Southwestern REACTer

APRIL 2019

SOUTHWESTERN REACT, Inc.
PO Box 632955
San Diego, CA 92163-2955
619-309-4299

swreactteaminfo@emaildodo.com
www.swreact.com

OFFICERS

President: Roger McCollough
SWR 098

Vice-President: John Wright
SWR 042

Secretary: Jay Pistiolas
SWR 046

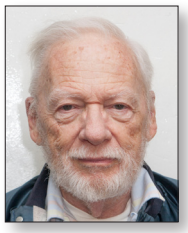
Treasurer: June McCollough
SWR 054

Director-At-Large:
Jim Patterson
SWR 151

SWR's mission is to prepare for communications during emergencies and disasters. This preparation is accomplished though working community events such as: The Lakeside Western Days, and North Park Toyland parades, the Midnight Madness Bicycle Ride and Fiesta Island Time Trials, the Silver Strand Half-Marathon, the San Diego International Triathlon and the Descanso Endurance Horse Ride

The Southwestern REACT General Meeting is held the third Thursday of the month at 6:30 PM at:
2650 Melbourne Drive, San Diego, CA

Reactive Team Net
The Team net is held on the first and fourth Thursdays of the month at 8:00 PM on the 449.060 REACT/ARES Repeater with a negative offset and a PL tone of 88.5 (Mt. Otay)



"I Love It When A Plan Comes Together"

By Roger McCollough, SWR Ø98, President

Lieutenant Colonel John "Hannibal" Smith, The A-Team

The title of today's article states an often heard phrase from the TV show A-Team. That citation came to mind today at the conclusion of the Encinitas Half Marathon. I have often sought out from our members that have not coordinated events, to either step up and coordinate or assist the coordinator in advance to learn the procedures. If you have been following the briefings sent out through our membership and Friend's of REACT email distribution systems, you should've noticed the abundance of planning for this event.

The coordinator for this event, Matthew Weaver, KG6ORU (SWR #38), took up the challenge of coordinating this event as, I believe, his first-time as an event coordinator. Several items point out how well his planning "came together".

The documentation sent out and follow-up e-mails kept all the volunteers informed of the specifics of the event. This includes maps, assignment tables, possible frequency assignments, and a timetable.

Pre-field testing of the locations for coverage of the selected repeater (Del Mar CERT) indicated that it had the coverage required for all stations. Although not tested at this time, a portable repeater was offered by METRO REACT as an additional frequency and back-up coverage.

Notices that went out to other teams and clubs, offering the opportunity to improve their skills, working a "live" directed-net event, working with the public, and what was taking command decisions and what could be an emergency situation. (Note: REACT considers every event that they perform to be important "on the job" training.)

The results of all this planning can be found in the outcome of the event. The organizer expressed their satisfaction of another job well done by our members and non-members alike. Several of the non-members that joined us in this event, expressed a desire to assist in future events and are, of course, always welcome.

And finally, speaking to the point of non-member participation at this and other events, we appreciate and welcome members of the local amateur radio community assisting at our events. It is our opportunity to display what experience with a trained communications team can do, in a directed net environment, working with the public. This is a major pillar of the amateur radio service, Service to the Community.

Over the years, we have come to recognize that every event we work offers unique challenges that are often full of little opportunities to hone our field leadership skills; that each of us needs to "think on our feet" during critical situations. Remember, we are training to operate in the worst communications environment. So my question for you is: Are you and your equipment prepared to meet the challenge? In the field, you and your radio have access to the answers and help you should ever need. With that thought in mind:

"Nuf said…"

let's GIT' ER DONE!!!

KF6HBU@arrl.net

A 144-Mc. Handie-Talkie

The following article is reprinted courtesy of the 1946 ARRL Handbook. It gives a good example of how much technology has progressed in the last 73 years.

Fig. 1638 — Rear view of the 144-Mc. transceiver installed in its case. The oscillator-detector is constructed as a unit.

connection between the oscillator and the audio section. It makes direct contact with the oscillator support, the rotor of R_3, and the metal frames of the switch and microphone jack.

