-air buddy of TØST and M1LK. They were very popular; after all, who doesn’t like milk with their bacon and toast.



Cortlandt Street: From Page 3

formed the *Downtown West Businessmen’s Association* (DWBA) in part to promote Radio Row as the “Electronic City”. When the proposed site for the World trade Center moved to their neighborhood they soon found themselves instead in a political battle to save their businesses. The Port Authority sent an acquisition notice dated October 8, 1965 to the businesses in the disputed area. Led by Oscar Nadel of Oscar’s Radio Shop, which had recently moved from Greenwich to Cortlandt Street, the 225+ man strong DWBA fought a losing battle against the unaccountable Port Authority and its wealthy backers. Some members gave-in when the PA offered a bonus of three month’s rent for those who moved out prior to the end of February 1966. In the end, the businesses still holding out received eviction notices requiring them to vacate by November 16, 1966, or else... Meanwhile demolition had started back in late March on those building already under control of the Port Authority. While some business moved, they were spread out around the City. An attempt to start a new “Radio Row” on 45th Street failed, though the Port Authority claimed it successful to show the evictions didn’t affect the overall business. Canal Street, about 18 blocks to the north, known for a row of general war surplus stores still had a couple of stores dealing in surplus electronics.

The Aftermath

Radio Row of New York City was no more. Many of the business owners just gave up. Their compensation from the Port Authority for giving up their places of business was reported to be a maximum of \$3,000; this considered as a “moving allowance”. The MacInnes Restaurant, one of the last holdouts, moved east on Cortlandt Street three blocks after a forceful eviction in May of 1967. The move

See: Cortlandt Street on Page 9

General Meeting Minutes:

May 21, 2004

At 1900 President Steve Brody KB1GZ called the meeting to order. After the introduction of visitors, Steve stated that Huell Howser of PBS Station KCET may visit our Field Day sight with Southwestern Division Director Art Goddard W6XD. Steve then turned the meeting over to Ken W6HHC to introduce the evening presentation, by Kathy Stanfill KS6CW and Tom Van Buskirk K6TV, on **American Morse Code is Still Alive**.

Following the presentation a 15 minute break was called.

At 2005 the Business meeting began. Roll call of the Board of Directors was called with seven present and the following absent, Rich KE6WWK, Larry K6LDC and Tom WA6PFA.

OLD BUSINESS:

It was discussed that a Problem still exists, on food being served, for Field Day. Two different approaches were decided. (1) People would bring their own food and Charcoal Grills would be furnished, for cooking and heating. (2) A proposal was made by Ken W6HHC to see if the food could be catered. It was agreed to investigate into the two proposals. Ken W6HHC made a motion to spend up to \$300.00, for food, gasoline for the generator, and other expenses relating to Field Day. Motion was second by Doris WB1CCD and passed by all members present.

NEW BUSINESS:

None

FOR THE GOOD OF THE CLUB:

Bob AF6C announced that Chris Breller KJ6ZH is planning to visit and operate during Field Day, also other non club members will stop by and help us. Chris W6KFW stated that he will not be at Field Day and somebody needs to take possession of the club generator, by June 20.

CLUB OFFICERS REPORT:

Vice President: Ken, W6HHC, announced the June presentation will be the Annual Picture Show of Past Field Day.

Treasurer: Bob, KD6BWH, stated that we have \$2661.03 in checking and savings.

Membership: Chris, W6KFW, announced that we have 44 members, by and that includes our newest member Ken N6CCE.

Meeting was adjourned at 2033.

Respectfully Submitted:
Lowell KQ6JD for
Rich KE6WWK
Club Secretary

Letters to the Editor:

Hi Bob, AF6C

Last Sunday afternoon I went to a training session at Las Vegas Motor Speedway. Our radio club volunteers there for the three day NASCAR weekend running two stands and we get a percentage of the profits. That's our fund raiser. Anyway I was talking to two of the hams in the club and mentioned your article on Novice and that started a long conversation of what they remembered. One from the L.A. area mentioned the lady (grump) receptionist that was at the Los Angeles FCC Office. I remember her. The other was from New York and we had a great time reminiscing about our novice days.

