

BELL SYSTEM PRACTICES
Station Installation and Maintenance

SECTION C56.102
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AT&T Co Standard

CIVIL AIR RAID WARNING SYSTEM
(CARW)
BELL AND LIGHTS
STATION EQUIPMENT — DESCRIPTION

1. GENERAL

1.01 This section gives general information on the station equipment installed at Civil Defense Keypoint and Subkeypoint Stations (Control Points) and important warning stations to provide coded visual signals together with coded or uncoded audible signals on alerts disseminated to Keypoint Stations of the Federal Civil Defense Administration (FCDA).

1.02 Four classes of alerts may be disseminated including the public warning signals of "red" and "white" denoting the "Air Raid Warning" and the "All Clear" signals, respectively, the confidential "yellow" signal denoting an impending attack and when necessary a fourth signal identified as "blue". The "blue" signal, although available, has not yet been assigned a specific meaning. Both the "yellow" and "blue" signals may be treated as confidential signals and restricted to certain selected warning stations, whereas the "red" and "white" signals are distributed to all stations.

1.03 Equipment at the control points consists of a special dial and a station signal indicator arranged to provide coded visual signals as well as the associated coded or non-coded audible signal. At the warning stations, the station signal indicator or the audible only signal is installed.

2. DESCRIPTION

2.01 The dial is a modified 7-type dial, with a special finger-wheel having only five finger holes corresponding to the even numbered digits 2, 4, 6, 8 and 0 on the finger-wheel of the standard dial. The dial has a modified spring block assembly and special cam so that the average per cent break in dial pulses is 50 ± 2 per cent instead of 60 ± 2 per cent. This increases the over-all tolerance for pulse distortion on the system. The number plate is marked with black letters on colored fields. The areas between the colored fields and under the finger-wheel are black; a white spot is located under each finger-wheel hole to facilitate dialing. The following table shows the color scheme.

TABLE 1

<u>Digit</u>	<u>Field</u>	<u>Designation</u>
2	White with Green Stripes	STOP
4	Yellow	Y
6	Blue	B
8	Red	R
0	White	W

2.02 The dial is mounted in a gray-green wrinkle finish metal housing (approximately 6 inches square) with an inclined top. The dial is located in the face of the inclined top of the housing and is protected by a hinged cover with a plexi-glass window. The cover is provided with a lock and key to discourage unauthorized use. The cover may be forced open without the key in case of emergency but can not be relocked without the key, thus furnishing evidence of emergency or unauthorized use. The dial assembly may be placed on a desk or table unattached or mounted on a wall by turning the dial through 180 degrees in the housing so that the cover will open down and not obstruct the use of the dial.

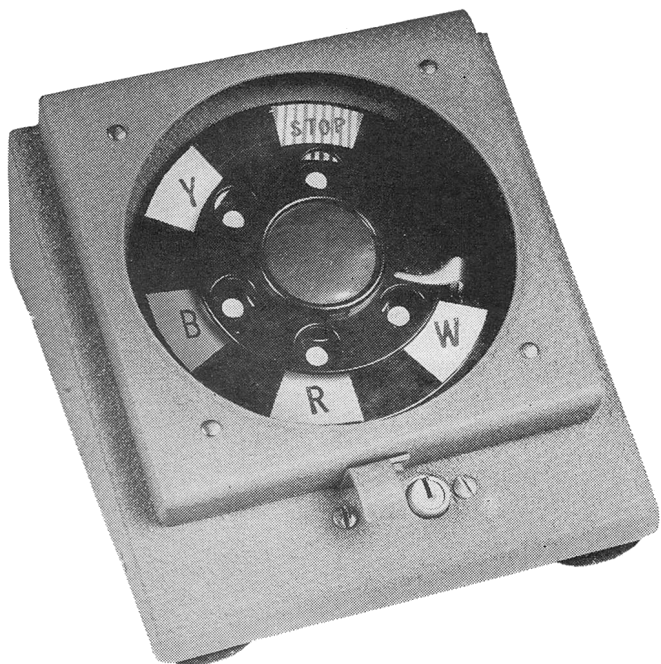


Fig. 1—CARW Dial with Cover Closed



Fig. 2—CARW Dial with Cover Open

2.03 The Station Signal Indicator, shown in Fig. 3 is a modified 531A subscriber set having four 359A cold cathode vacuum tubes (3 element) and several resistors. The tubes protrude through an opening in the subset cover and are protected by a plastic designation strip which diffuses the tube brilliance through a translucent circular window. The block letters **Y**, **B**, **R** and **W** appear on the designation strip which is divided into four colored segments corresponding to the block letters, i.e., **Yellow**, **Blue**, **Red** and **White**. The set is wired so that only the tube corresponding to the signal disseminated is lighted during an alert warning, i.e., the **Yellow** on a "yellow" signal, etc. A black visor shields the designation strip.

