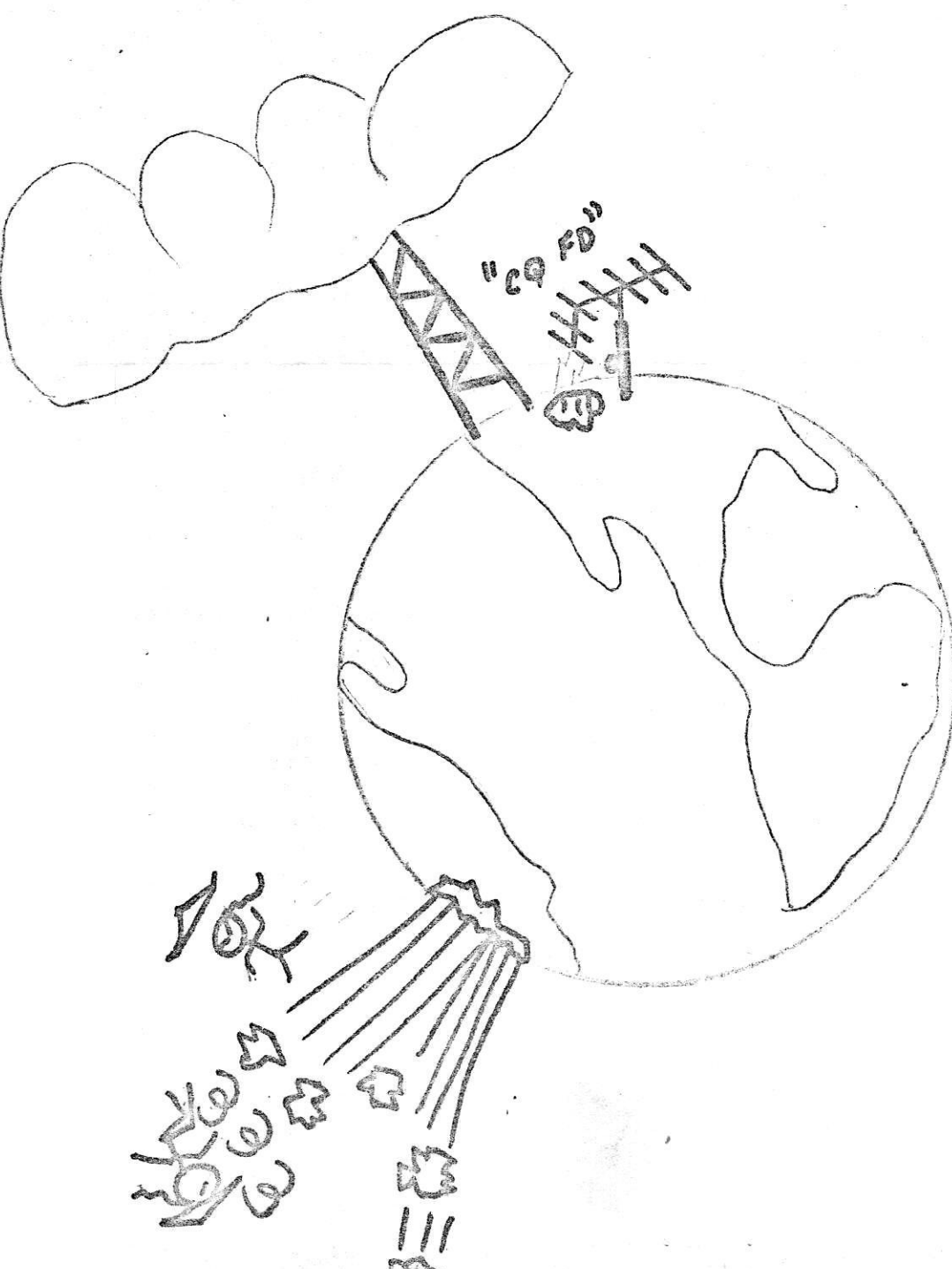




ORANGE COUNTY AMATEUR RADIO CLUB

P.O. BOX 95, ORANGE, CALIF. 92668



W6Z E
INVENTS
the
'EARTH RACKER'
ANTENNA

ORANGE COUNTY AMATEUR RADIO CLUB

1973 CLUB OFFICERS

PRESIDENT	BOB ECKWEILER	WB6QNU	639-5074
V. PRES.	KEN KONECKY	W6HHC	541-6249
SECRETARY	JACK BRIGGS	WB6YMV	544-3665
TREASURER	TED GLICK	K6LJA	542-1390
ACTIVITY	ERNIE FUERTE	WA6GXV	839-7107
TVI	DAVE HOLLANDER	W6COJ	541-9133
MEMBERSHIP	BILL ROBINSON	WB6WOO	542-7958
PUBLIC REL	JACK SHAW	W6YWN	633-8742
M.A.L.	RON CADE	WA6FIT	897-8059
	KEI YAMACHIKA	W6NGO	538-8942

EDITOR	DON KLOS	W6OOH	832-9682
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OCARC ACTIVITIES

MEETING 3rd Friday of each month, 7:30 PM at;
 Mercury Savings and Loan
 1095 Irvine Blvd (4th Avenue)
 Tustin, Calif.

GUESTS ARE ALWAYS WELCOME

BREAKFAST 1st Saturday of each month, 8:30 AM at;
 Mannys Restaurant
 17th Street at the Newport Freeway
 Santa Ana, Calif.

MEETS IN BACK OF ROOM

15M NET Club station W6ZE meets every Tuesday
 at 8:00 PM on 21.375 MHz. All amateurs
 are welcome to check in. Club and ARRL
 bulletins read.

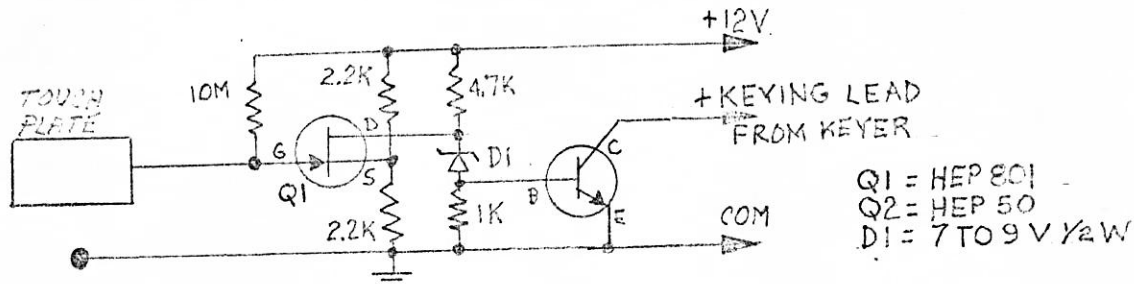
CALLBOOK SERVICE

The club has copies of the latest callbooks which are available at each meeting. Also, you can contact Ernie, WA6GXV on Tuesday and Thursday Evenings between 7:00 PM and 9:00 PM if you need addresses. If you have more than one call for Ernie to check, he'll get them all and call you back that same night. Ernie has indicated that he will accept calls on Sunday morning if he is home.

TOUCH OPERATED KEY

An ideal mate for your new (or old) keyer is a touch operated key. A double key can be made for less than \$10 including the box and all parts. It has no moving parts and thus has the long life of other solid state devices and it's fast acting-- could key at rates above 1 MHz if you or your keyer could react at such a speed.

The circuit for one key channel is shown below:



This project can add to your understanding of the electrical properties of the human body and offers an introduction to the application of the N channel field effect transistor (FET). First, did you realize that your body is an oversized capacitor? It's so oversized, in fact, that it also serves as an antenna capable of picking up static and low frequency energy. The result from moving around or merely being near sources of energy is usually a positive charge on your upper extremities and hands. Your feet, being in contact with the floor are usually near ground potential. The conventional touch actuated relay circuit depends upon a positively charged finger for operation. This is satisfactory for a one shot deal, but would be unreliable for repeated operation such as for a key. The body has a better known electrical characteristic--resistance. This body resistance varies between about 100K and 10M from one hand to the other depending upon the contact conditions. The trick is to design your key circuit to make use of this property.