Talk to you later,
Art, K7ZE

Errata:

In the April **TechTalk** column, the first sentence of the second paragraph should read:

*The RMS voltage and RMS current are just the peak **voltage and current** divided by the square root of two or **multiplied by 0.707**.*

Thanks to Kenan, N6CCE, for catching this typo.

Board Meeting Minutes:

June 5, 2004

President Steve Brody KB1GZ called the meeting to order after a hearty breakfast for everyone. Seven Board members were present. Absent were Treasurer, Bob, KD6BWH, Technical Chair, Tom, WA6PFA, and MAL, Larry, K6LDC.

Old Business:

Committee reports;

Field Day—Ken, W6HHC, reports Proof of Insurance for Field Day has yet to be received, ATV will be coordinated by Tom WA6PFA, Ken, W6HHC will assist with food for Field Day, Chris, W6KFW, has the generator and Bob, KD6BWH, will pick it up. Matt, K6LNX, will coordinate VHF Operations. Lowell KQ6JD reported he has given the flags and coffee pot to Bud WA6VVP.

Membership; Chris W6KFW reported there are 43 paid members with 2 pending.

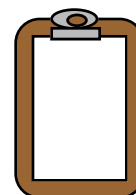
New Business:

Carl WA6BSV, brought up the fact that the raffle does not produce money for the club. After some discussion it was felt that the raffle is not suppose to raise money rather it is for the good of the club and may or may not break even.

Ken W6HHC reported the program for June will be on Field Days past.

Meeting adjourned at 8:49 AM.

Respectfully Submitted,
Rich Helmick KE6WWK
Secretary



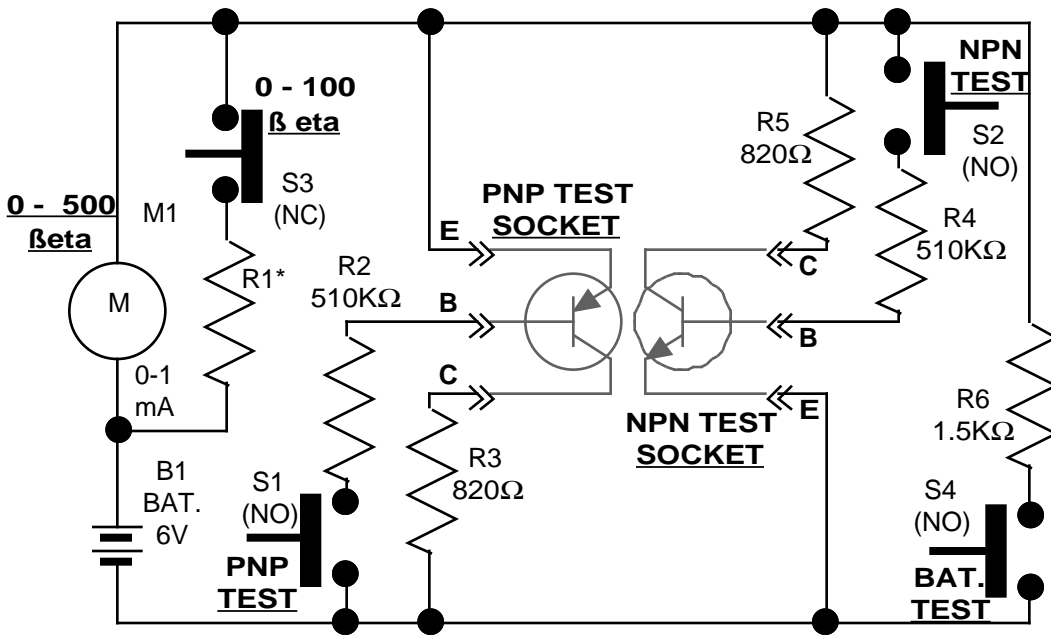


Figure 5: Schematic of the updated Simple Transistor Checker

TechTalk: From Page 5

“in the green” (above 380 on the 0 - 500 scale). No transistor should be in a socket nor should S3 be pushed when checking the battery.

Now install the transistor you wish to check. If you know its polarity, install it in the correct socket. If you don't, because it's unmarked, or you can't find any information on it, take your best guess. While this circuit is kind to most transistors even when installed in the wrong socket, certain special transistors can be damaged. However, most general 2N series transistors will not suffer; transistors to avoid are FETs, especially MOSFETs and GaAs FETs; they are expensive (especially the GaAs FETs) and you won't often run into them without knowing. Generally JFETs will not be damaged, but are incompatible with this tester. When you install the transistor, be sure to connect the leads correctly into the socket.

