

THE R. A. T. HOLE

BY "BUCK" BUCHANAN, W6VPC

One of the finest Bay Area RTTY meetings we have had, was held at The El Jardin Cafe in San Francisco on April 20th under the able chairmanship of Roger Bunce, W6EFT. There were 35 in attendance, including some of the braver YL's. From the very enjoyable talks and demonstrations that hi-lighted the meeting, we all came away with the feeling of having accomplished something worthwhile in the RTTY phase of ham radio. W6FDJ gave one of his incomparable talks on producing FSK in VFO units and passed around schematics to enable those desiring, to follow thru with the construction of their FSK unit. W6MTJ, gave a demonstration of the distortion showing up in cam type distributors thru misadjustment of contacts and displayed an adjustable back stop assembly which he had constructed, which he later donated as one of the prizes. W6EFT had prepared a very thorough paper and description of an "Electronic Keyer and Audio Oscillator", copies of this were distributed to all present. An AFSK Oscillator and Converter built by W6EFT was loaned to the lucky winner for use for the next two months to enable him to become active on two meters. This unit to again be drawn at the next meeting for a similar length of time. Three door prizes were given away; a Robert Dollar Field strength Meter, Weller Soldering Gun and Adjustable Backstop assembly, donated by Robert Dollar Co., Elmar Electronics and W6MTJ, Bob Unsworth, respectively. Thanks to our

one and only, Gin Unsworth, W6LFF, we had all notes of the meeting transcribed and duly recorded and, I believe, are indebted to her for coining the phrase: "It was a joyous occasion for all of the tele-tap-happy hams".

To assist those who are starting in on RTTY operation, a committee has been formed to act in an advisory capacity and consists of Roger Bunce, W6EFT. "Bart", W6OWP. "Bob", W6MTJ and Roger Wixson, W6FDJ. As always, any member of this committee will be glad to help at any time they are called upon.

Tentative plans for the next RTTY meeting are set for Friday, June 15th at the Oakland Radio Club, further details later.

In view of the foregoing remarks, I hesitated at great length to express my personal view, but realizing that we must maintain the freedom of the press, I am exercising my prerogative. Frankly, I was extremely disappointed not to have been named as a member of the advisory committee but, being of a magnanimous nature, I felt that those who knew me well would avail themselves of my council when all other sources failed. Such was the case last Thursday when Archie, W6ACN brought over his converter, power supply and 'scope for me to check. He has been working months on this equipment and when the day finally came to turn it on, nothing happened. He consulted W6FDJ who made a perfunc-

tory check, but when he turned the chassis of the converter upside down, he suddenly remembered an important engagement and was unable to complete his analysis. Discouraged, Archie came to me as a last resort. Believing that all problems should be approached in a thorough and scientific manner, I long ago adopted the techniques of the surgeon in performing an operation. We called on Maribel and, from many years of experience, she carefully moved things out of the way, in the event of an unexpected short circuit. The various components of Archie's equipment were carefully placed on the table. We then tuned in a printable RTTY signal on my converter. Maribel and I then retired from the room while Archie, protected by a plywood shield, plugged in the power supply into the AC main. In preparation for our checks, Maribel had carefully spread out a flashlight, two boxes of Fustats, my six selected screwdrivers that are rated at 2, 5, 10, 20, 30 and 100 amps, respectively. The agitator, (which I secured from Sherwin Williams Paint Co.) and the one dozen assorted lengths of wire, (these usually result in time saving from the old "cut and try" method).