In the rear view the transformer at the left is T_1, the transceiver transformer. The audio gain control, R_6, is on the panel between R_7 and the 6J5 first audio. The modulator tube and speaker transformer are at the right, with the regeneration control, R_4, behind them on the panel. All leads from the switch are cabled and pass through a hole in the shelf near the panel. The two grid leaks, R_1 and R_2, are mounted directly on the switch contacts, but all other resistors are below the shelf. The below-shelf arrangement is of no particular consequence, since there are no r.f. circuits underneath, but the grid leads to both tubes should be kept short, so that hum pick-up will be minimized. The dropping resistor, R_{10}, for the regeneration control circuit is mounted on the lug strip at the rear; the other two resistors which connect together at this strip are the two sections of the modulator cathode resistor. Spare terminals on the tube sockets are used as tie points wherever convenient.

It is possible that in a particular layout the proper choke specifications will differ from those given. The grid choke is the more critical. In the case of either choke, the number of turns should be adjusted so that the coil end can be touched with the finger without disturbing the operation of the oscillator. Effective superregeneration depends considerably on the grid choke and on the capacity of the plate by-pass condenser, C_5. The circuit may not superregenerate at all with less than 0.002 μfd. at C_5, while values higher than 0.005 tend to cut down the audio output.

The inductance of the tuned-circuit coil, L_3, should be adjusted to bring the band on the dial by spreading the turns apart or squeezing them together. The frequency may be checked by means of an absorption wavemeter or Lecher wires as described in Chapter Nineteen. Antenna coupling is adjusted by bending the leads of the antenna coil, L_2, to bring the coil nearer to or farther away from L_3. The coupling should be adjusted so that with the switch in the "receive" position the oscillator goes into superregeneration smoothly; if the coupling is too tight it may not be possible to obtain superregeneration at all.

The transceiver requires a filament supply of 6.3 volts at 1.05 amp., and a plate supply capable of delivering 30 to 60 milliamperes at 135 to 200 volts. A suitable vibrator-type supply is shown in Chapter Eighteen.

A 144-Mc. Handie-Talkie

For short-range work the "handie-talkie" type of equipment, where the transmitter and receiver are built as a unit light and compact enough to be held in one hand and operated in much the same fashion as an ordinary telephone handset, frequently is useful. Figs. 1640, 1641 and 1642 show a unit of this type, designed for operation in the 144-Mc. band. It uses dry-cell acorn tubes in a simple transceiver circuit.

As shown in the circuit diagram, Fig. 1641, a three-pole two-position switch, S_1, accomplishes the changeover from send to receive. One section connects or disconnects the microphone; the second section connects the proper

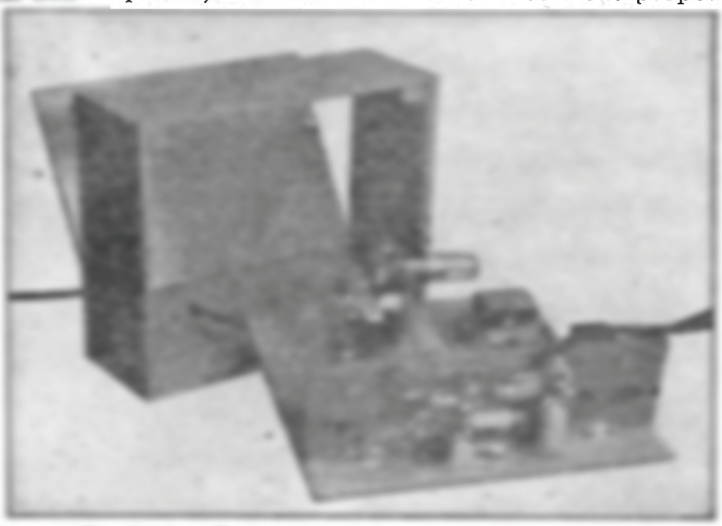


Fig. 1639 — Bottom view of the 144-Mc. transceiver.

