

**THE PENNSYLVANIA RAILROAD**



**OPERATION AND USE OF  
TRAINPHONE**





# **THE PENNSYLVANIA RAILROAD**



## **INSTRUCTIONS APPLYING TO OPERATION AND USE OF TRAINPHONE**



**Effective October 1, 1949**



**WESTERN REGION**



## **WESTERN REGION**

### **NOTICE**

Limited trainphone communication between equipped engines, cabins, and trains, is being inaugurated in the Western Region.

Although trainphone is not yet available for all trains, or any wayside stations, all concerned should become acquainted with trainphone equipment and its operation, and recognize that this equipment can be of great value — particularly in checking between the front and rear of equipped trains, and in checking with trains moving on adjacent tracks when engines or cabins of those trains may be equipped with trainphone apparatus.

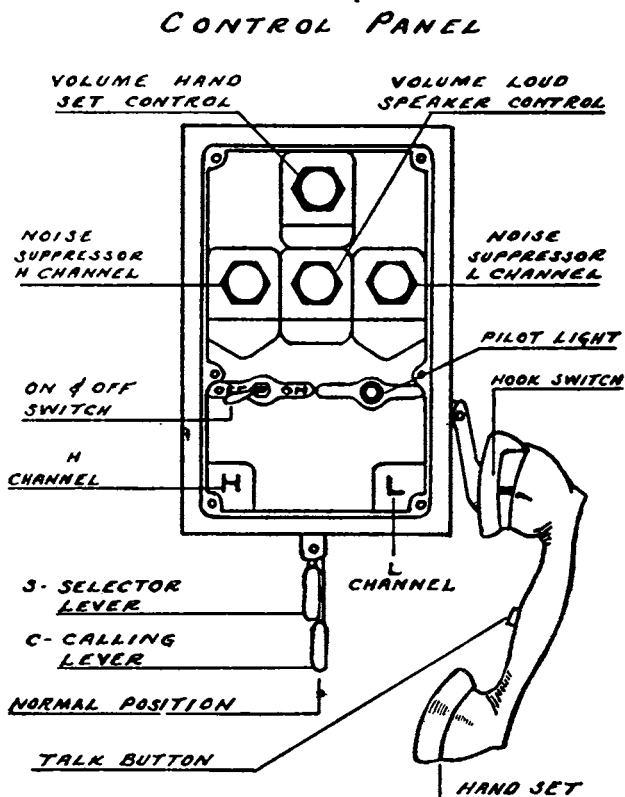
This pamphlet contains abstracts from Supplemental Instructions to Operating, Signal and Interlocking Rules, modified to cover the limited use of trainphone equipment under conditions outlined above.

**J. P. NEWELL,**  
General Manager.

# Instructions

## Applying to Operation and Use of Trainphone

### DIAGRAM OF CONTROL PANEL



### TRAINPHONE OPERATION

Trainphone consists of hand set telephones, loud speakers, control panels and associated apparatus installed on engines, cabin cars and in block stations for telephone communication between units so equipped.

The trainphone system has two talking channels—"High" and "Low," indicated by "H" and "L" respectively on the control panel.

The "H" channel is to be used normally for talking end-to-end of train and between trains; the "L" channel to be used for talking between trains and block stations.

In an emergency either channel may be used for calling and talking to any other trainphone unit. In

case either channel is out of service, the other channel should be used.

The control panel consists of a push-to-talk hand set, switch marked "ON" and "OFF," with pilot lamp that remains lighted when set is in service, volume control buttons for hand set and loud speaker, noise suppressor buttons for each channel, ("H" and "L"), selector lever marked "S" for channel selection (below the case), calling lever "C" for sending calling signals (also below the case).

To turn trainphone "ON" and "OFF," operate switch on control panel. Should pilot lamp fail to light when in the "ON" position, a talking test should be made with another trainphone unit to determine whether or not the system is serviceable, as lamp may be turned out.

Selector lever "S" is the channel selector and is pushed left to "H" or right to "L" to select the channel desired for transmission or reception on the hand set, and no conversation goes out unless this is operated. The hand set must be off the hook switch and the "S" lever pushed fully to the right or left position to select the desired channel which automatically locks on channel selected for conversation on hand set and returns to normal when hand set is hung up. (When selector lever is connected to either channel, do not try to throw it to other channel until first pressing down hook switch to release lever.)

Calling lever "C" is to be used only in EMERGENCY.

## **TO SEND EMERGENCY CODE CALL**

To send the EMERGENCY code call, keep selector lever "S" in normal position and push calling lever "C" from "L" to "H" twice which will send the call code over both channels.

To Talk—Remove hand set from hook; move selector lever "S" to "L" or "H" to connect hand set to proper channel for talking; hold hand set to ear and mouth as with regular telephone; hold down firmly the push-to-talk button and talk.