Giving a quick pass at the output of the power supply with the 10 amp screwdriver, we knew that it was OK. I turned the converter upside down and it was with a mixed feeling of nostalgia and pride in Archies wiring that he should so closely resemble my work, that I made ready to connect it to the power supply and receiver. Realizing that the ambient temperature of a tube is quite important, we took readings from the meat thermometer that I use in such tests. All tubes being in an operating

condition, we then connected the converter to the RTTY machine and switched from my converter, lo; there was the trouble, the machine started running wild. The converter was then disconnected and placed on the paint agitator (By adopting such modern methods I find that such a check will usually disengage any rosin joint) after this check the converter was re-connected, the machine still ran wild. We then decided to connect Archie's scope and, again my admiration goes out to him for his accomplishments. We observed many unknown patterns, many resembling those seen on the 'scopes at the Bevetron. Upon further discussion and Archie's assurance that he had followed the "skee-metric" to the letter, it was observed that one of the VR tubes was glowing with the brilliance of the Northern Lights. I put on the asbestos gloves, removed this tube and the Model 26 took off with perfect copy. While this dissertation is at great length it will, I hope, prove my point. As a source of last hope, I always stand ready to help in the more difficult problems of RTTY that may arise.

RADIO HAMS

Excerpt from The Saturday Star-Bulletin, Honolulu, T. H. By KH6JJ, Katashi Nose

The first Teletype contact with the Mainland took place from KH6LP (Capt. George Sable) in 1950, using Army equipment. Now three members of the two meter gang are the first members of a bona fide Teletype net which meets regularly using civilian equipment.

KH6LD (Sam Lewbel) with a model 15 printer and a 150 watt transmitter, KH6LD (Henry Loo) and KH6ZD (Lawrence Ching) both with model 26 printers and 522 transmitters are on AFSK (Audio Frequency Shift Keying) on 147 mc. KH6EZ (Ira Mercer) hopes to join them soon.

HONOLULU AMATEUR RADIO CLUB

BY LAWRENCE K. C. CHING, KH6ZD

Received the January 1956 issue of RTTY and we three (LD, AED and myself) were surprised that you inserted the article in our local club news on the RTT and 2 Meters info and evenly bordered with heavy lines! How did we rate that, huh? HI HI. Our SCM, Sam, KH6AED is the Editor of the H. A. R. C. News and he wrote up those articles. We hope that article will help those who are sort of "warm" about RTTY and its doings.

We held our monthly Honolulu Amateur Radio Club meeting last Monday evening (Feb 20th) and a good crowd of about estimated 50 to 100 attending. I had my Gonset Communicator and W2PAT T. U. and of course, the 26 Printer. Henry, KH6LD stayed at home about 3 miles away with his RTT set-up going and I'm sure we got many of the fellows interested. You will probably get some word from them someday. I'm enclosing 2 snapshots of the demonstration taken with an ordinary

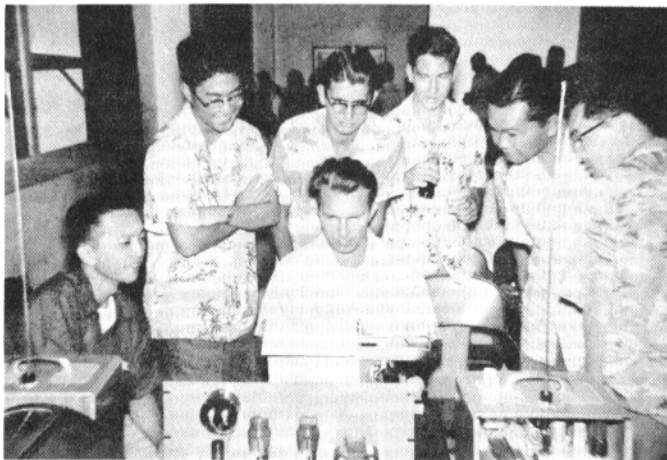
flash "BOX" camera. These are very dull so just keep them for your reference.

We are still having some difficulties in copying solid about 14.140 kc on Sundays. I believe we do need better antennas or T. U.'s and maybe receivers. I'm looking for some material for a good 20 Meter beam and that should improve my signals 2 ways even if I have other than 850 cycles to do it

I'm sure enjoying this RTT business and do we have fun. While Henry, LD and I are having coffee, Sam, AED types away and when we return to the ham-shack the message or questions were all there and we know who was supposed to be on next. This can't be done on phone or CW (except FAX). We do enjoy this RTT business tremendously.