Once you have the transistor in what you believe is the proper socket, check the meter. The meter gives an indication of collector-to-emitter leakage current on the 0 - 500 or 0 - 100 scales at 10 μ A per division. Press the **0 - 100 Beta** pushbutton for the more sensitive scale. If the meter move ups-

cale significantly you may have the transistor in the wrong socket. Leakage current should be almost (if not totally) unnoticeable for small silicon transistors and small, but possibly detectable for germanium transistors.

Now you're ready to measure the transistor's beta. Press the appropriate **TEST** pushbutton for the socket you have your transistor in and read beta directly on the 0 - 500 meter scale. If the reading is less than 100, you can push the **0 - 100 Beta** pushbutton and read beta on the more sensitive scale.

Well, that about does it. You can read more about transistors in the ARRL Handbook. If you'd like to make your instrument more accurate, 1% resistors can be substituted for R1, R2, R4 and R6 (see Parts List), R3 and R5 act only to limit current and are fine at 5%.

Uses:

Besides the obvious use of checking transistors, this device is also handy for matching transistors and selecting transistors to use in circuits where complementary pairs (a matched NPN and PNP transistor is used). It can also help determine many of the characteristics of an unknown transistor and help select a substitute transistor.

Parts:

A list of parts is available on page 9. With the exception of the meter and possibly the transistor sockets, all parts are readily available. If there is enough interest perhaps the club can do a group buy.

Next month, maybe we'll get started on a code practice oscillator.

de AF6C

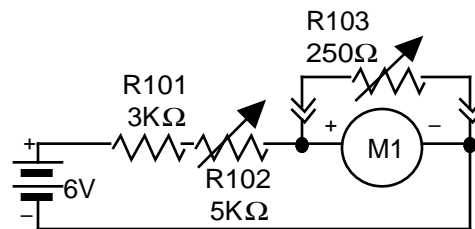


Figure 6: Circuit for determining a 0-1 mA meter's internal resistance. See Text.

Cortlandt Street: From Page 6 included a parade down Cortlandt Street of customers lead by a bag-piper. Without the draw of Radio Row, the relocated restaurant closed in its first year.

Construction of the WTC continued. The Port Authority claimed that 75% of the space was under consideration. What wasn't said was that only 15% was under consideration by business tenants and the remaining 60% was to be occupied by 33 state entities.

There is a lot of speculation on what would have been if the World Trade Center had not demolished Radio Row, and devastated New York's electronic industry. Some even say that Silicon Valley would now be on the East Coast instead of in California. Whether or not that would have happened is hard to say, however, New York City would most likely have participated heavily along with the San Francisco peninsula and West Boston in the computer revolution of the eighties and nineties.

Part of the PATH deal with New Jersey involved the building of container ports in Newark Bay; that coupled with the loss of the piers west of the WTC site, ended New York City's reign as a great international shipping port.

Few photographs of Radio row exist today. Those that do are protected by copyright so I've been unable to attach any. However some may be viewed on the web. Here's a link to get you started:

<http://www.sonicmemorial.org/sonic/public/radiorow/radiorow.html>

Be sure to view the historic legal notices and maps that are linked from this site!

Next month we'll end this series with an imaginary 1960 trip to Radio Row. I hope it will be an adventure for all of us!