After talking, immediately release the talk button for reception, as no conversation can be heard from the other party as long as the push-to-talk button is pressed down.

While talking on one channel the loud speaker is on the other channel and any conversation coming in on it is heard.

In Calling—(Example)—Say "Engine (or cabin car) 6789 east (or west) calling Engine 5832 on Low"; repeat at intervals of not less than five seconds

until answered. In all cases a call from a train must indicate what train is calling and what train is being called.

In Answering — (Example) — Say “Engine 5832 answering engine (or cabin car) 6789 east (or west).” In all cases the answer from train must indicate what train is answering and what train is being answered.

## **EMERGENCY CALLS**

First send “EMERGENCY” code call, and then say, “emergency” and make announcement in usual manner for any condition on track or train which might endanger the safety of a train, person or structure along the right-of-way.

## **EMERGENCY BROADCAST**

First send “EMERGENCY” code call, and then broadcast the emergency message to each channel separately, as may be required.

## **ANSWER TO EMERGENCY CALLS**

When “EMERGENCY” code call is heard, persons using trainphone will stop conversation immediately and listen for emergency call. Party called will answer at once.

## **VOLUME CONTROLS**

Hand set and loud speaker volume controls should be set just high enough for good reception, but not too loud to cause distortion or annoyance.

Crews, particularly on engines, should endeavor to talk in a normal manner and not attempt to raise voice above engine noises, as this serves to distort conversation.

There is no adjustment of output volume that can be made by the user.

A setting of 2 or 3 on panel usually would be satisfactory for volume on both the hand set and loud speaker.

## **NOISE SUPPRESSORS**

Noise suppressor controls on the “H” and “L” channels are for the purpose of adjusting receivers to the best operating position to eliminate noise. When necessary to adjust the noise suppressor, pick up hand set, push “S” lever to either “L” or “H” position as may be the case and starting from No. 1 position on the dial turn noise suppressor clockwise until noise in hand set disappears. DO NOT TURN BE-



**YOND THAT POINT.** The normal setting for the noise suppressor is about "2" and rarely beyond "3." Noise suppressors should be kept at the lowest possible position.

## **DEPARTURE TEST**

After a freight locomotive with trainphone is attached to a train with a trainphone-equipped cabin car, an end-to-end test shall be made to check the signaling and talking both ways on both channels.

## **TRAINPHONES IN SERVICE**

Engine and cabin cars equipped with trainphone must have the apparatus in service at all times between initial and final terminals. When operating outside trainphone territory, it will be used for communicating end-to-end of train and with other trainphone equipped engines and cabin cars or trainphone equipped stations when provided, in emergencies.

On all trainphone equipped engines on passenger and freight trains in inter-divisional service, where engine crews are changed, engineman must advise the relieving engineman the condition of the trainphone.

## **REPORTING TRAIN, TRACK AND OTHER RIGHT-OF-WAY CONDITIONS**

The trainphone must be used by train and engine crews to report promptly to other trains any irregular or unsafe conditions observed on trains or along right-of-way that will benefit train operation, improve safety or prevent accidents.

## **PROMPT ANSWERING OF ALL CALLS**

It is important that all trainphone calls be answered promptly, as seconds count, especially on moving trains where accidents or train delays may be avoided by such action.

## **TRAINPHONE IS TO BE USED IN TRAIN OPERATIONS AS FOLLOWS:**

- A—When an engine or cabin car is equipped with trainphone, it may be used in connection with delays, defects on engine or train, and other matters relating to the operation of the train.
- B—When both the engine and cabin car of a train are equipped with trainphone, it may also be used:
  - 1. To advise engineman when flagman has returned to train.

2. For information in connection with testing brakes.
3. Regarding action to be taken when defects on train are noted and for other purposes of assistance in expediting the movement of the train.

C—When a train with more than one engine on the front of train has one engine equipped with trainphone, the engineman of the engine so equipped will, as soon as practicable, inform the engineman of other engines on front of train of communications received regarding movement of the train.

## **FAILURES OF TRAINPHONE APPARATUS**

All failures of trainphone units in locomotives and cabin cars and instances of inability to communicate with another trainphone unit, occurring on each trip, shall be reported at end of trip by the engineman on form M.P. 62 for steam locomotives and M.P. 62-D for diesel locomotives, and filed at the enginehouse at end of trip, and by the conductor on form M.P. 327 to be attached at control panel of trainphone unit in cabin car.

## **USE OF TELEPHONE AND TRAINPHONE IN TRAIN OPERATIONS**

Employees using trainphones in connection with train movements must satisfy themselves that they are in communication with the proper persons and must not consider conversation finished until the persons taking part are assured that they have heard all of the conversation and that it is understood.