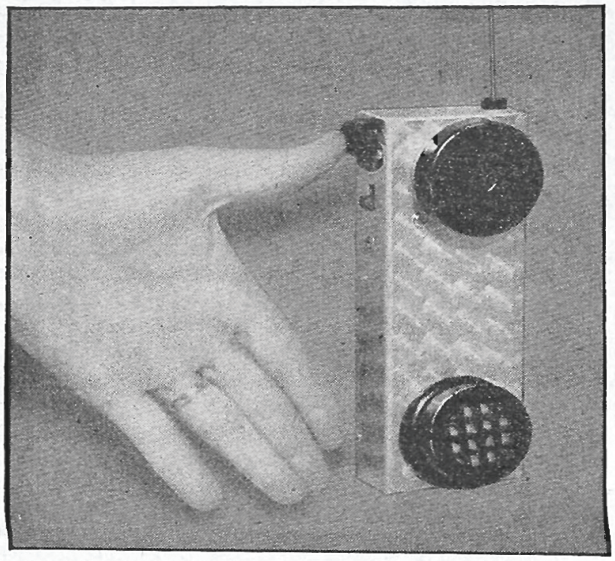


Fig. 1640 — A "handie-talkie" for the 144-Mc. band, using dry-cell type acorn tubes. It is small enough to be slipped into a pocket, but has a range up to a mile or so in reasonably open terrain (W6TWL).

grid leak, and the third section shifts the oscillator plate circuit from the primary of the transceiver transformer, T_1, in the receive position, to the plate of the audio amplifier-modulator, for transmitting. The headphone serves as a modulation choke during transmission.

The case for the handie-talkie is 7⅛ inches high, 2⅝ inches wide and 1⅛ inches deep. It is made from two pieces of aluminum; one, on which the parts are mounted, is in the form of a U-shaped channel as shown in Fig. 1642, while the other is bent at the ends to complete the enclosure. The tubes are mounted by soldering the F-pins (Nos. 4 and 5) to small brass angles which in turn are mounted on opposite sides of the case, as shown in Fig. 1642. The screws that hold the angles to the case also are used to mount the two switches, S_1 and S_2. S_1 is mounted underneath the tuning knob, while S_2 is on the opposite side.

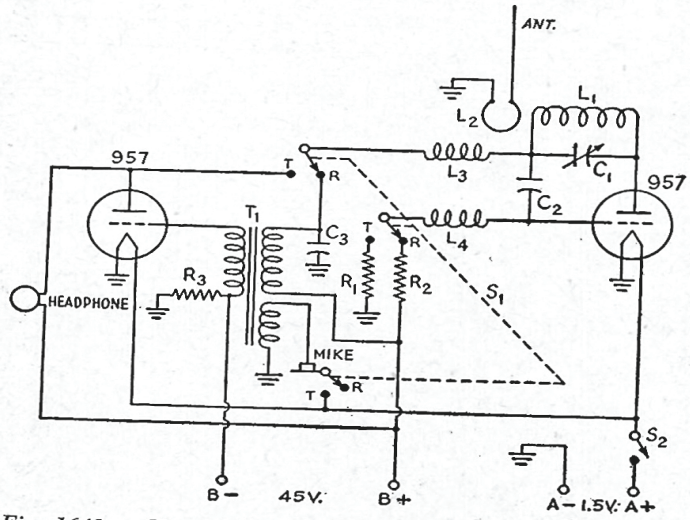


Fig. 1641 — Circuit diagram of the 144-Mc. handie-talkie.
C_1 — 3–30 $\mu\mu$fd. ceramic trimmer (see text).
C_2 — 50-$\mu\mu$fd. ceramic condenser.
C_3 — 0.002-μfd., 200-volt midget paper.
L_1 — 5 turns No. 16 tinned copper, ⅜ inch inside diameter, coil length ⅜ inch.
L_2 — 1 turn No. 16, ⅜ inch inside diameter.
L_3, L_4 — 50 turns No. 36 d.s.c. on 10-megohm, ½-watt resistor.
R_1 — 25,000 ohms, ¼ watt.
R_2 — 10 megohms, ¼ watt.
R_3 — 400 ohms, ¼ watt.
S_1 — Triple-pole double-throw slide switch.
S_2 — Single-pole single-throw slide switch.
T_1 — Transceiver transformer (Inca 1–45).