Thanks for all the work you've done for us and best regards to all the RTTY gang there from the three of us (Three Musketeers), Aloha fram Hawaii!

—Lawrence K. C. Ching, KH6ZD



TELETYPE STUDENT'S LAMENT

BY TED SWIFT, W6CMQ

My brow is creased, my spirits drop,

My outlook is forlorn,

My stomach does a fitful loop upon this
fateful morn,

My battered brain is numb, distressed,
completely in a daze.

Today's the day I take the tests that
ends the basic phase.

For four full weeks I've been a sponge,
absorbing information

Concerning bails that push and plunge
with every permutation.

Selector bars move left or right, a latch
bar crouched to spring

Unleashed will plunge with all its might
a signal bell to ring.

The selector unit is the brain,
a maniacs invention,

The purpose is to set the vanes thru
the armature extension.

The swords that pivot up or down and
levers shopped like T's.

A locking cam that comes around eight
points two degrees

The printing bail will then begin to print
the letter chosen,

The locking function lever in against the
vanes is frozen.

The code bars are all lined up to let a
pull bar fall

Much lower than its fellow bars the
lowest of them all.

The pull bar bail will start to move, its
purpose very clear,

It will catch the pull bar in the groove,
the type bar in the rear

Has teeth that in the pull bar catch and
upward it will flop

And through the ribbon it will lash the
platen on the top.

One character is printed now in outlines
bold and clear,

And powered by a cam shoe horn, the
bail returns to rear,

But Oh, that function lever bail, I swear
aloud Oh Damn,

No matter how I try, I fail to name its
powering cam.

I have stayed up late and studied long
even in my dreams

To learn the parts that all belong to this
complicated machine

And after drawing every piece and
learning names with care,

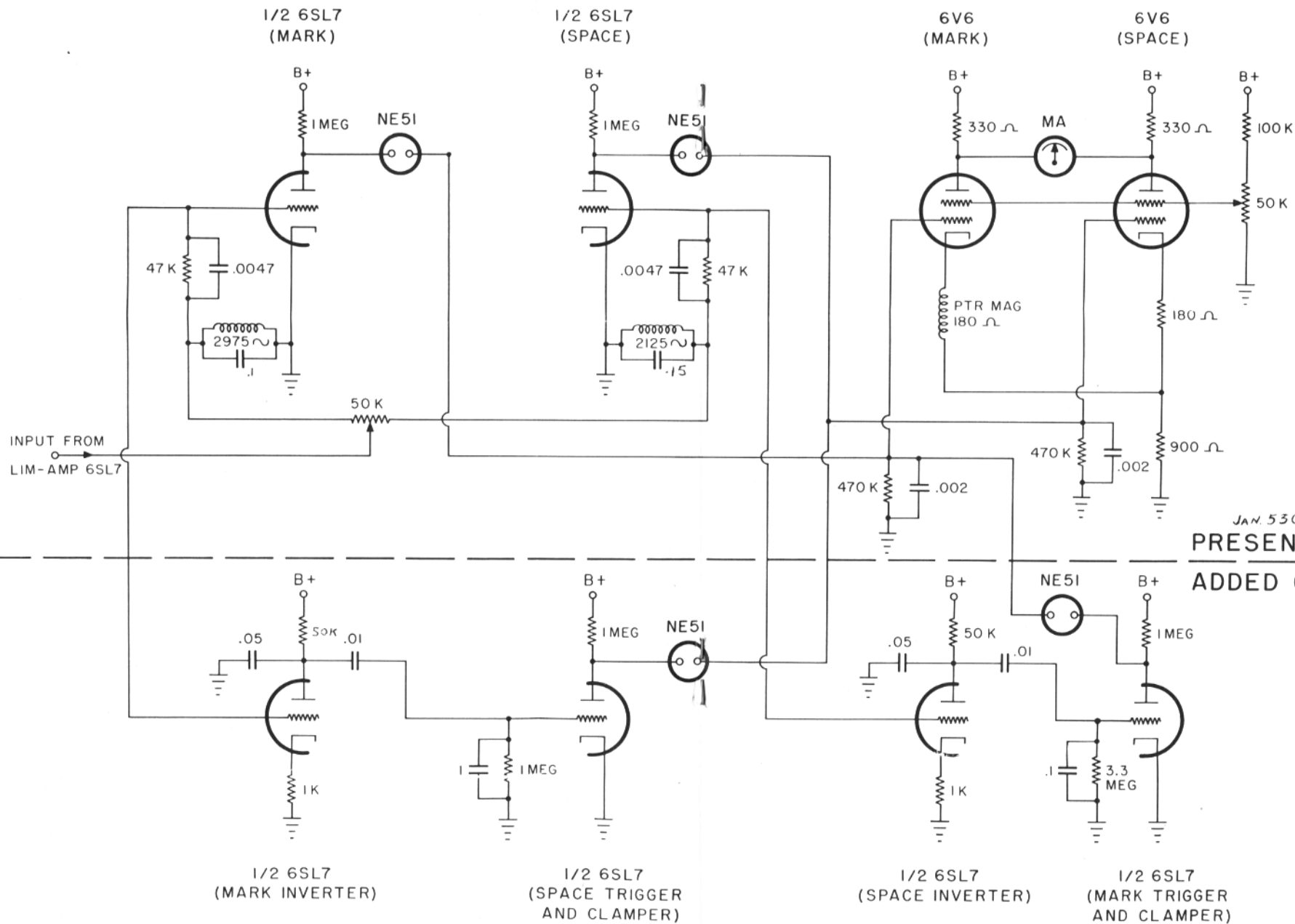
In blessed sleep I seek relief but its
presence haunts me there.

