

1914

# CATALOGUE AND PRICE LIST

## SECTION A

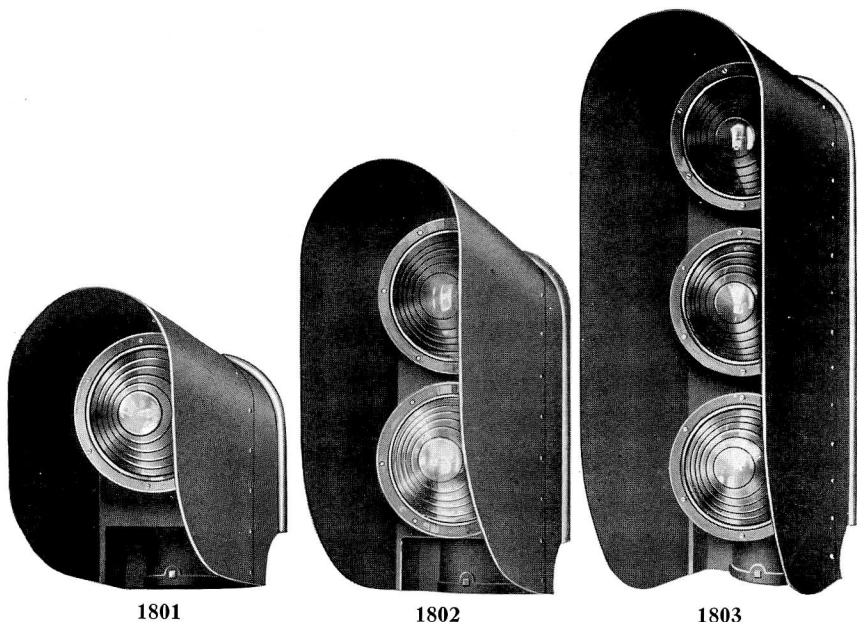
Annunciators

Electric Light Block Signals

Switch Indicators

Tower Indicators

## ELECTRIC LIGHT BLOCK SIGNALS



These Signals have been designed to give DAY LIGHT as well as NIGHT indications by LIGHT ONLY.

The Signals consist of a heavy iron lamp case with a sliding door in back and 8 $\frac{3}{8}$ " colored lenses in front. The lenses are shielded by a heavy sheet iron hood, the inside of which is painted dead black which intensifies the day light indications so they can be distinctly seen for 1,800 feet or more under the most unfavorable day light conditions (bright sun and fresh snow on ground) or the night indications with strong headlights illuminating the Signal. At the proper focal point behind each lens, two sockets are provided to hold the incandescent lamps.

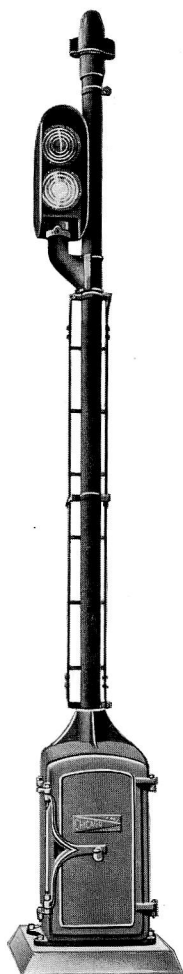
These Sockets are adjustable to any height so any size lamp may be used. On Steam Railways lamps usually consist of two 12 Volt, Five Watt Mazda Lamps, which if supplied with a somewhat lower Voltage, give very brilliant indications and at same time lamps will have a long life. On Electric Railways for locations where power current is available, lamps of standard voltages are used.

The Signals are provided with pipe sockets on lower end to fit over 4" (4 $\frac{1}{2}$ " O. D.) pipe which allow Signals to be focused to any desired angle. They are usually supported on top of signal mast or on one of our hollow brackets on side of masts. Brackets are furnished to fit all pole sizes from 3 $\frac{1}{2}$ " O. D. to 10 $\frac{3}{4}$ " O. D. so signals may be easily attached to side of any existing pole.

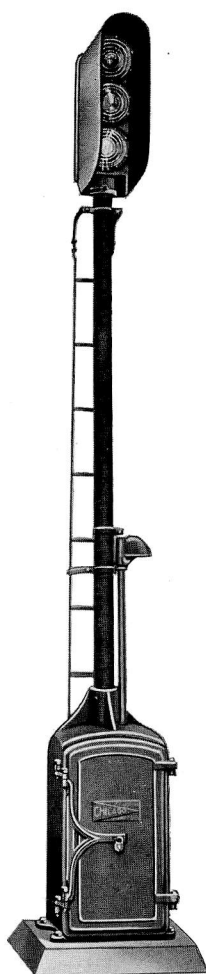
Trade No.	DESCRIPTION	List Price
1801	Single Indication Light Signal (specify color of lens) as shown	.....
1802	Double " " " " " " " " " "	.....
1803	Triple " " " " " " " " " "	.....
	Above can be equipped with 2 $\frac{3}{8}$ " Rear Light Roundels behind each indication. For each Rear Light, add to list price	.....