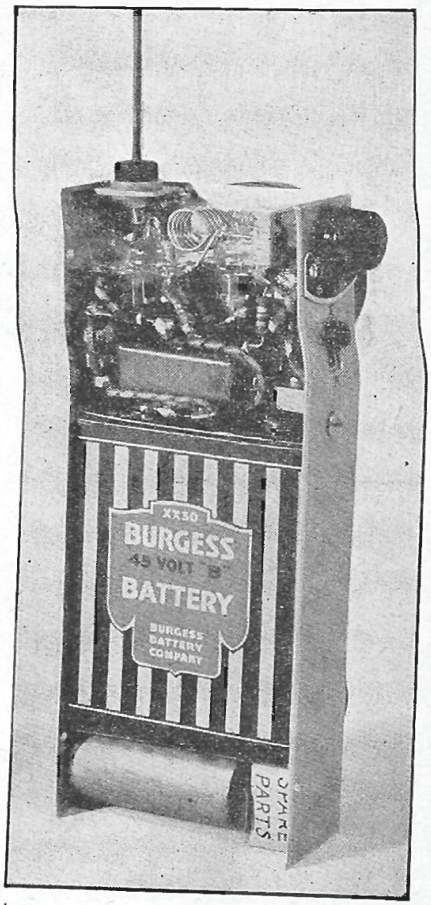


Fig. 1642 — A view inside the 144-Mc. handie-talkie. The flashlight battery for filament supply is at the bottom of the case.

The tuning condenser is a 3–30-$\mu\mu$fd. trimmer with the adjusting screw removed and threaded tightly into a ¾-inch length of ¼-inch diameter round polystyrene rod. The head of the screw is cut off and the screw rethreaded into the condenser to make a miniature tuning condenser with the shaft extending outside the case for adjustment. Stops are provided on the dial so that the condenser knob can be rotated just enough to cover the 144–148-Mc. band. The con-

denser and tank coil, L_1, are supported by their leads, one end of the tank circuit being soldered to the plate lead of the tube.

The microphone is a single-button unit (Universal Type W) mounted on a circular block cut at an angle so that it is properly tilted for voice pick-up when the headphone is held against the ear. The headphone is one unit of a 2000-ohm set mounted on the case.

The antenna plugs into the pin jack at the top of the transceiver. Steel or brass rod of 1/16-inch diameter may be used for the antenna; a length of approximately 18 inches is required for a quarter-wave antenna. The length may be pruned to the optimum figure by having another station check the signal strength while the length is changed, or by starting with the rod a little long and cutting off a bit at a time until the antenna shows the maximum tendency to throw the super-regenerative detector out of oscillation.

This unit uses a single No. 1 size flashlight cell for "A" power and a miniature 45-volt block (Burgess XX30) for "B" supply. The filament drain is 100 milliamperes and the plate drain 3 ma.

Fig. 1047 — A 144-Mc. mobile transmitter, constructed to be installed in the trunk of a car and operated by remote control from the driving position (W1DBM).

A Complete 144-Mc. Mobile Station

The 144-Mc. mobile equipment shown in Figs. 1043 to 1049, inclusive, offers two alternatives to the prospective user. It includes a transceiver designed for fitting into the glove compartment of a car, and this unit is a complete low-power station in itself; in addition, there is a higher-power transmitter (25 to 30 watts input) which can be installed in the car

