

HANDLING KEYS

1. Operation of keys—General.

- a. Lever keys are operated by grasping them firmly between your thumb and forefinger and moving them in the desired direction, either to the operated position or back to normal. Be careful not to press these keys sideways from their intended direction of motion, and do not permit them to snap back to the normal position.
- b. Plunger keys are of different kinds and serve a variety of purposes calling for somewhat different operations.

- (1) Locking Keys. If the key is of the type that locks in the depressed position, it can generally be operated satisfactorily with the index or middle finger, care being exercised in every case to be sure that the key is depressed far enough to secure it.

- (2) Nonlocking Keys. If the key is of the type that does not lock in the depressed position and only requires operation and immediate restoral, the thumb, index, or middle finger may be used, care in this case being exercised (1) to be sure that the key is depressed as far as it will go and (2) to raise the finger from the key rather than letting it slide off thereby allowing the key to snap back. Keys of this class include most peg count keys, release keys, key pulsing keys, ringing keys on machine ringing No. 11 boards, listening keys on "B" boards, etc.

If the key is of the nonlocking type but must be held operated for an appreciable interval, it is better to use the thumb to secure a more positive force to ensure adequate holding. Care must be exercised in these cases to raise the hand in releasing so that the key is not allowed to snap back. Such keys include message register, coin, and master ringing keys.

Call circuit keys, however, because of their ease of operation are generally operated with the index or middle finger.

The various keys in these two general classifications involve somewhat different associations and sequences. The specific operation of the more common keys is described in detail in subsequent paragraphs.

2. Listening keys.

The listening key permits you to listen and talk on the associated cord pair. As you pick up a cord to answer a waiting line or trunk signal with one hand, operate the listening key on that cord pair with the other. The majority of the time you will use the other hand to operate the listening key, but when one hand is not available, the key is operated by the hand that is going to pick up the cord, on its way to do so. Similarly when you are ready to cut out after having tested a jack, operate it with the hand that is on the keyshelf while plugging the cord into the jack. Do not restore the key until you are ready to leave the connection after completing whatever has to be done, except when you pass an order over a call circuit.

When it is necessary to cut in on a cord, be sure that you are not cut in on any other cord pair. Do not cut in and do not operate these keys unnecessarily.

Some listening keys when operated toward you, permit you to listen on a connection without introducing the transmission loss associated with your transmitter circuit until you need to speak.

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3. Ringing keys.

- a. Where only a single operation of the ringing key is required to start machine ringing, the operation of ringing is simple. With manual ringing, however, you have control of the length and evenness of the ring and the interval between rings so that you should exercise care (1) to avoid annoyance to the customer by careless, irregular, or too frequent rings; (2) to make code rings the prescribed lengths so that they are recognizable; and (3) to avoid too long rings that are apt to obscure the fact that the called party has answered and that you are ringing in his ear.
- (1) Unless otherwise prescribed, rings should be of two seconds duration. Various phrases are used to aid in measuring two seconds accurately enough for ringing purposes, and the idea is to be recommended. The important thing is to adopt a phrase which you like and which you can say at nearly the same pace each time you try it, then to practice that phrase at that pace until you are sure of the habit. For example, some operators use "One thousand, two thousand" or "Ring for two full seconds." Obviously, the phrases used may involve different rates of speed in saying them. Do not ring for intervals materially longer than two seconds. Give repeated rings if necessary but observe the supervisory signal before each ring to avoid ringing after the station has answered.
 - (2) Short rings should be one half second long with one half second pause between them when more than one is required. A generally accepted method of approximating this interval is to release your hold or pressure on the key, completely removing your hand a few inches, then to grasp or depress it again for the next motion. A substitute method for the ring on plunger keys is to say "Ring" while holding the key depressed and not to release it until after the word has been completed.
 - (3) In combinations of long and short rings, the silent interval between any two rings within the code should be one half second, as in "(2)."
- b. Ringing can be done on most boards as an overlap on other work. Practice so that you can ring accurately while watching for a signal to appear, while answering another call, while waiting for a distant operator to answer, and while passing the order to her, as permitted by your equipment. Do not try to ring while using a dial or keyset, and be extremely careful about code ringing while you are taking another order.
- c. To aid in giving manual ringing satisfactorily remember the following points.
- (1) When you are about to ring, look to see that the front supervisory signal is still lighted, to be sure the called station has not answered just as you start to ring.
 - (2) To assist in gauging the correct time interval between supplementary rings when you are busy handling other calls, ring on all connections which have not been answered yet after each trunk connection you handle, or if your traffic is mostly to the local multiple, handle two simple calls and then ring on all unanswered connections. Of course, if the first local multiple connection becomes involved and takes more time than an ordinary connection, do not take the second call before ringing.
- d. Be careful to ring the correct station on a party line when you give supplementary rings, to avoid bringing a wrong party to the telephone. One of several different schemes listed below may be used in your office.
- (1) Keyshelf Card Method. Some offices use a strip of paper stretched across the position in front of the keys with spaces marked off corresponding to each cord pair, on which you may note the station designation initially if you are directed to do so, or whenever you think it advisable.
 - (2) Sleeve Methods. Methods involving sleeves are described in Section 3.
 - (3) Occasional Notation. When you have only occasional calls involving code ringing, you may be directed to make a note immediately of the station designation on all calls where a code ring is involved.