I have abandoned hope, I groan, I gripe,
I've abandoned my religion

To say to Hell with Teletype, lets use
carrier pigeon.

So wash me out for your threats won't
alter my decision.

I'll take K. P. with lusty cheers and
sink into oblivion.



JAN. 53 QST
PRESENT CRT
ADDED CRT

W7HJC

TUNING INDICATOR NOTES

BY KEN MOORE, W6WIS—WAYNE DOWNIE, W6IHL

CIRCUIT No. 1:

This is the simplest arrangement. Resistors R1 and R2 are adjusted for equal deflection with scope of VTVM on the Discriminator Filter output connections. Approximate values are in the range of 1 to 2 megohms, and the values will not necessarily be equal. Connecting the common deflection plate to the DC amplifier grid gives indication of maximum discriminator output and works very nicely I find. Tuning is simple, merely tune for equal deflection of Mark and Space. This arrangement is entirely adequate for 850 cps shift and the sharper the discriminator filters, the sharper the indication.

CIRCUIT No. 2:

This is a more desirable arrangement. This will allow tuning the 2975 Mark freq. to within 15-25 cps if the toroid is a good high "Q" unit. The value of R2 will be found to be about half of the value in Circuit No. 1 for good deflection. Tuning procedure here is tune in the 2975 for maximum deflection and check for the presence of the space signal to determine if tuning is proper. This circuit will do a fair job on 175 cps shift if the discriminators are sharply tuned, otherwise the circuit shown next is more desirable.

CIRCUIT No. 3:

This is the deluxe arrangement. Both toroids are sharply tuned to 2975 by means of suitable test equipment. This circuit will give sharp tuning indication on mark frequency and space tuning will be clearly indicated even on 180 cps shift.

Circuit No. 3 is in use at W6WIS and the results are gratifying. The indicator is simple yet effective and the Model 26 can almost always be expected to print when the switch is flipped after tuning in the sigs. I believe in most cases the mark indications will be enough sharper than the discriminator filters that drift can be tuned out of the receiver without sufficient detuning to cause garble.

