CIVIL DEFENSE WARNING SYSTEM

(CDW)

BELL AND LIGHTS

STATION EQUIPMENT—INSTALLATION AND MAINTENANCE

1. GENERAL

1.01 This section is reissued to add information on the change in meaning and application of civil defense warning signals. Since this reissue covers a general revision, arrows ordinarily used to indicate changes have been omitted.

1.02 Install binding post insulators for CDW lines.

Refer to Section 460-110-100.

1.03 Tables A and B give loop limitations for systems requiring extension ringers or loud-ringing bells. The working limits are based on the use of a 13C, or equivalent, resistance lamp. Ranges shown apply to the most distant indicator or ringer.

2. INSTALLATION

Signal Indicator

2.01 Mount the station signal indicator on a wall where it is continuously visible.

Do not mount the station signal indicator in direct sunlight or where direct light on the numbers will nullify the brilliance of an illuminated lamp signal.

2.02 Two cable pairs are required for station signal indicators when used with the following types of code distributing units:

- Single line capacity
- 5-line capacity.

2.03 One cable pair is required for station signal indicators when used with the following types of code distributing units:

- 8-line capacity
- 50- to 200-line capacity.

Signal Indicator Test

Do not perform tests on the station equipment without proper authorization.

2.04 The station signal indicator central office test arrangements will vary with available testing facilities.

2.05 Where a station line test circuit (SD-95746-01) is part of the central office CDW equipment, the test should originate from the CDW equipment bay.

2.06 The test may be made by the test desk when it is equipped with 4-party selective ringing.

2.07 Ensure that test currents are applied only to the line of the station under test and are as shown in Table C. It is essential that conversation facilities be established between the persons conducting the test.

2.08 Verify that the illuminated station signal indicator light has the same number as the signal sent from the central office, and that the internal station signal indicator ringer [and extension

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TABLE A

15,000 OHMS MINIMUM INSULATION RESISTANCE

LINE TO CDW CIRCUIT	MINIMUM SUPERIMPOSED VOLTAGE		MAXIMUM EARTH POTENTIAL	MAXIMUM LOOP			
				NO EXTENSION	ONE EXTENSION INDICATOR†	ONE EXTENSION RINGER	TWO EXTENSION RINGERS†
	AC	DC*		OHMS			
2-wire	65	45	0	600	50	300	200
	70	45	0	1300	400	700	600
	70	45	± 5	800	150	400	200
	70	45	±10	300			
	75	45	0	1800	800	1200	1000
	75	45	± 5	1300	400	800	600
	75	45	±10	900	200	400	300
	80	45	±10	1300	400	900	700
4-wire	65	45		500		200	100
	70	45		1000	200	500	400
	75	45		1500	600	1000	900

TABLE B

50,000 OHMS MINIMUM INSULATION RESISTANCE

LINE TO CDW CIRCUIT	MINIMUM SUPERIMPOSED VOLTAGE		MAXIMUM EARTH POTENTIAL	MAXIMUM LOOP			
				NO EXTENSION	ONE EXTENSION INDICATOR†	ONE EXTENSION RINGER	TWO EXTENSION RINGERS†
	AC	DC*		OHMS			
2-wire	65	45	0	1000	200	600	200
	70	45	0	1800	700	1200	700
	70	45	± 5	1300	300	800	400
	70	45	±10	600		300	
	75	45	0	2600	1000	1700	1200
	75	45	± 5	2000	700	1300	800
	75	45	±10	1600	400	800	500
	80	45	±10	2400	800	1500	900
4-wire	65	45		800	100	500	300
	70	45		1500	400	800	700
	75	45		2000	700	1500	1100

* ***Even though a central office is equipped for standard 4-party ringing service, the following additional battery supplies are required to obtain the voltage necessary for proper operation of the CDW system:***

(a) Step-by-step offices require a separate 48-volt negative and positive superimposed dry battery supply.

(b) In crossbar and panel offices, the 48-volt negative superimposed battery is obtained from the regular central office supply. In addition, a separate 48-volt positive superimposed dry battery supply is required.