Incandescent Lamps are not included in above, and should be ordered separately.

## ELECTRIC LIGHT BLOCK SIGNALS



**116-1**



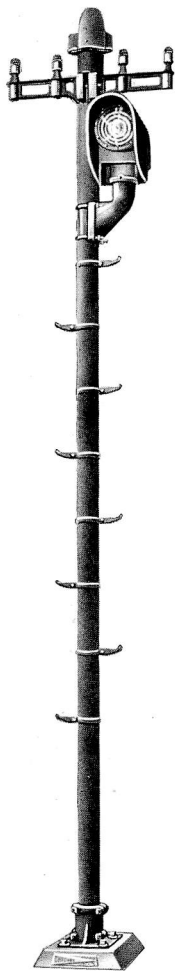
**116-2**

Signals shown are equipped with our Standard Combination Relay and Battery Box to hold the required Batteries, Relays, Lightning Arresters, etc. Signal is 16 feet high and mast is made of 4" (4½" O. D.) pipe. Standard Cable Outlets together with Signal Case together with Messenger Wire Clamp is furnished and wires may be brought into top or bottom of either Signal Case.

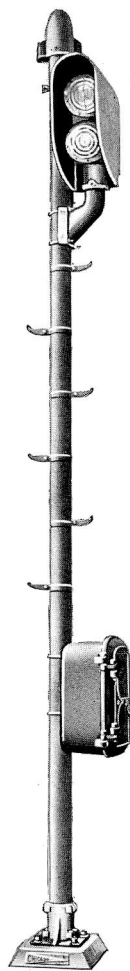
Signals shown are designed especially for Steam Roads where standard Two or Three Position Block Signaling is required. Prices and Layouts for any variation of the above on request. Signals as listed include Relay Case, Anchor Bolts, Mast, Ladder, Cable Outlet, Messenger Clamp, Light Signal complete with Bracket and U Bolts.

Trade No.	DESCRIPTION	List Price
116-1	Electric Light Block Signal (Two Light Indication) complete as shown.....	.....
116-2	Electric Light Block Signal (Three Light Indication) complete as shown.....	.....

## ELECTRIC LIGHT BLOCK SIGNALS



117-1



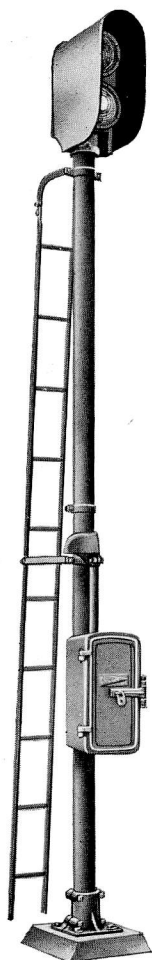
117-2

These Signals are substantially the same as shown on preceding page, except that they are equipped with Standard Relay Boxes, pressed steel pole steps are furnished in place of ladders. Signals are equipped with our Style "C" Base.

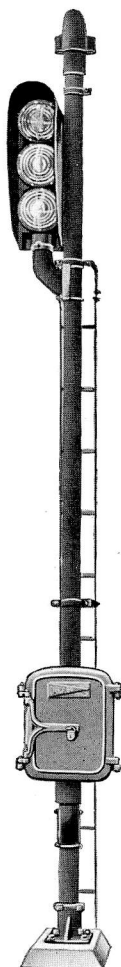
Signals as shown are especially designed for Electric Street Railway work for Single Track Block Signaling, but can be used for any number of other purposes, both on Electric and Steam Roads. Signals as listed include Mast, Style "C" Base, Anchor Bolts, Relay Box, Pole Steps, Cross Arms, Cable Pinnacle, Messenger Wire Clamp, Light Signal complete with Bracket and U Bolts.

Trade No.	DESCRIPTION	List Price
117-1	Electric Light Block Signal (One Light Indication) complete as shown	.....
117-2	Electric Light Block Signal (Two Light Indication) complete as shown with Style "A" Relay Box	.....