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of Southern California

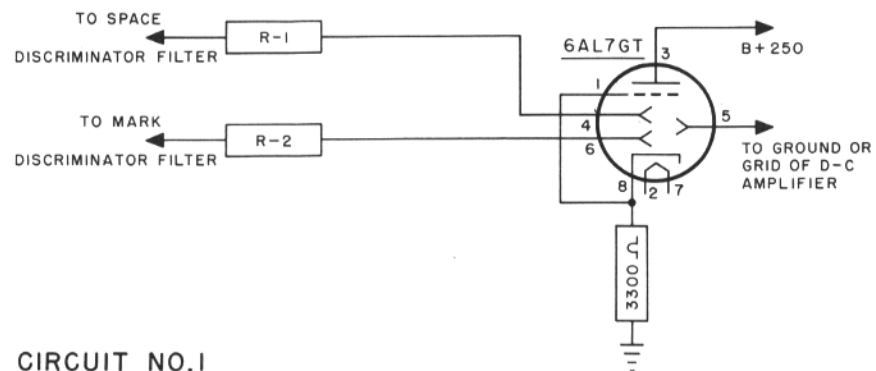
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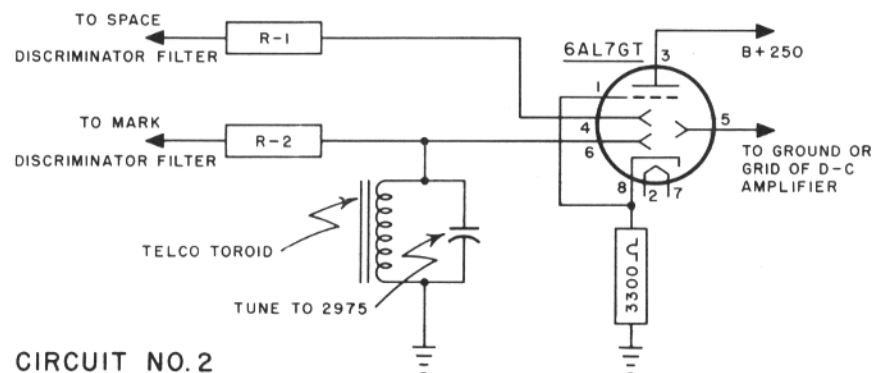
W6CLW—Ed Simmons
W6AEE—Merrill Swan
W6SCQ—Lewis Rogerson

For Traffic Net Information:
W6FLW W6IZJ

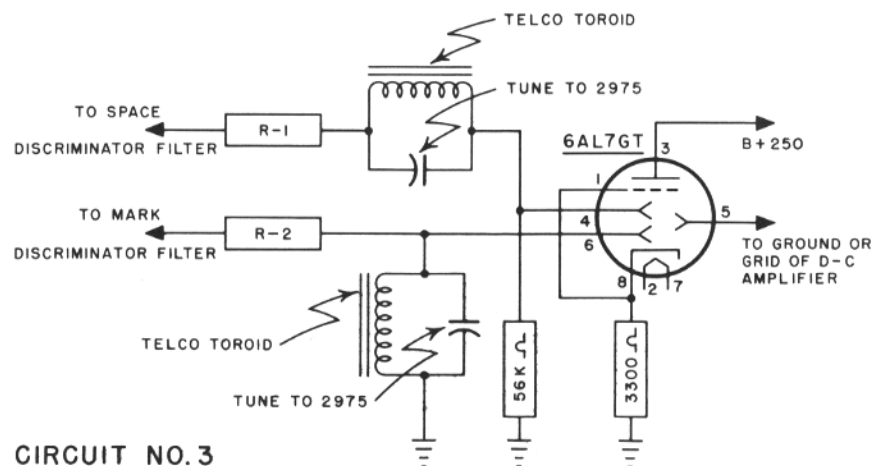
For "RTTY" Information:
W6CL W6DEO W6AEE



CIRCUIT NO.1



CIRCUIT NO.2



CIRCUIT NO.3

W7HJC's Version of the W2PAT Converter

BY T. W. CROGER, W7HJC—5026 46th Avenue South, Seattle 18, Wash.