† The addition of each extension indicator or each two extension ringers will reduce by one the number of lines which may be accommodated by any one of the code distributing units.

TABLE C

RINGING SUPPLY

WARNING SIGNAL	2-WIRE CIRCUIT		4-WIRE CIRCUIT	
	POLARIZED RINGING SUPPLY	RINGING GROUND ON	NEGATIVE POLARIZED RINGING SUPPLY ON	RINGING GROUND ON
① TEST	(—) on R	T	R	T, T1, R1
② LOCAL ALERT	(+) on R	T	T, T1, R1	R
③ ATTACK WARNING	(—) on T	R	T	R, T1, R1
④ LOCAL ALERT	(+) on T	R	R, T1, R1	T

ringer(s)] operate satisfactorily. All four of the light signals should be included in the test.

Dial Assembly

2.09 Locate the dial assembly at the control points on a desk, table, or wall, as desired by the customer.

2.10 For desk or table installation, use a suitable mounting cord for connections between the 42A connecting block and the connecting block in the dial mounting.

2.11 When the dial assembly is wall mounted, its location should be unobstructed (Fig. 1).

Fig. 1—Wall Mounted Dial Assembly

2.12 The dial must be rotated 180 degrees in the housing so the cover will open down and not obstruct the dial.

2.13 For wall installation, use the backboard furnished with ED-69245-01, group 2. Remove the four feet from the baseplate, and attach the baseplate to the backboard with four 3/4-inch No. 8 wood screws.

2.14 Enter the inside wire through the rubber bushing, and terminate the tip side of the line on terminal 1. Terminate the ring side on terminal 2.

Dial Test

Do not perform tests on the station equipment without proper authorization.

2.15 Arrange for an assistant at the central office to observe test signal indicator during test. It is essential that converstion facilities be established between the persons conducting the test.

2.16 Assure that the test signals will not activate local public signal control (siren) stations, and that false signals are not sent to other interconnected central offices in the network.

2.17 Dial the ① signal at the beginning of the test. The STOP signal should be dialed once between each warning signal to avoid the possibility of mutilating the ringing code, which will give a false test indication.

2.18 Perform the dialing test without preliminary dialing. Dial two identical numbers in quick succession (not more than 5 seconds apart for each signal), followed by STOP, in the following order:

(1) ① - ① STOP

(2) ② - ② STOP

(3) ③ - ③ STOP

(4) ④ - ④ STOP

(5) ① - ① STOP

2.19 Dialing STOP restores the system to normal after each signal except the central office alarm. If the dial operation test indicates dial trouble, replace the tested dial with a new dial and repeat the test.

2.20 Upon completion of test, inform the responsible supervisor.

Ringer Silencing

2.21 When ringer turnoff is specified, use a nonlocking 6017C key. Mount the key where it is accessible to the customer.

Power Relay Sets

2.22 Install KS-16626, List 13 power relay sets for use with customer-installed sirens. For further information, refer to Section 463-120-100.

Siren Station Test

Avoid personal contact with hazardous voltage on the power relay or siren motor.

2.23 Inspect the siren station power relay set to ensure that it responds to 20-Hz ringing current sent from the central office by the siren station line.

2.24 When the customer-owned siren is connected to the power relay, the ringing current should be sent only in fractional second spurts with intervals of no less than 15 seconds. This procedure prevents full activation of the public signal.

3. MAINTENANCE

Do not perform maintenance on the station equipment without proper authorization.

3.01 When any component (except the shield and decal) of the station signal indicator requires replacement, replace the complete signal indicator. Replacement of the shield and decal can be accomplished without affecting operation of the indicator.

3.02 Do not attempt to adjust, lubricate, or repair any component of the 7F-3 dial. Replace any dial which requires adjustment due to irregular operation or defective components.

3.03 When cleaning the dial, avoid rotation of the fingerwheel which may cause a false signal to be transmitted.

3.04 Maintenance references for other associated apparatus are shown in Table D.

TABLE D

MAINTENANCE REFERENCES

APPARATUS	SECTION
687A Subscriber Set	502-200-300
L1A Ringer	501-258-101
KS-16626, L13 Power Relay	463-120-100