## ELECTRIC LIGHT BLOCK SIGNALS



117-3



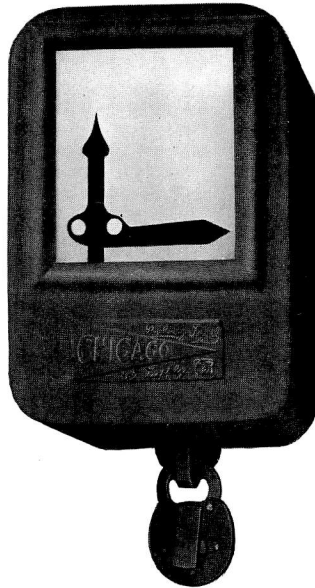
117-4

These Signals are same as those shown on previous pages except that the pole steps are replaced by standard ladders. Signals as shown are intended to be used principally for Two or Three Position Block Signaling on Steam Railroads, although they may be used for a number of other purposes. Signals as listed include Mast, Style "C" Base, Anchor Bolts, Relay Box, Ladder, Cable Pinnacle, Cable Outlets, Messenger Wire Clamp and Light Signal complete with Bracket and U Bolts.

Trade No.	DESCRIPTION	List Price
117-3	Electric Light Block Signal (Two Light Indication) complete as shown with Style "C" Relay Box.....	.....
117-4	Electric Light Block Signal (Three Light Indication) complete as shown with Style "A" Relay Box.....	.....

## IRON CASE TOWER INDICATOR

Style "A"



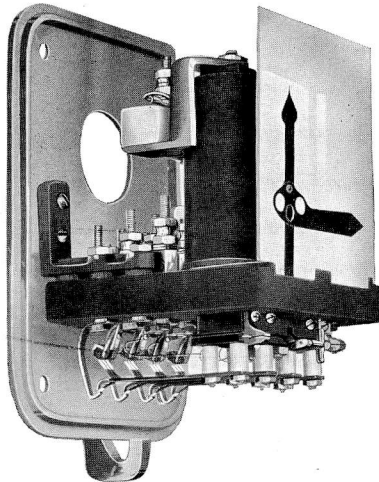
Style "A" Tower Indicator

Size,  $6\frac{1}{2}'' \times 7\frac{1}{4}'' \times 9\frac{1}{2}''$

This design of Indicator is used in towers. It is enclosed in a removable Iron Cover, which when removed allows easy access to all Binding Posts, Contacts and working parts for inspection and repair. This type is built compact and with straight sides so that any number may be banked side by side to present a Single Unit without waste of space or a sacrifice in appearance. This arrangement also simplifies repairs as each Indicator is a Unit by itself and the works of each may easily and quickly be removed from the case. Ample space is allowed for neat and quick wiring through back of case, allowing wires to be brought into Indicator from any direction.

## IRON CASE TOWER INDICATOR

Style "A"



Style "A" Tower Indicator with Cover Removed with Four Front  
and Back Contacts

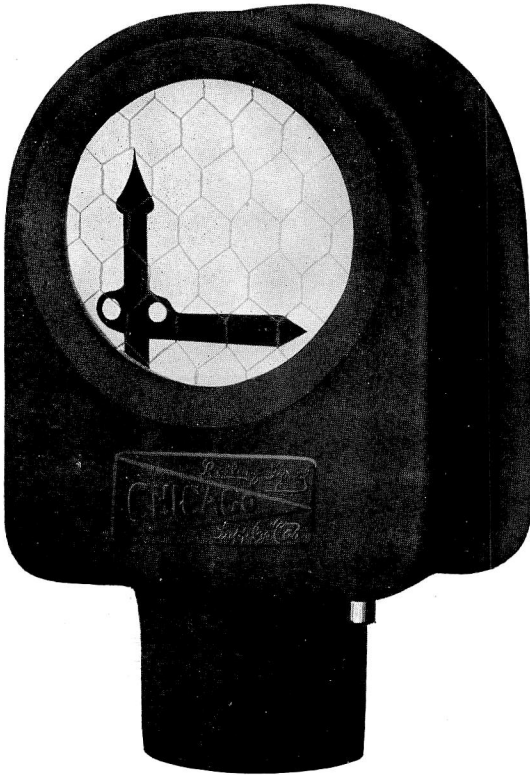
The Magnets are form-wound, easily removable and wound up to 3,000 Ohms. Magnet Terminals are on a separate Porcelain Base, provided with Spark Gap. Front Contacts are Graphite and Back Contacts Platinum. All Binding Posts are **R. S. A.** Standard and general **R. S. A.** Specifications on Relays are adhered to. Indicator may be equipped with as many as four Front and Back Contacts or four Independent Contacts; provisions are made so that Extra Contacts may be added while Indicators are in service, we guaranteeing interchangeable parts.

Indicators are furnished Upper or Lower Quadrant Semaphore either right or left aspect, disc type or any other special form desired. The Adjustments are such that practically any desired "Pick-up" and "Release" may be obtained, so that Indicators may be used on almost any Circuit.