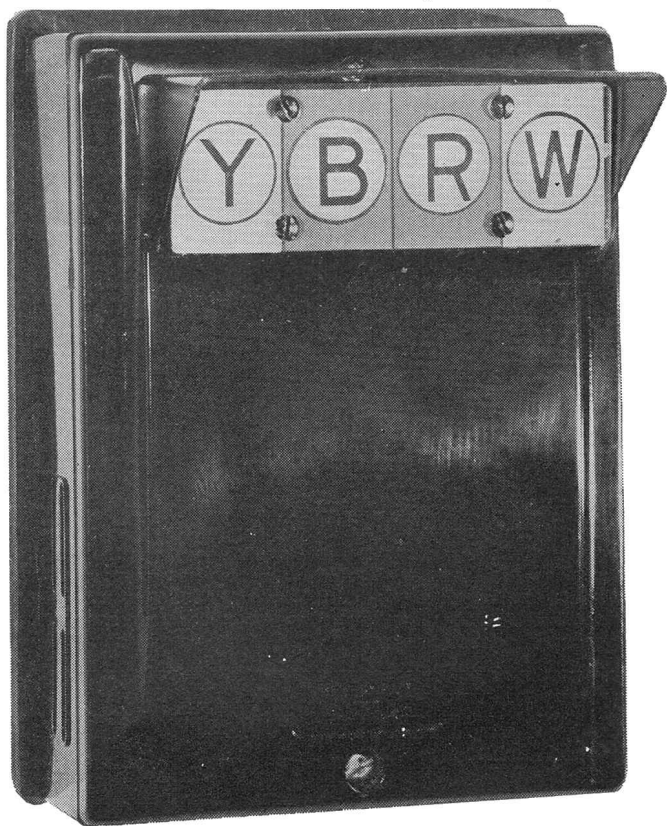


Fig. 3—CARW Station Signal Indicator

2.04 A B1AL ringer is included in the Station Signal Indicator and is equipped with 2-41B gongs and 101A gong attachments with knock-outs removed. An external non-locking 6017-type key may be wired in series with the ringer circuit so that the subscriber may silence the ringer during a part of any prolonged warning signal. A 592A subscriber set may be substituted for the normal ringer at noisy locations.

2.05 Where coded visible signals are not provided the 531A-3 subscriber set or equivalent is used. At warning stations in small communities which are connected to single or five line capacity units at the central office, the audible only station signal indicator should not be used since steady (non-coded) ringing is supplied to the warning station line by the single or five line capacity unit. Steady ringing in such cases would convey no information.

2.06 In larger communities where the 50 to 200 line capacity units are employed at the central office, coded ringing is transmitted to the line on a four party fully selective principle and activates both the station bell and the alert lamp simultaneously throughout a given warning period. The bell rings and the associated lamp lights according to a distinctive code for each alert as follows:

- Y** (Yellow) — two short rings — pause — (repeated)
- B** (Blue) — three short rings — pause — (repeated)
- R** (Red) — continuous short rings
- W** (White) — steady ringing

Note: Each alert signal will last approximately three minutes unless a different degree of alert is received and disseminated before three minutes expire.

2.07 Details of each ringing cycle together with the type of superimposed ringing current for proper operation of the visual indicators are given in Table 2.

TABLE 2

Alert Signal	Ringing Code	Type of Superimposed Ringing Current	Ringing Ground on
Y (Yellow)	1/2 sec. on 1/2 sec. off 1/2 sec. on 2-1/2 secs. off Repeated	Negative	Tip
B (Blue)	1/2 sec. on 1/2 sec. off 1/2 sec. on 1/2 sec. off 1/2 sec. on 1-1/2 secs. off Repeated	Positive	Tip
R (Red)	1/2 sec. on 1/2 sec. off Continuous	Negative	Ring
W (White)	16 secs. on 16 secs. off Repeated	Positive	Ring

2.08 At warning stations connected to single or five line capacity units at the central office, the type of superimposed ringing current for proper operation of the visual indicators is given in Table 3.

TABLE 3

Alert Signal	Ringing Code	Negative Super- imposed Ringing Current on	Ringing Ground on
Y (Yellow)	Steady Ringing	R	T, T1, R1
B (Blue)	Steady Ringing	T, T1, R1	R
R (Red)	Steady Ringing	T	R, T1, R1
W (White)	Steady Ringing	R, T1, R1	T