A FRENCH TELEVISION SYSTEM

A 60-line system using a mechanical scanning disc in the transmitter and a cathode-ray system in the receiver.

MARC CHAUVIERRE

WHILE OTHER French television systems are well known in this country little has been published in America about the experiments (under the direction of the writer) in the laboratories of the Institute Marcy, of Boulogne-sur-Seine, an institute better known as the Physical Laboratories of the Collège de France. This laboratory makes its television experiments in cooperation with the well-known Paris broadcasting station “FTT”. Since this station is owned and operated by the French Post Office the television experiments have a kind of official character.

The most startling fact about these television experiments for an American observer is their extremely low-definition transmission. While in this country experimenters are busy improving the available 180-line television system to a 340-line reproduction, because it is believed that the fidelity of a 180-line

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A cathode-ray tube has been applied.
The scanner disk is completely enclosed
in a case as Fig. 1 shows; a design which
reduces the noise produced by a disk rotating in
open air. To obtain a strong spot-light beam
with a small light-source, lenses have been in-
stalled in the holes of the Nipkow disk. How
efficient this lens system actually operates may
be seen by the fact that only a 69-W. lamp is
used as light source.

This lamp is of course of special design. It
is a so-called “point-lamp.” A kind of inca-
descent lamp without the usual type of filaments,
but furnished with 2 small tungsten balls be-
tween which a small electric arc is produced. The
light of such a lamp is not only of a very bright
white color, but is also concentrated to a degree
seldom obtained by the use of a carbon-arc lamp.
A similarly-designed scanning disk has been
used for the 66-line transmissions of the French
broadcasting station “Poste-Radio-Lyon,” in the
southern part of France.

The chassis is designed in a 3-shelf form.
Upon the bottom of the chassis (see Fig. B),
the power supply and the sweep circuits
have been installed. On the second shelf we see
the image receiver, and above this receiver there
has been suspended the cathode-ray tube. No
means of sound reception and reproduction are
provided in this laboratory set-up.

The receiver is a superbet of normal design
as used for the reception of medium-wave
(broadcast band) transmissions on which the
television signals are at present radiated by the
broadcast station “PTT-Paris.” Only the I.F.
stages are tuned to a relatively broad band to
avoid a cut-off of the image frequencies. The
receiver is kept in synchronism with the trans-
mitter by means of synchronizing impulses at
the end of each line. In connection with this it
might be of interest to mention that the
sweep circuit operates with a thyatron tube
which is applied as a resistor of variable resi-
sistance, which discharges a condenser.

The cathode-ray tube (of English make) is of
the so-called high-vacuum-type, with a screen
size of 6 x 10 ins. The plate and exciter voltage
applied in this tube is about 3,000 volts. Al-
though the image quality is too low to satisfy
the public after the first curiosity has been
satisfied, it is only the beginning of real tele-
vision progress in France.