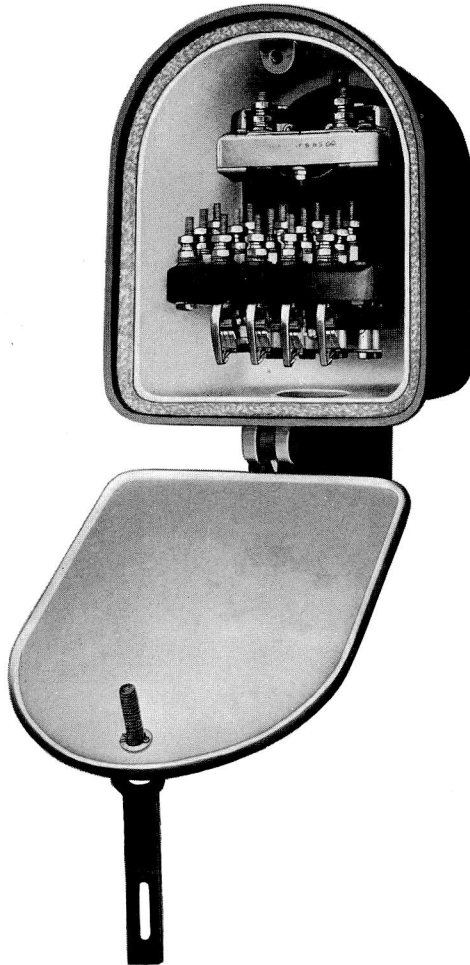
## STYLE "B" SWITCH INDICATOR



Style "B" Switch Indicator

Style "B" Switch Indicator is furnished with Semaphore Indications in either Right Hand or Left Hand Aspect and in upper and lower Quadrant positions, also with or without push button as listed elsewhere. The Indication is displayed behind a  $5\frac{1}{2}$ " heavy clear wire glass roundel which allows the use of a comparatively large Semaphore Blade. The case is well gasketed and absolutely waterproof, the locking arrangement is simple and positive, holding door tightly against the gasket.

## STYLE "B" SWITCH INDICATOR



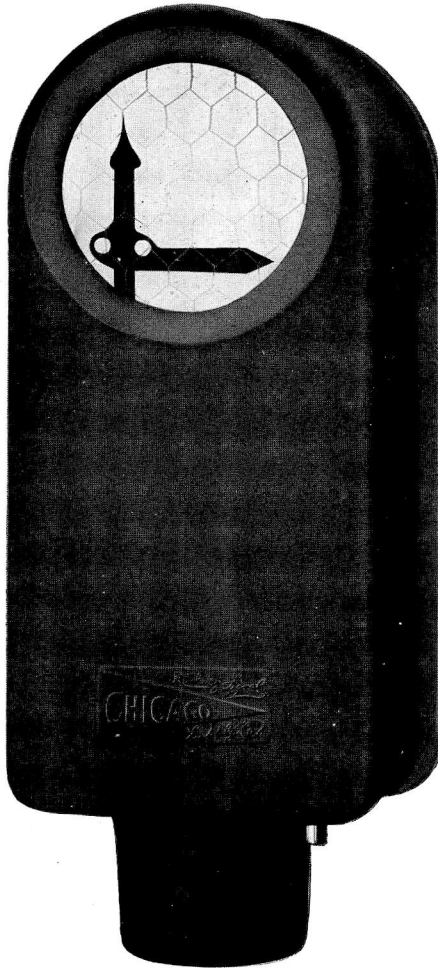
Style "B" Switch Indicator with Door Open, Showing  
Simplicity and Accessibility of Parts

The Magnets are form-wound, removable, large and highly efficient, Terminals are brought to a separate porcelain base equipped with Spark Gaps. Indicator may be equipped with four Front and Back Contacts or four Independent Contacts. Entire works are removable from case as a Unit.

All parts of Style "B" Indicator are interchangeable with our other Standard Indicators.



