

Fig. 1—Three band quad designed by W5CJV requires no tuning of reflector elements. Dimensions shown produce resonances at 14.3, 21.4 and 28.6 mc.

ANSWER: Use of 52-ohm cable for feeding a 75-ohm antenna would result in an s.w.r. of about 1.5:1 which should not be of any serious consequence.

The impedance of an antenna (such as a 40-meter dipole) depends primarily on its height above ground. It may vary between 10 and 100 ohms. For example: the theoretical impedance is about 10, 40, 75, 98, 72, 48 ohms at the respective heights of 1/14, 1/8, 1/4, 3/8, 1/2, and 5/8 wavelength. Other approximate values may be found in antenna handbooks which have a graph showing antenna impedance vs height above ground. These figures also are subject to some variation depending on the type of ground and the effects of nearby objects. Chances are that your antenna height may be such that the impedance may provide a close enough match to 52-ohms for all practical purposes, so go ahead and use the RG-8/U.

Simple Cubical Quad Antenna

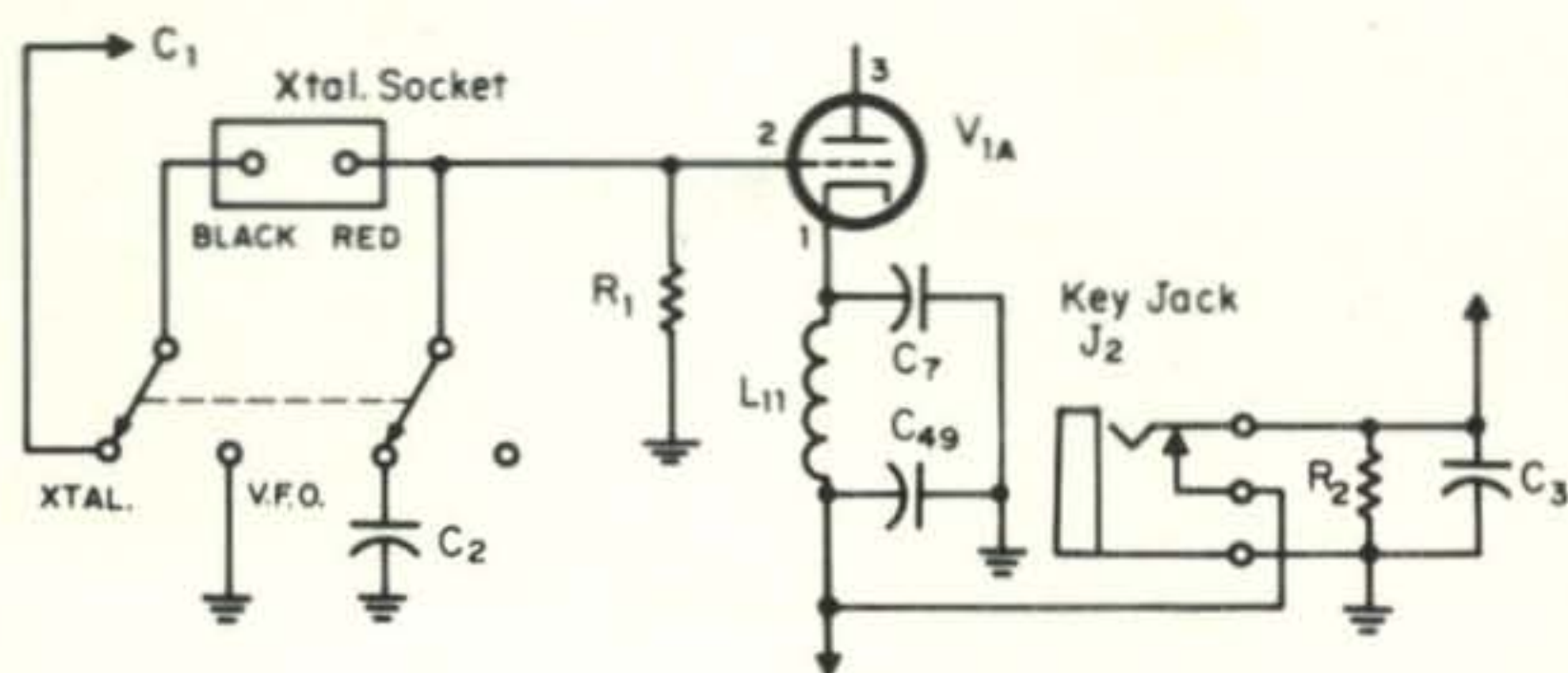
Data on a simple Quad antenna, the W5-CJV Special, has been furnished by Clarence Hunter, W5ZUS, Drawer F, Tipton, Oklahoma 73570. His letter reads as follows:

"I am enclosing a diagram of a tri-band cubical quad antenna for 20, 15 and 10 meters. The main feature about it is that it requires no tuning of the reflector elements.

"I built this quad which a friend of mine, W5CJV/OA2BH, worked out and it works wonderfully with s.w.r. less than 2:1. I did not, however, add the 20-meter sections as this makes it too bulky to mess with. Using a 1 1/2" wood dowel for a boom, my antenna weighs only fifteen pounds. I believe this data would be of value to a lot of hams.

"I've also enclosed a diagram of a special quad spreader-to-boom fitting made out of conduit or galvanized pipe which works wonders. I have been told that the problem of

Fig. 2—Hallicrafters HT-40 oscillator circuit modifications for improved v.f.o. drive on 10, 15 and 20 meters.



mounting a boom to the bamboo (or fiberglass) poles has been one of the main obstacles to putting up a quad in windy areas like Oklahoma. This type spreader was suggested by Novice WN5YBR".

Dimensions for the W5CJV Special are shown at fig. 1A. Data on the galvanized-pipe spreader are shown at fig. 1B.

Many thanks Cal. We hope others will find this data useful.

Dumont Oscilloscope Manuals

Requests are occasionally received for manuals on various models of Dumont oscilloscopes. Many of these are available at a price from Dumont Oscilloscope Laboratories, 40 Fairfield Place, Caldwell, N.J. 07006.

Code Practice

QUESTION: Can you tell me where I can get some tapes for a regular tape recorder that are cut with code, particularly using code groups or mixed characters? I can copy about 35 w.p.m. in plain language, but cannot copy accurately in mixed code. I cannot tell 5's from H's or B's from 6's, nor can I copy "behind" like good operators do.

ANSWER: With regards to your request for data on a source for code-practice *tape* recordings, we suggest you contact Pikerling Radio Company, P.O. Box 29, Portsmouth, R.I. 02871, and ask for details on the tapes they have available, some of which include a bit of material in code groups.

You might also try some on-the-air code practice using the sources listed in our April 1969 Q & A Column on page 79. These stations transmit weather and press; however, the U.S. Naval station (especially NSS) frequencies listed thereat also are a good source for mixed code, 5-letter groups, etc. Good mixed characters also may be found in the stock reports and the end of some of the night-time press transmissions from the commercial communications stations such as WSL.

Another suggestion is to use your tape recorder to record such transmissions while at the same time you are copying the code with paper and pencil. By using a fast tape-recorder speed at this time, you can later playback the recorded code transmissions at half the tape speed which then will reproduce the code at half the original code speed. This will make it easier for you to check the accuracy of what you have written down during the original transmissions.

The tone of the code signal, of course, will be at half the audio frequency of the original signal. During the original recording at the faster tape speed, tune the receiver for a beat note of about 1000 c.p.s., in which case the playback at the slower tape speed (one-half rate) will have a 500 c.p.s. tone.

Another thing that can be done is to record slower-type code signals at a slow tape speed and play them back at a faster tape speed to get practice at a faster code speed.

If a code-practice oscillator is available, you also might make recordings of your own sending of 5-letter code groups using many of the characters with which you are having difficulty. This may be done at a slow tape speed using a moderate code speed which when played back at a faster tape speed will reproduce a correspondingly faster code speed. Since the characters will be mixed, in all probability you'll not remember the groupings and thus you'll not be able to "read in" what you have originally recorded. In other words this will avoid cheating (hi!). The procedure should provide good practice for overcoming the particular problems you're up against.

More Drive Using V.F.O. with HT-40 Transmitter on 20, 15 and 10 Meters

QUESTION: I have a Hallicrafters HT-40 transmitter which can be driven okay on 80 and 40 meters with a v.f.o., but sufficient

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