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If a master key must be operated, both hands are required for ringing. If it is of the locking type be sure to restore it after the code is rung. If it is of the nonlocking type, hold it operated with one hand while you ring with the other, being careful to operate it before the cord ringing key and to keep it operated until the cord key is restored.

4. Coin and message register keys. Depress the key to be operated with the thumb of the hand which is on the keyshelf at the time and watch for the proper pilot signal to light. On a call to be registered, release the message register key as soon as you observe that the pilot signal has lighted, but on a coin call continue to hold the key for one second after the pilot signal lights before you release it. If master coin keys are provided, the above process must be modified to operate the master key with one hand while the proper cord key is operated with the other hand. Both must be held for the prescribed interval and then restored. On coin calls current is required for an appreciable interval to insure operating the mechanism, so this interval of a second should be observed carefully. As an aid, find a phrase to say to yourself that will consume the prescribed second of time such as "Press hard" or "Hold it down," and do not release the key until you have completed the phrase.

Make it a practice to operate these keys, when necessary, as the first step in disconnecting before taking down either cord and be sure to do so before taking down the back cord, except in step-by-step offices where registration is done on station answer. Also operate only one such key at a time and do not operate it more than once on a connection except on calls from coin lines where the practice specifically provides for supplemental operations for the condition involved. In general, disconnect the back cord immediately after operating one of these keys and before going to another call.

Unless otherwise directed, practice operating these keys as an overlap while taking or advancing a call or while disconnecting.

5. Dial keys. Where this key is installed, operate it before you start to dial, using the hand that is coming to the keyshelf while the other hand is plugging into the dial trunk. Restore the listening key to normal at the same time.

6. Dial release or key pulsing start keys. Where this key is installed and you are directed to use it, operate it as an integral part of the dialing or keying process. As soon as you have released the dial or keyset from the last digit and before relaxing the hand from the dialing or keying position, move the hand back slightly toward the body and depress this key with the finger used on the dial or keyset.

7. Peg count keys. The peg count key is of the plunger type and requires only a definite depression, so you may use either thumb, or index or middle finger, depending on the location and type of key. Operate the key with the hand that is on the keyshelf at the time that registration should be made on those calls which you are directed to register.

8. Release keys. If your switchboard has a release key or keys, operate the proper one when you are ready to cut out of the connection and proceed with other work. They require only a complete depression, so you may use either the thumb, or index or middle finger, of the hand that is on the keyshelf at the moment, depending on which is the most convenient in relation to the position of the key.

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9. **Listening, display, and disconnect keys on "B" boards.** These keys are of the plunger type requiring only a depression, but from their location and the necessity of operating the correct one, it is generally preferable to use the index finger with the thumb and other fingers folded, as though you were pointing at the key. Cultivate the habit of reaching for these keys with either hand.

10. **Call circuit keys.** Call circuit keys are nearly always operated with the left hand and while they must be held down for an interval you may operate them easily with the index or middle finger. It is safest to fold the remaining fingers toward the palm as in pointing at an object in order to obtain a clear view of the keys so that you may select the correct one.

11. **Keys in switchboard multiple.** Sometimes certain jacks in the multiple have plunger keys associated with them which must be operated at specified times to register or to convey a signal. From their location, it is best to use the index finger in operating them as in "9" for "B" board listening keys, as this not only gives full view while you are sighting, but reduces to a minimum the amount of multiple obscured by your hand.