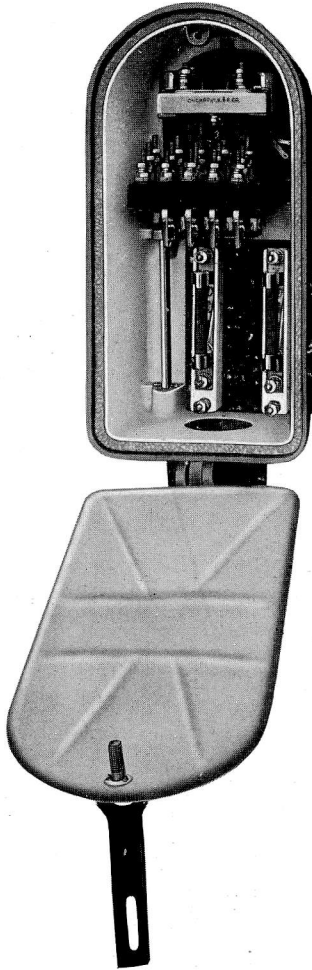
## STYLE "C" SWITCH INDICATOR



Style "C" Switch Indicator

This Indicator is the same as our Style "B" Indicator except that it is provided with a case sufficiently large to hold four Standard Lightning Arresters, Wire Terminals, etc. The Case is waterproof and is provided with a locking arrangement that holds door tightly against the rubber gasket.

## STYLE "C" SWITCH INDICATOR



**Style "C" Switch Indicator with Door Open, Showing Simplicity  
and Accessibility of Parts**

The above view shows two of our Lightning Arresters mounted upon the Insulating Base provided for mounting Lightning Arresters, Terminals, etc. Base is amply large to accommodate any Standard Lightning Arresters. The entire Mechanism is mounted on Insulated Base which is removable as a Unit. All Contacts, working parts, etc., are easily accessible for inspection and repairs and are interchangeable with our other Standard Indicators.



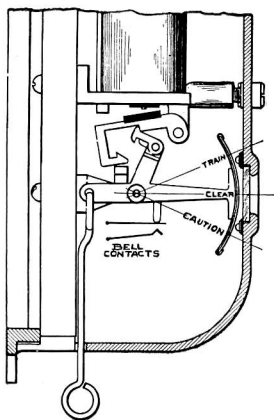
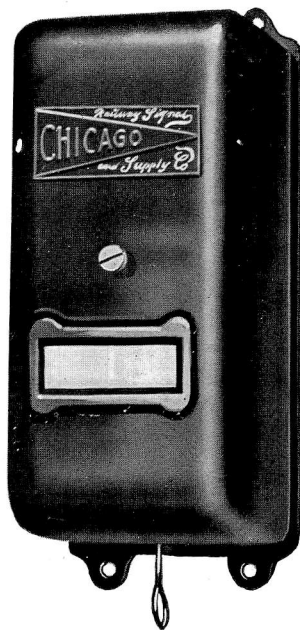
## UNIVERSAL TRAIN ANNUNCIATOR

These Annunciators may be RESET WHILE TRAIN IS ON CIRCUIT, thus stopping the Bell. When reset while train is on circuit the card occupies the THIRD POSITION indicating clearly to the operator (by showing a red indication) that Latch has been reset while train is still on circuit.

When restored either MANUALLY or MAGNETICALLY with train on circuit the Latch assumes the normal position AUTOMATICALLY when train leaves the circuit and is then ready for next indication by next train. When restored with no train on circuit Annunciator assumes normal position.

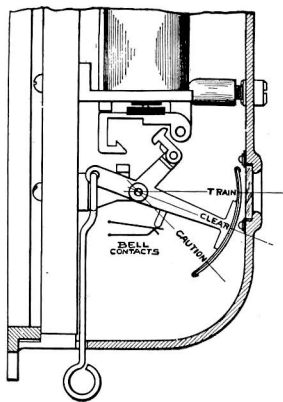
They are furnished with handle for MANUAL RESTORE or with "Magnetic Restore" which allows operator to restore and stop Bell from a push button or foot push located at any convenient point.

These Annunciators overcome the objectionable feature of Bell ringing constantly while train occupies setting circuit, thus doing away with temptation of tower men to "plug" Annunciator. Only one bell or buzzer is required for any number of Annunciators.