For those RTTY amateurs who are still using the January 1953 QST Teletype converter unit (there are several in Seattle still in use), this added circuit will permit "mark only" and "space only" copy. This circuit is a different approach to this type of operation and might be adapted in a different form to other types of Teletype converters.

The same mark signal (negative voltage) is applied to the "mark inverter" grid that is applied to the regular "mark" keyer tube. At the plate of the "mark inverter" this will appear as a positive pulse. The time constant of the .01 mfd coupling capacitor and the associated resistances is such that a differentiated type of pulse will appear at the grid side of the coupling capacitor. However the .1 mfd capacitor across the 1 meg. grid leak resistor will integrate the pulse and a positive mark pulse and a negative space pulse will appear at the grid of "space trigger and clamber" tube. In other words, the trailing edge of the mark pulse has been converted into a space pulse. The positive mark pulse will have no effect on the tube because it is conducting rather heavily in its normal state condition—enough to hold the plate voltage below the firing potential of the NE51 neon bulb. The negative space pulse however will cut the tube off and the resultant rise in plate voltage will fire the neon. This of course will result in a positive voltage applied to the control grid of the "space" 6V6. If the normal pulse is coming through the regular channel of the Teletype converter, both positive

voltages will be applied to the grid of the "space" 6V6.

The "space inverter" tube and "mark trigger and clamber" tube work in a similar manner. The time constant is somewhat different in this circuit because of the use of a 3.3 meg. grid leak. This longer time constant is required to keep the printer from running "open" during temporary absence of the mark pulse during periods of no character transmission.

The .05 capacitors connected to the plates of the inverter tubes by-pass any audio component that appears there. Good regulation in the B positive voltage is necessary to keep the circuit from acting like a multivibrator. Decoupling circuits in the B positive leads are also recommended.

Circuit values as given will perform quite adequately but are not necessarily the best values. When first using the added circuit under actual test conditions, it is desirable to try all combinations of neon bulbs in and out of the circuit to make sure no distortion of the pulses is occurring. The printer should work OK with the following combinations of neon bulbs in the circuit:

A—1 and 2 only (Regular channels)
 B—1 and 3 only
 C—2 and 4 only
 D—3 and 4 only (This is real test)
 E—1, 2 and 3
 F—1, 2 and 4
 G—1, 3 and 4
 H—2, 3 and 4
 J—1, 2, 3, 4 (This is final full complete operation.)

Traffic Net News

By EMILE DUVAL, W6FLW

The RTTY Society of Southern California Net operates every Tuesday evening at 8:00 p. m. on 147.85 mc.

ACTIVITY FOR THE MONTH OF APRIL, 1956

April 3—W6CKS, N. C.—29 Checkins

| | |
|-------|-------|
| W6ADD | K6IHG |
| W6AEE | W6IZJ |
| W6AFX | W6KMT |
| W6BPG | W6KNI |
| K6BTK | W6LDG |
| W6BWG | W6LLA |
| K6BWJ | W6OJF |
| K6CHU | W6ORF |
| W6CK | W6PSW |
| W6CKS | W6RCM |
| W6CMQ | W6SQM |
| W6EGZ | W6SCQ |
| W6EV | W6VAD |
| W6FLW | W6ZBV |
| W6FNW | |

April 10—W6FLW, N. C.—29 Checkins

| | |
|-------|-------------|
| W6AEE | K6JDN |
| W6AFX | W6KMT |
| K6BTK | W6LDG |
| K6BWJ | W6LLA |
| K6CHU | W6NWM |
| W6CK | W6OJF |
| W6CKS | W6QHR |
| W6CMQ | KN6QQV |
| W6CZ | W6RCM |
| W6EV | W6SQM |
| W6FLW | W6SCQ |
| W6HGY | W6SOH |
| K6IHG | W6ZBV |
| W6IZJ | Art Addaway |
| W6JAU | at W6SCQ |

