

experimenters have actually plotted curves showing accurately the strength of signal to be expected in different directions from a given station and have developed the measuring scheme to such a state that a proposed location for a new station is now thoroughly mapped (electrically) to test its suitability. These electrical surveyors have already saved prospective station managers much chagrin and money.

Only last month Mr. G. W. Pickard gave a most interesting paper on the phenomenon of fading, as noted on page 374 of this issue. We now know exactly to what extent a signal waxes and wanes from minute to minute, and even though we have no way of preventing this, the information Mr. Pickard has given us is most welcome and valuable.

RADIO IN TRAIN CONTROLS

IN ANOTHER field, radio has made no progress where one might think it well adapted to function, and that is in automatic train control systems. One would think that radio would lend itself admirably to the automatic prevention of collisions, yet such application of radio is still to be made. While Government commissions are ordering railroads to put in automatic train stop devices of any kind that will work, the field seems to be occupied with cumbersome electromagnetic brakes and air pressure systems. A stalled train could use a vacuum tube transmitter to act on sensitive relays of approaching trains with ever increasing certainty as the distance between them decreased. The signal received on the approaching train would rapidly increase in intensity as the imminence of collision increased so that the scheme seems to have just the right characteristics. But the year just passed didn't show results of these conjectures that were of importance.

USE OF SHORT WAVES FOR RE-TRANSMISSION

THE inauguration of double wave transmission at KDKA, the pioneer of broadcasting stations, marks a real step in the progress of broadcasting. Here they send out regular programs on the specified frequency of 920 kilocycles, and also transmit it on 3,200 kc. This radiation is picked up at KFKX, Hastings, Nebraska and used for modulating this station, thus making the high frequency radio wave connect the two stations just as the telephone company now operates several stations from



the same microphone by wire connection. It was thought that there would be less fading and less interference if this very high frequency wave was used as the connecting channel, but it seems that a much greater advantage in using the high frequency link lies in the possibility of directing and focussing the beam of radio waves. Marconi and Franklin have shown that by using a reflector at both sending and receiving stations such directive and focussing action is possible and that the received signal is increased hundreds of times over what it would be with the usual non-directive radiation. This kind of radio link between stations, where a comparatively narrow beam of waves is originated at the focus of one mirror and gathered at the focus of another, is a very likely development in the near future.

THE NATIONAL ASSOCIATION OF BROADCASTERS

THE stand taken by the Society of Authors, Composers, and Publishers in demanding royalties

where none were available, as well as the desire to answer the question—Who is going to pay? gave rise to the National Association of Broadcasters, as we have mentioned before in RADIO BROADCAST. This group of enthusiastic station managers has apparently succeeded in their scheme to popularize new music by broadcasting it for the authors themselves instead of letting some society, which would take most of the profits, handle the “plugging” of the new song or dance piece. The scheme of course takes time to get under way, but the prospects for its success seem excellent at this time, only a few months after the inception of the idea.

EDUCATIONAL RADIO

EDUCATIONAL radio, of real cultural value, has been tried in a small way, and those responsible for the venture feel justified in proceeding with more ambitious plans for the coming year. People will apparently pay for radio material when no coercion at all is exercised; the fact that they are being given something worth while makes them willing to pay for it, even though they might get it almost as well without paying a cent. This is a very interesting phase of the psychology of the radio audience which hasn't been at all utilized as yet.