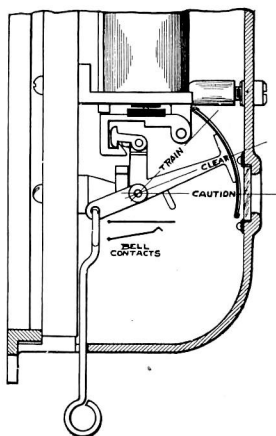
**Normal**

Card Displaying "Clear"  
Local Bell Contacts Open



**Train in Circuit**

Card Showing "Train"  
Local Bell Contacts Closed

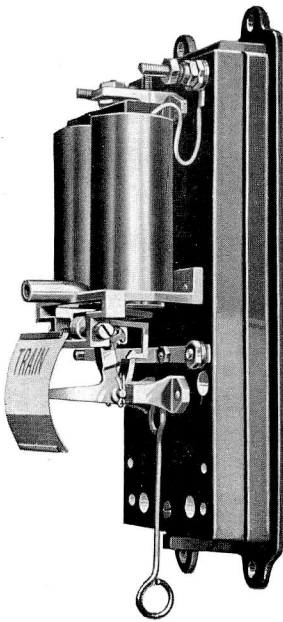


**Restored while Train is on Circuit**

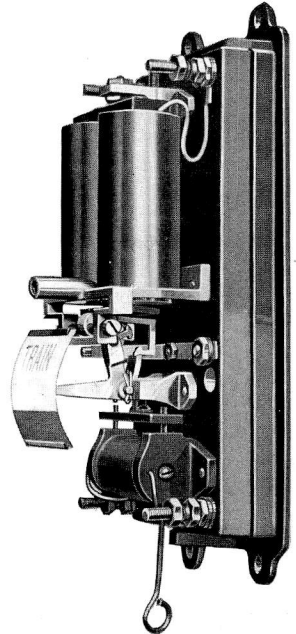
Showing Red Color  
Local Bell Contacts Open

**Diagrams Showing Operation of Three Position Universal Annunciators**

## UNIVERSAL TRAIN ANNUNCIATOR



**No. 1610**  
(Cover Removed)



**No. 1611**  
(Cover Removed)

The UNIVERSAL ANNUNCIATOR is of the Unit type, size 5" x 5" x 11" high. Furnished with dust and bug proof iron cover. Works are mounted upon slate and equipped with contacts for bells or buzzers. They are narrow enough to be set between tower windows and when banked close present a unit appearance.

Standard Resistance is 25 Ohms, but can be furnished any desired resistance up to 1,000 Ohms. The operation of these Annunciators is very simple and positive. Parts are made heavy and durable to withstand rough and continued usage.

They are highly efficient and require very little current to operate and when furnished with 4 Ohm magnets can be used connected directly to track circuits without intervening relays.

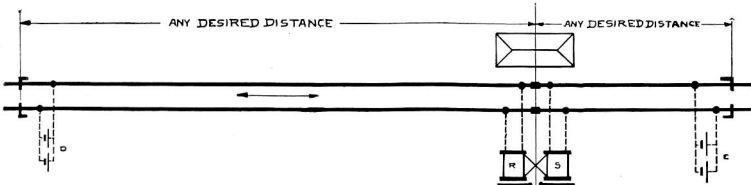
Indicator card shows clear white for normal, "TRAIN" in large block letters when the annunciator has been tripped by an approaching train and RED when annunciator has been restored, to stop bell from ringing while train is in circuit.

Trade No.	DESCRIPTION	List Price
1610	Universal Annunciator with Manual Restoring Handle.....	\$26.00
1611	"                    "          "          Magnetic Restore.....	32.00
1610-50	3" Dust Proof Enclosed Monitor Bell for above.....	2.00
1610-51	3" Skeleton Frame Bell for above.....	3.00
1610-52	Enclosed Dust Proof Buzzer for above.....	1.25

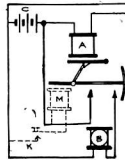
For 4" to 8" Single Stroke or Vibrating Bells, for above, see Style "S" Bells.



## ANNUNCIATOR CIRCUITS



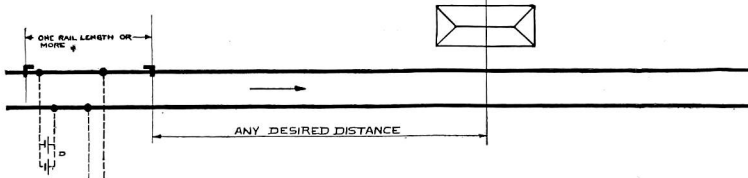
- A—No. 1610 or 1611 Annunciator.  
B—No. 1610-50; 1610-51 or Style "S"  
Bell or 1610-52 Buzzer.  
C—Annunciator Batteries.  
D and E—Track Batteries in C. I.  
Battery Chutes.  
K—No. 220 Strap Key.  
R—S One Way Interlocking Relay.



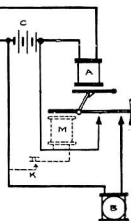
Annunciator Circuit No. 5104

NOTE:—Light dotted lines show wiring  
for No. 1611 Annunciator.

### Closed Track Circuit Annunciator. Operated by Trains in One Direction Only



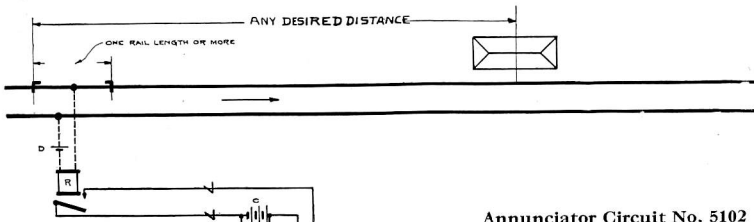
- A—No. 1610 or 1611 Annunciator.  
B—1610-50; 1610-51; Styles "S"  
Bell or 1610-52 Buzzer.  
C—Annunciator Batteries.  
D—Track Batteries.  
K—No. 220 Strap Key.  
R—Low Resistance Track Relay in  
C. I. Relay Box.  
L—Lightning Arresters.



