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**What Amateur and Commercial Radio Operators Can Do With the Help of the**

## CANDLER SYSTEM

They can make perfect copies of WNU press with pencil or "mill"; can cut mimeograph stencils directly from WNU, WHD and KUP press; can copy press 3 to 5 words behind easily without losing out; can count checks automatically and OK copy instantly; can send perfect code groups with key or bug at 30 to 35 wpm and more.

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the winter, we obtained its unrestricted use. The 1.75 mc. band remains, in effect, closed for amateur use, the reason being that these frequencies are used extensively for short distance telephone communication in various parts of the country.

Regulations in other respects follow the usual European lines, the power being generally interpreted to mean 50 watts input to the last stage. The authorities are rather liberal as to matter transmitted by amateur stations, all messages relating to experiments and club activity being allowed as well as unimportant greetings, even to third parties.

Norwegian transmitters may be said to keep up a rather high standard. Crystal control is becoming popular, and as we have to meet with a lot of obsolete broadcast receivers, every step must be taken to avoid disturbances. This may also account for a fairly frequent use of back wave in keying, a practice which is of course not recommended, but as it is not forbidden and offers a very cheap means of avoiding click, it has its excuses. In our efforts to get this method into disuse we are greatly helped by the increasing use of crystal control, where this signalling method is useless.

The band by far the most popular is that at 7 mc., although we have a few DX hounds on 14 mc. and many stations working on 3.5 mc. So far there are only two WAC's in Norway; several others, however, are out for their sixth continent. Work on the higher frequency bands is still lacking, but this is a situation which better technical information supplied by a more comprehensive official organ might do much to improve.

Conditions for obtaining a transmitting license are rather stringent, but logical, and indeed the stringency in connection with certain points has at different times been stressed by the N.R.R.L. The applicants are required to pass an examination on theoretical subjects, demonstrate code ability at 12wpm., and show knowledge of national and international regulations. The license fee is fixed at kroners 30.— per annum, but a broadcast license at kroners 20.— being also required, the fee in effect becomes kroners 50.— or about \$9.25.

The direction in which the regulations in this country differ from most others is, however, in the manner of passing these license examinations. Applicants may pass all examinations before N.R.R.L. officials, and the mere statement that the N.R.R.L. is satisfied with the qualifications of the applicant is accepted by the telegraph officials. This unique position enjoyed by the N.R.R.L. of course speaks highly of the friendly spirit of our officials, but we dare say that this spirit is also a very sage one. For in this way the N.R.R.L. takes all the responsibility for its transmitter-members, and consequently it is of the very greatest necessity for us to eliminate unlicensed working, as well as to control the law-abiding tendencies of our membership. In the past, we have been successful in tracking down and stopping several unlicensed stations, and even

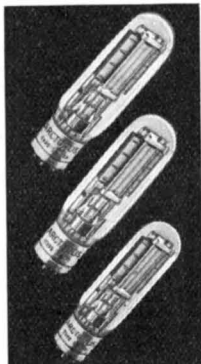
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