Now we'll consider the characteristics of the N channel FET and then put it in a circuit which uses body resistance to turn it on. The FET is very much like a triode in that current doesn't flow in the control circuit. The FET output is controlled by voltage, or bias, of the gate with respect to the source. If the gate is more negative, the source to drain resistance is very high. If the gate is less negative or is positive with respect to the source, the source to drain is very low. In fig. 1 the source is clamped at +6V by the two 2.2K resistors so when the source to drain resistance is low (much lower than the 4.7K resistor), the voltage applied to the zener diode is about 6V. This is the normal condition before you touch the touch plate. Since the zener is chosen to regulate at 8V, no current can pass through the zener until its cathode voltage is 8 volts or greater. Therefore, if you touch ground with one hand and the touch plate with the other, here's what happens. First, your body resistance is less

cont.

TOUCH OPERATED KEY Cont.

than the 10M which is biasing the gate to 12V. Immediately, the gate voltage falls to 6V or less. This increases the source to drain resistance to a large value, causing the drain voltage to approach 12V. This causes the zener to conduct and turns on Q2. The result is a low resistance between emitter-collector which essentially grounds the keying lead and turns on the keyer.

The circuit components can easily be stuffed into a 3¼ x 2 x 1½ inch box. I tinned two small pieces of copper clad circuit board for touch plates and added a 4 conductor phone jack to feed in +12V, ground, and the two keying leads from the keyer.

Well that's about all there is to it. Hope you get as much pleasure out of this project as I.

73,

de WB6W00

THE PREZ SEZ:

This issue of RF is being sent to some of the new hams in the area. If you just got your license or moved into this area feel free to drop into one of our meetings and see what the OCARC is all about. Bring your ham or ham to be friends too. Coffee and donuts served.

I can sum up Field Day in one word... Fantastik! Let me give special thanks to Kei, NGO for the tremendous effort on his part, as usual to make this event successful. If you don't understand the cover cartoon you weren't at F.D. Hey you 15 meter guys, you gonna' patent that?

A whole new field of ham radio opened to me after 14 years of hamming, with the purchase of a 3 watt 2 meter FM rig. I'm currently on two repeaters, the Anaheim Club repeater K6SYU and the Catalina repeater WR6AAA (no 10-4 stuff for this boy). Both are excellent with SYU covering Orange County and out to the LA airport, and AAA covering San Diego to Santa Barbara and even Bakersfield!! (I wouldn't have believed it except I worked it). Try 2 FM if you get a chance and join in on the fun.

Whoops, I goofed on the roster. One of our new members WN6WZO Fried (pronounced Freed) got his name spelled wrong thanks to me. Oh well here's a simple solution: Your President with all the powers invested in him ORDER all members to correct their roster. Anyone for bugging the Fullerton club?

73, QNU

CQ MAGAZINE HAS SCRATCHI, &
RF HAS:

PONCHO TACO.... Dateline June 10, 2:30 AM

Whose ##**"% idea was it to go wishing (fishing) at this early, forsaken hour of the morning? My guests arrived enmasse at my house at 2:30 AM, all five of them. Hmm, seems like I just went to sleep too! After a rush we made it to Manny's about 3:30AM. After breakfast, and a slight detour we made it to Dana Point Wharf by 5:30 AM Everybody's aboard by six O'clock so skipper let's shove off.

Everybody is armed with the latest and best fishing equipment this side of the border. Our first step was an undersized kelp pattie boasting no fish. After several hours and several stops and very many practice casts.. hey Ozzie, Pew, you look a little blue around the gills... one of my guests, Richard I believe, has latched onto a big something and is walking it from stern to bow and down the other side. Now everyone is latching onto a bunch of big ones so it seems, and running around and up and down the boat like a bunch of wild Indians attacking the old fort. Ozzie, how come you are looking at the water so close to your nose and leaning so far over the rail. What's that Ken, HHC? You want another Dramamine tablet, Sorry OM only one to a customer and you and 4 or 5 other guys already took yours back at Manny's Resaurant. Take a shot of San Anton Red instead, it will fix you right up! QNU, quit thinking about making your 5th CQ on that 2 meter rig and concentrate on bringing in that whale on the end of your line! Hey, Art, LHB, did the stain from that squid you grabbed disappear from your clothes where he shot you with ink? Say Randy, ESQ, we don't mind you bringing guests, like your son, but isn't that the second big Yellow Tail he's landed?