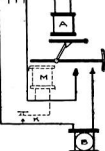
Annunciator Circuit No. 5103

NOTE:—Light dotted lines show wiring  
for No. 1611 Annunciator.

### Normally Open Track Circuit Control Annunciator Connected Through Track Relay For Double Track



- A—No. 1610 or 1611 Annunciator.  
B—No. 1610-50; 1610-51; Style "S"  
Bell or 1610-52 Buzzer.  
D—Track.  
K—No. 220 Strap Key.  
R—Low Resistance Track Relay in  
C. I. Relay Box.  
L—Lightning Arresters.

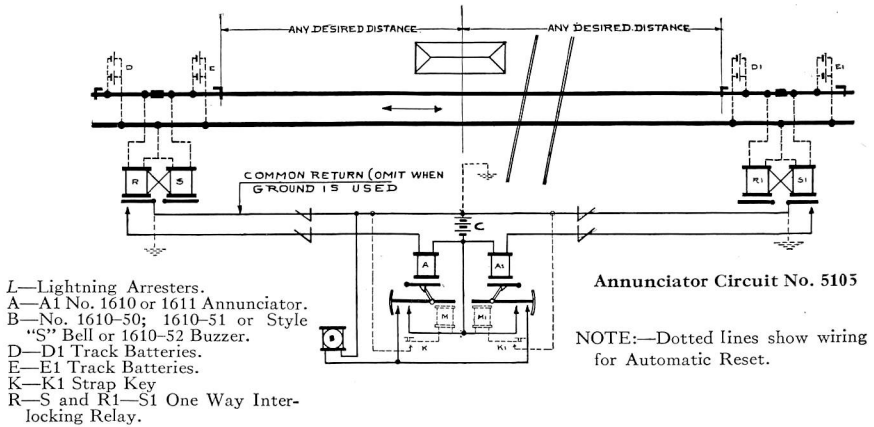


Annunciator Circuit No. 5102

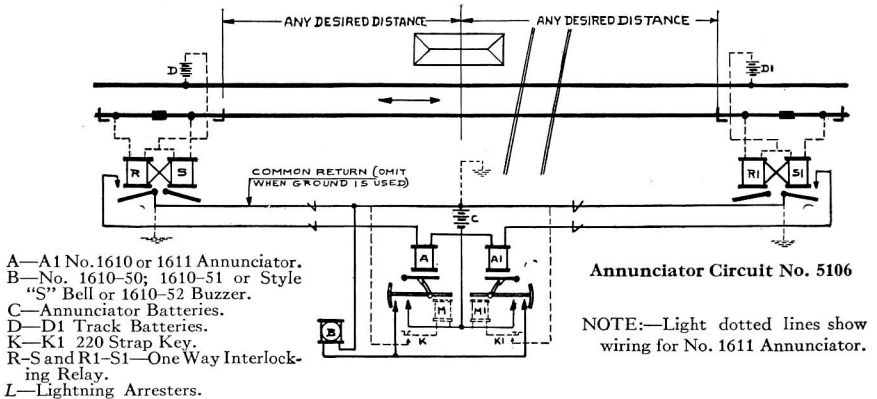
NOTE:—Light dotted lines show wiring  
for No. 1611 Annunciator.

