

and perfection of the signal transmitting and receiving equipment.

We plan to disclose details of this system in the near future. Much as we would like to, we cannot do so now because of patent considerations.

### Conclusion

We would like to conclude with an overall assessment of the performance of the Telemeter system in Toronto, with special emphasis on certain features of the system about which doubts had been expressed. First, there were fears, before the system opened, that a cash pay television system was impractical and

uneconomical because it would be very difficult to collect cash in the home. It was feared that the collectors would not be let in, and that similar difficulties would be encountered. It is no longer necessary to speculate about this subject: the fact of the matter is that in Toronto we have not had any difficulty collecting cash in the home. The system, which has about 6000 subscribers, is serviced by three collectors, one of whom functions as a supervisor. The collectors actually act as ambassadors of good will, bringing refunds to home owners where these are due and handling customer questions on a personal basis.

Before we installed the system in

Toronto some people expressed doubt that our subscribers would learn to use the Telemeter unit. Actually the unit is a great deal simpler to use than the average washing machine, and people easily learned to use the equipment. Finally, doubts were expressed that the tape recorder in the Telemeter unit, which is of necessity very simple and inexpensive, would make consistently reliable recordings. Here again, magnetic tape has proven itself to be a very reliable and satisfactory means of recording customer purchases.

In conclusion it may be stated that the Telemeter system, as embodied in Toronto, is a practical accomplishment.

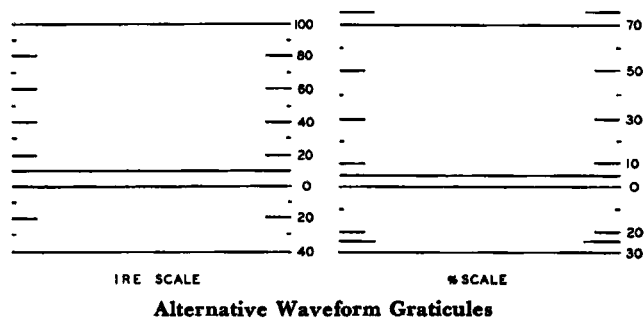
## Letter to the Editor: Black-and-White Television Monitoring and Video Levels

The excellent paper by Harold Wright in the November, 1961, *Journal* on the subject of "Black-and-White Television Monitoring and Video Levels" raised a point that I would like to suggest might be worthy of revision in keeping with the general upgrading of standards suggested by Mr. Wright. This is the so-called IRE scale of units for calibrating waveform monitors. This employs the rather odd number of 140 units to express the complete video swing from sync tip to peak white, and must surely have originated with the obsolete American Standard 1.4-volt distribution system. On the IRE system it is usual to have 40 units of sync and 100 units of video picture information. In my experience some confusion arises from time to time because operators tend to use "per cent" to mean some fraction of the 100 IRE units of picture. Other operators using linearly scaled graticules then take the percentage of the overall signal, i.e., 140, units.

I suggest that now that we have come into line with the rest of the world by using 1-volt distribution of video signals we should use the graticules used by everyone else, which are calibrated from +70 to -30 and so read directly in per cent. This has the further advantage of eliminating clumsy wording such as "twenty IRE units." It is interesting to note that the comparable levels in each system come out in whole numbers with only a slight error, and a table is shown below together with sketches of the two graticules.

	IRE Scale	% Scale
White clipping (typical)	110 units	75
Peak white	100	70
Black	7.5	5
Blanking	0	0
Sync tips	-40	-30
Picture: sync ratio	100:40	70:30

CCIR studio standards are for a 1-volt 75:25 ratio system which is easily covered by the same graticule (see below).



On the subject of signal levels this might be a good time to press American manufacturers to ensure that their equipment will run off internationally standardized 2-volt pulses instead of 4, and to point out that there is a strong move afoot to distribute both video and pulses at the 1-volt level.

It may be some time before we convert our TV system from 525-line to 625-line 50 field standards, although I am not convinced that this would be impracticable, but standardization of levels at least makes it easy to incorporate equipment built by various manufacturers. Perhaps we might also take a long hard look at that requirement that TV sound transmitters should run at half the peak video transmitter power, when CCIR standards call for one-fifth the power. The capital and running costs inherent in this choice are surprisingly high. The effect on the receiver is so small that it would be interesting to know how many TV stations in fact run at full sound power all the time.

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