



You all remember the column "Leave It To The Engineers" introduced in the December issue. Well we finally got a letter for it and here is the questions with the answer from our most able Engineers.

QUESTION: - Can TVI from 2 meters be caused by harmonics entering the hydro wiring?

ANSWERS: - Tom May VE3BYU -- The harmonics from two meter transmitters fall outside of the VHF TV channels. The second harmonic being 238mhz and the uppermost freq. of channel 13 being 216mhz. There is the possibility of harmonic interference to UHF TV channels but this should not be a problem in this area.

The principal causes of 2 meter TVI would be: (a) from unused harmonics of the oscillator or multiplier stages. Eg. the 9th harmonic of 6mhz, and 7th harmonic of 8mhz in channel 2; 10th harmonic of 8mhz in channel 6; 7th harmonic of 25mhz stages in channel 7; 4th harmonic of 48mhz stages in channel 9 or 10 and many other combinations. This may include IF pickup as in the case of 24mhz interference in receivers having 21mhz IF systems and 48mhz trouble in 45mhz IF's.

(b) Image interference in channel 2 from 144mhz in receivers having a 45 mhz IF.

(c) Sound interference (picture usually clean) resulting from RF pickup by the audio stages of the TV receiver.

(a) is transmitter trouble and can generally be cleaned up by use of a HI pass filter. (b) and (c) are receiver faults and nothing can be done at the transmitter to eliminate them.

Ron Mason VE3GAB -- Yes it can, although its more often likely to be caused by RF getting through via the multiplier stages and the final. Good shielding is most important, proper choice of multiplier frequencies and correct use of B+ and heater filters. Sometimes just a capacitor is not sufficient. Use good RF filters on all leads entering the power supply & consult some of the many good publications on this subject.

QUESTION: - What would cause QRN on two twoers a short distance away, when both are on receive?

ANSWERS: - Tom May VE3BYU -- Yes; a twoer on receive will interfere with any other receiver near by and sometimes not so near by. The receiver uses a regenerative detector which is an amplifier on the verge of going into oscillation due to controllable feed back or regeneration. When it does go into oscillation, this signal is coupled directly to the antenna and thus is radiated.

Ron Mason VE3GAB -- The twoer is a wonderful box. However, its receiver is a regen type & therefore sends out its own oscillations when on receive. Some are worse than others depending on the antenna isolation. Not too much can be done at close range without major surgery, so build a simple converter and you will find it will really pay off.

QUESTION: - At 18 wpm on a straight key 1/16th spacing, what equivalent weight lifting would that be in one hour.

ANSWERS: - Tom May VE3BYU -- Many an KYL could think up better ways to use all that energy. hi hi.

Ron Mason VE3GAB -- Not enough info given for an accurate answer, but assuming the spring tension to be 10ozs, I get the answer to be close to a man lifting a 7lb weight up a distance of one foot.

Many tnx to Ron and Tom for coming up with the answers to the questions and I hope the letter writer who signed "you no Hoo" is satisfied.