Parts List for Transistor Checker

- B1 4 ea. AAA alkaline batteries in an MPD battery holder (Digikey BC4AAA-W-ND)
 - M1 0-1 ma ammeter 1-1/2" to 2" face (see text) A Simpson 1212 series voltmeter ($1000\Omega/V$ marked in the meter corner) may be used by first removing the meter's internal shunt resistor.
 - R1 Resistor, meter shunt, 1/4 or 1/2 watt carbon film. (See text)
 - R2, R4 510K Ω 5% 1/4 or 1/2 watt carbon film resistor. [536K 1%]
 - R3, R5 820 Ω 5% 1/4 or 1/2 watt carbon film resistor.
 - R6 1.5K Ω 5% 1/4 or 1/2 watt carbon film resistor. [1.5K - 4R1, 1%]
 - S1, S2, SPST normally open miniature momentary pushbutton switch
 - S4 (Radio Shack 275-1547 or Switchcraft 953 [SPDT])
 - S3 SPST normally closed miniature momentary pushbutton switch (Radio Shack 275-1548 or Switchcraft 953 [SPDT])
- Miscellaneous:
- 1 ea. Case, molded plastic with aluminum cover. 5-1/16" x 2-5/8" x 1-5/8", (Radio Shack 910-5035)
 - 2 ea. Transistor Socket, chassis mount, Elco 05-3301 (These may be hard to find, but there are many small PC mount transistor sockets that can be adapted)
 - 1 ea. Meter face. Use an inkjet printer, glossy paper and your favorite drawing program. Mark two scales 0-100 and 0-500 and put in a green segment for the battery test indicator. Cement the paper to the back of the existing meter scale plate.



Tom Van-Buskirk, K6TV, and Kathy Stanfill, KS6CW, talk on *American Morse is Still Alive*. On the table are old keys, relays, sounders, and a Mc Elroy Instructograph code training machine. - Photo W6HHC

UNSUNG HEROES

by Bob, WB6IXN – Club Historian

It is time that the OCARC recognize the following OPs and volunteers, who deserve our utmost thanks and appreciation, for providing us with delicious Saturday dinners and Sunday breakfasts on Field Day!

1965 – Jack Shaw, WA6YWN

1967 – Dave Hollander, W6COJ,
and XYL

1972 – Bill Hall, WB6CQR

1975 – W6HHC's XYL, Diane

1975 – WB6AJV's XYL, Barbara

1975 – WA6LHB's XYL, Jaycee

1975 – WA6WZN, Sandy, who
cooked Sunday breakfast

1981 – W6RE, Alex, cooked Sunday
breakfast

1981 – KB6MT, Jerry, helped cook
Sunday breakfast

1985 – Jane Watts, NØNE (Club
dubbed Jane with 'none';
now she's KC6TAM)

1986 – Jane Watts, NØNE

1986 – Jeannie Talcott, KB6EVS

1986 – Dottie Watts, W6IBP

1987 – Jane Watts, NØNE

1987 – Dave Hollander, W6COJ

1988 – Jane Breller, NØNE

1988 – Chris Breller,
KA6IMP/KJ6ZH

1990 – Jane Breller, NØNE

1991 – Don Hughes, KC6ONZ

1992 – Don Hughes, KC6ONZ

1993 – Don Hughes, KC6ONZ

1994 – Jane Breller, KC6TAM

1995 – Frank Smith, WA6VKZ

1996 – Frank Smith, WA6VKZ

1997 – Frank Smith, WA6VKZ

1997 – Steve Rasmussen,
KE6NAH

1997 – Bob Schnabel, KM6TL

1998 – Frank Smith, WA6VKZ

1998 – Steve Rasmussen,
KE6NAH

1998 – Bob Schnabel (?), KM6TL

1999 – Frank Smith, WA6VKZ

2000 – Frank Smith, WA6VKZ

2001 – Don Hughes, KC6ONZ

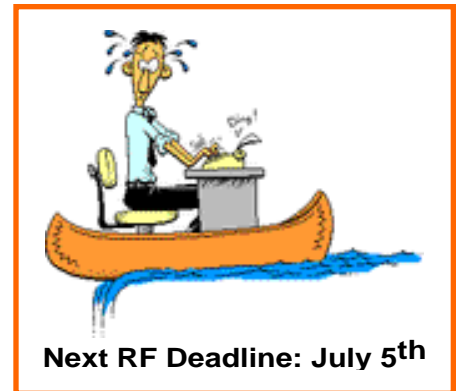
2002 – Don Hughes, KC6ONZ

2003 – Don Hughes, KC6ONZ

If you can fill in any of the blanks,
contact Bob, WB6IXN, on the 10m

or 2m Nets, at Club Meeting, or,
at: bobev@netzero.net

**FIELD DAY IS:
JUNE 26th &
JUNE 27th
Join Us!**



ORANGE COUNTY AMATEUR RADIO CLUB, INC

P.O. BOX 3454

TUSTIN, CA 92781-3454

First Class Mail

***Time Dated Material.
Please Expedite!!***