Oops there goes another on Jerry, oh well you didn't want to really scare the XYL with Yellow anyway, did you? HEY I finally landed my first ever after 15 minutes of pulling and tugging. Look at all the big fish swimming around our bait!! There must be 15 of them. Sorry Ozzie that is the wrong kind of fish, sharks will not qualify for the \$25 jackpot, so you better let him go even though he is 20' long!!!

What, no more fish biting, why not? Skipper says let's move and try another kelp pattie. Oh well with everybody having hookups we must have landed at least 20 Yellows, so I guess it's all right. What Kei, NGO only landed one as did his brother, I figure a big gun fisherman like that would have brought in 4 or 5. What's that? You want to know why I only landed one. Simple it was the only one dumb enough to take my bait, That's why! No more Yellows so off to the Power plant to see what's there. Yes QNU you should have gotten new batteries for that rig before you came fishing. Hey Art what are you doing with that long pencil:

cont.

ORANGE COUNTY AMATEUR RADIO CLUB

P. TACO cont.

looking fish. It's a what?? Mackeruda, try smoking it, it'll taste better. Beter still bury it next to the rose bush; you'll get pretty flowers for a long time. What's happening? Randy's son, Dave landed another Yellow! That's show biz. No, No, you guys, I was only kidding when I said I'd throw overboard the first one that caught a Sculpin. This here one is a small red devil fish, beside I'm letting him go, OK.

Any more Kentucky Fried Chicken left? Nope, but plenty of beer left yet and also San Anton Red. What's that? Who needs a Rolaid for their tummy? Hey Ozzie you still look a little blue around the gills. And Don, OOH, you look a little red on the face, how come? Come to think of it so does W6DYI, HHC and a few others. What, none of my out-laws, I mean inlaws, landed anything. Holy Mackeral. Well Randy, your son was the lucky winner of the jackpot, but wait till next time, we'll show you. Hi HI. Ozzie you can shape up now were on the parking lot, and we can start planning for our next fishing trip, and soon I hope!

Ernie 'GXV

ADS ADS ADS

SWAN 500CX for sale. AC and DC power supplies and VOX unit
Contact Art WA6LHB 832-9676 Asking 500 dollars.

TOWER, QUAD, ROTOR WANTED, Contact Wayne, W6ORJ 838-2575

W6ZE FIELD DAY RESULTS

80 Meter CW	90 contacts.
75 Meter SSB	226 contacts.
40 Meter SSB	452 contacts!
20 Meter SSB	932 contacts!!!
15 Meter SSB	273 contacts.
2 Meter AM/FM	46 contacts.
TOTAL-----	2019 contacts.

A copy of the summary sheet sent to ARRL and the one sent to the Orange SCM will be printed next month.

Congratulations on a good job!

'QNU

A SIMPLE TRANSISTOR CHECKER

HERE is a simple device to check small signal transistors, and measure their DC forward current gain (Beta). The circuit is fairly straight forward. The transistor to be tested is placed in the appropriate socket depending on whether it's an NPN or PNP. If the transistor is shorted or leaky the needle will move upscale pinning if it is a complete short. Normally the meter will remain at zero. Pushing the associated 'B' test button applies a current of approximately 20 microamps to the base thru the 270K ohm resistor. The meter reads the resulting emitter current. Since:

$$I_{\text{collector}} = I_{\text{emitter}} - I_{\text{base}} \text{ and } I_{\text{base}} \text{ is small compared with } I_{\text{emitter}}$$