### Normally Open Track Circuit Control Annunciator Connected Through Track Relay For Double Track

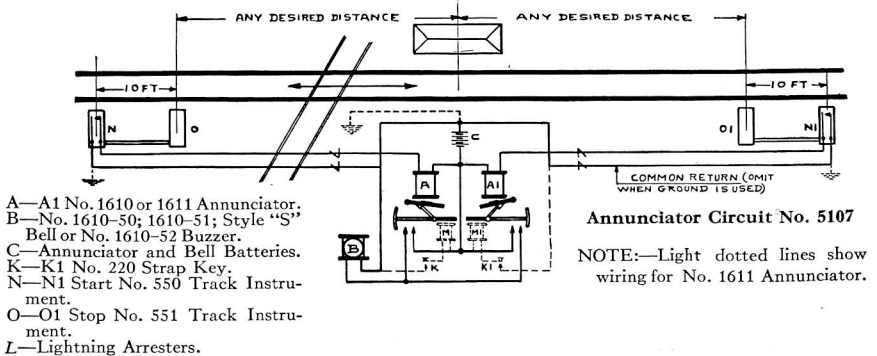
## ANNUNCIATOR CIRCUITS



**Single Track—Closed Circuit Control. Interlocking Relays. Independently Operated Annunciators**

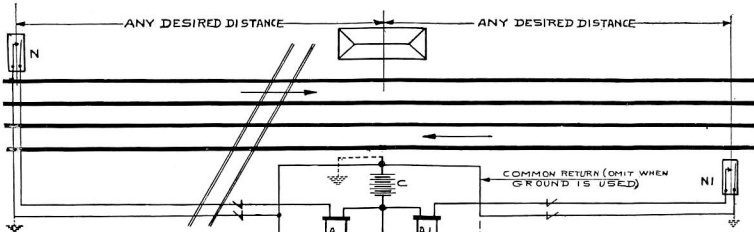


**Single Track—Open Track Circuit Control. Interlocking Relays. Independently Operated Annunciators**



**Single Track with Track Instruments. Independently Operated Annunciators**

## ANNUNCIATOR CIRCUITS

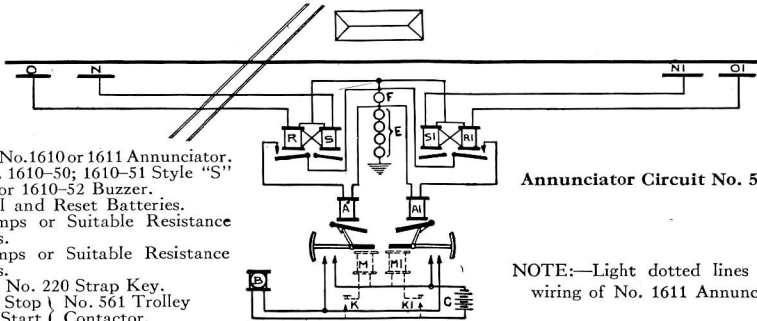


**Annunciator Circuit No. 5108**

- A—A1 No. 1610 or 1611 Annunciator.  
B—No. 1610-50; 1610-51; Style "S"  
Bell or 1610-52 Buzzer.  
C—Annunciator and Bell Batteries.  
K—K1 No. 220 Strap Key.  
N—N1 Start No. 550 Track Instru-  
ment.  
L—Lightning Arrester.

NOTE:—Light dotted lines show  
wiring for No. 1611 Annunciator.

### Double Track with Track Instruments. Independently Operated Annunciators

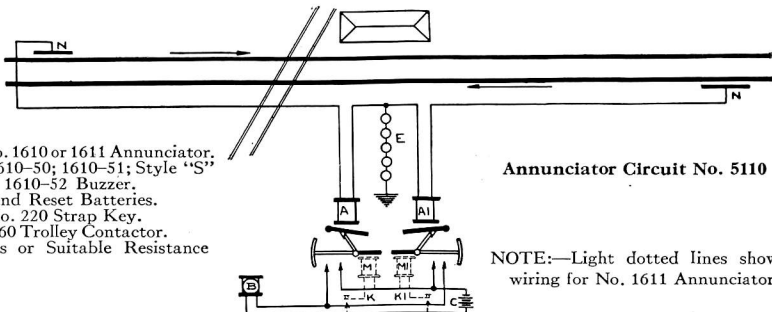


**Annunciator Circuit No. 5109**

- A—A1 No. 1610 or 1611 Annunciator.  
B—No. 1610-50; 1610-51 Style "S"  
Bell or 1610-52 Buzzer.  
C—Bell and Reset Batteries.  
E—Lamps or Suitable Resistance  
Units.  
F—Lamps or Suitable Resistance  
Units.  
K—K1 No. 220 Strap Key.  
N—N1 Stop No. 561 Trolley  
O—O1 Start / Contactor.  
R—S—R1—S1—One Way Interlock-  
ing Relay.

NOTE:—Light dotted lines show  
wiring of No. 1611 Annunciator.

### Single Track with Trolley Contacts. Independently Operated Annunciators



**Annunciator Circuit No. 5110**

- A—A1 No. 1610 or 1611 Annunciator.  
B—No. 1610-50; 1610-51; Style "S"  
Bell or 1610-52 Buzzer.  
C—Bell and Reset Batteries.  
K—K1 No. 220 Strap Key.  
N—No. 560 Trolley Contactor.  
E—Lamps or Suitable Resistance  
Units.

NOTE:—Light dotted lines show  
wiring for No. 1611 Annunciator

### Double Track with Trolley Contacts. Independently Operated Annunciators