April 17—W6FLW, N. C.—24 Checkins

| | |
|-------|--------|
| W6ADD | W6FLW |
| W6AEE | K6IHG |
| W6AFX | W6IZJ |
| W6BPG | W6JAU |
| K6BTK | K6JDN |
| W6BWG | W6LDG |
| K6BWJ | W6LLA |
| W6CK | W6OJF |
| W6CKS | KN6QQV |
| W6CMQ | W6SCQ |
| W6CZ | W6SQM |
| W6EV | W6ZBV |

April 24—W6FLW, N. C.—23 Checkins

| | |
|-------|--------|
| W6ADD | W6EV |
| W6AFX | W6IZJ |
| W6BPG | W6LDG |
| K6BTK | W6OJF |
| W6BWG | KN6QQV |
| K6CHU | W6RCM |
| W6CK | W6SCQ |
| W6CKS | K6IHG |
| W6CL | W6SOH |
| W6CMQ | W6SQM |
| W6CZ | W6ZBV |
| W6FLW | |

ACTIVITY FOR THE MONTH OF MAY, 1956

May 1—W6CMQ, N. C.—22 Checkins

| | |
|-------|-------|
| W6ADD | W6EV |
| W6AFX | W6FLW |
| W6BPG | K6IHG |
| W6BWG | W6IZJ |
| K6CHU | W6KMT |
| W6CK | W6LDG |
| W6CKS | W6OJF |
| W6CMQ | W6OQI |
| W6CL | W6SCQ |
| W6CZ | W6SQM |
| W6DYB | W6ZVO |

May 8—W6CMQ, N. C.—24 Checkins

| | |
|-------|-------|
| W6ADD | W6FLW |
| W6AEE | K6IHG |
| W6BPG | W6IZJ |
| W6BRC | W6LDG |
| K6BWJ | W6MOY |
| K6CHU | W6OJF |
| W6CK | W6ORF |
| W6CKS | W6SCQ |
| W6CMQ | W6SQM |
| W6CND | W6VAD |
| W6DBY | W6ZBV |
| W6EV | W6ZVO |

May 15—W6CMQ, N. C.—26 Checkins

| | |
|-------|--------|
| W6ADD | W6JAU |
| W6AEE | K6JDN |
| W6BPG | W6KMT |
| K6BTK | W6LDG |
| W6BWG | W6OJF |
| W6CK | W6OQI |
| W6CKS | W6ORF |
| W6CMQ | KN6QQV |
| W6CZ | W6SCQ |
| W6EV | W6UPY |
| W6FLW | W6WYH |
| K6IHG | W6ZBV |
| W6IZJ | W6ZVO |

Out of Town Visitors at W6AEE

W9DPY, Lombard, Illinois
 W6FDJ, Oakland, California
 K6GKV—Dana Point, California

May 22, W6CMQ, N. C.—22 Checkins

| | |
|-------|--------|
| W6ADD | K6IHG |
| W6AEE | W6IZJ |
| W6BPG | W6JAU |
| K6BTK | K6JDN |
| W6BWG | W6LDG |
| W6CK | W6OJF |
| W6CKS | KN6QQV |
| W6CMQ | W6SCQ |
| W6DYB | W6SQM |
| W6EV | W6ZVO |
| W6FLW | W6ZBV |

May 29—W6CMQ, N. C.—25 Checkins

| | |
|-------|--------|
| W6ADD | K6IHG |
| W6AEE | W6IZJ |
| W6BPG | W6JAU |
| K6BWJ | K6JDN |
| W6BWG | W6KMT |
| W6CK | W6LDG |
| W6CKS | W6OJF |
| W6CMQ | KN6QQV |
| W6DYB | W6SCQ |
| W6EV | W6SOH |
| W6FLW | W6ZBV |
| W6FNW | W6ILW |
| W6IEU | |