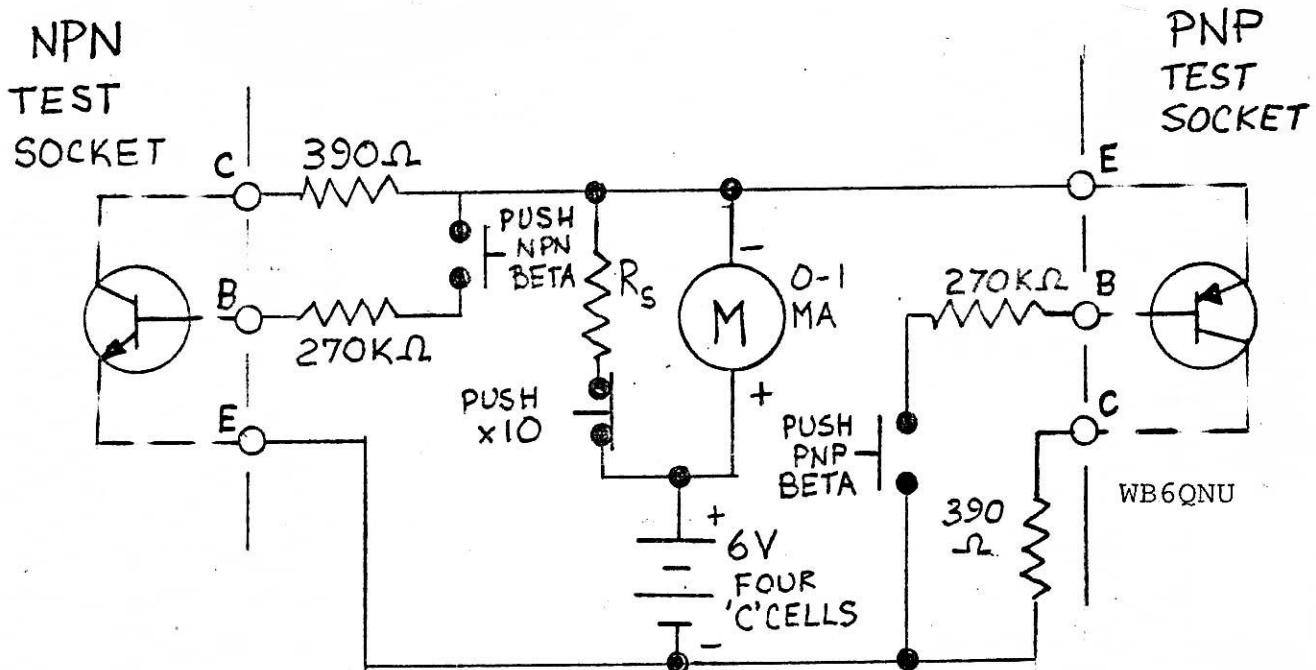
the meter is reading very close to the collector current.

$$\text{Beta} = \frac{I_{\text{collector}}}{I_{\text{base}}}$$

and since the base current is known to be 20 microamps the Beta can easily be calculated:

$$\text{Beta} = 50 \text{ (Collector current in ma.)}$$

R_s shunts the 0-1 ma meter so full scale is 10 ma (Beta of 500). The x10 push button removes the shunt for reading small values of Beta between 0 and 50. R_s is chosen to shunt the meter to 0-10 ma and is dependent upon the DC resistance of the meter. Don't use an ohm meter to find the meter resistance but check the Handbook (ARRL) to find out how to determine the correct shunt. The collector resistors of 390 ohms prevent the meter from being damaged.



R_s Meter shunt for 10 MA full scale

JULY MEETING

EXPOSE' PHOTO'S OF FIELD DAY '73

See what really went on at field day this year.....

See 20 Meters drink five cases of beers (with much
volunteer help....see 15 Meters launch the first
flying yagi and then perfect the inverted boom yagi.

The July program will be a re-cap of one of the best
field days ever for OCARC. Roy, WB6MCU, video-taped
sight and sound...Art, WA6LHB filmed 15 minutes (total)
of color movie film...and slides by Ernie, WA6GXV and
Ken, W6HHC. Don't miss this fine program on FD along
with the total club score for the event.

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DATED MATERIAL

FIRST CLASS