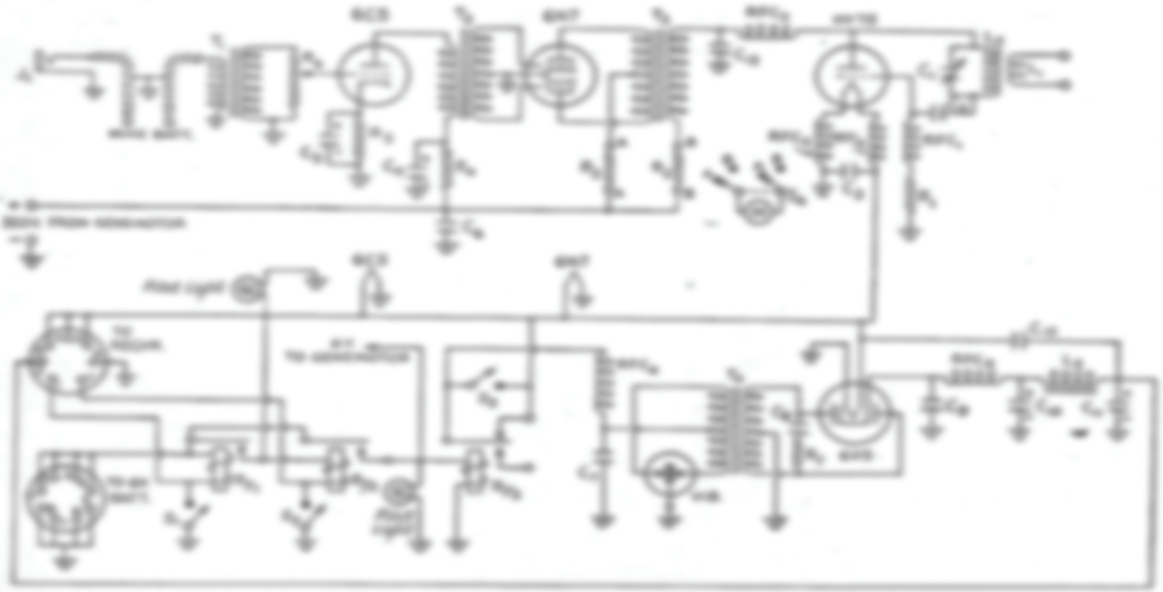


Fig. 1048 — Circuit diagram of the 144-Mc. mobile transmitter and control system.

C_1 — 20-$\mu\mu$fd. variable.
C_2 — 50-$\mu\mu$fd. mica.
C_3 — 0.005-μfd. mica.
C_4, C_5, C_{10}, C_{11} — 10-μfd. 450-volt electrolytic.
C_6 — 25-μfd. 25-volt electrolytic.
C_7 — 0.5-μfd. paper.
C_8 — 0.015-μfd., 1000-volt paper.
C_9 — 0.01-μfd. paper.
C_{12} — 100-$\mu\mu$fd. mica.
L_1 — 1 turn No. 14, ¼ inch diameter.
L_2 — 2 turns ¼-inch copper tubing, ¼ inch inside diameter, ¼ inch long.
L_3 — 8 turns, 150 ma.
R_1, R_7 — 5000 ohms, 1 watt.
R_2, R_3 — 25 ohms, ½ watt.
R_4 — 10,000 ohms, 1 watt.
R_5 — 1000 ohms, ½ watt.
R_6 — 1 megohm potentiometer.
RFC_1, RFC_2 — Ohmite Z-1.
RFC_3 — 2.5 millihenrys.
RFC_4 — 50 turns No. 22 enameled on 1-inch form.
RFC_5, RFC_6 — 12 turns No. 14 enameled, ¼ inch inside diameter, 1 inch long.
RY_1, RY_2 — S.p.s.t. relay, 6-volt coil.
RY_3 — S.p.d.t. relay, 6-volt coil.
S_1, S_2, S_3 — S.p.s.t. toggle.
S_4 — D.p.d.t. toggle.
T_1 — Single-button microphone transformer.
T_2 — Driver transformer, 6C5 to 6N7 grids.
T_3 — Class-B output transformer, 6N7 to 5000-ohm load.

New Southwestern REACT Logo

By John Wright, SWR Ø42, Vice-President

The Southwestern REACT Board of Directors has determined that it is time to modernize the team logo. REACT International has already adopted a new, more modern logo and in keeping with this, we offer three samples of proposed logos for comment by the membership.

Please indicate your preference in order of first, second and third choice and any comments you might have regarding the change. Send your comments to the board at swreactteaminfo@emaildodo.com.

Our thanks to Doreen Kaarto for taking the initiative and contacting a graphic artist for these samples.

LOGO 1

LOGO 2

LOGO 3

Upcoming Events

Event	Date	Status
San Diego Gran Fondo	04/07/2019 (Sun)	Approved
Lakeside Western Days Parade	04/27/2019 (Sat)	Approved
Giro di San Diego	06/15/2019 (Sat)	Pending Approval
San Diego International Triathlon	06/23/2019 (Sun)	Pending Approval
Touch-A-Truck	09/??/2019	Pending Date
Silver Strand Half Marathon	11/10/2019 (Sun)	Pending Approval

Four of the events on this list are still in *Pending Approval* status. In order to provide the requested services, we need to approve these events so Coordinators can be assigned, repeater requests sent and sign-up sheets circulated. Unfortunately, recent general meeting attendance has been non-existent, at least among non-board members of the team. Repeatedly, over the last several months we have been unable to achieve a quorum at the general meeting. Without a quorum, we cannot approve any upcoming events.

We need your attendance at the general meetings.

A New Arrival...

Congratulations to Daryl Williams, SWR 056, and his wife on their new baby boy!


YOU CAN'T HANDLE
THIS