DRY-REED-TYPE RELAYS
PRECAUTIONS TO BE OBSERVED WHEN TESTING

1. GENERAL

1.01 This section covers precautions to be observed when testing dry-reed relays and circuits containing them in order to avoid damaging the relays.

1.02 This section is reissued to change the title, to add information covering relays containing magnetic latching units, and to cover the KS-16751 indicator.

2. PRECAUTIONS

2.01 *General:* The characteristics of the reeds of the sealed contacts, which are the operating elements of these relays, limit the current which they can safely carry to rather low values. For example, it is possible that, with the circuit closed through the reeds, transient currents which may cause fuses of 1-1/3 amperes capacity or greater to blow may also damage the reeds. Therefore, in testing circuits containing these relays or in testing the relays as apparatus units, it is essential that certain precautions be taken to avoid subjecting the reeds to excessive currents. Also, in the case of magnetic latching relay units, it is essential that precautions be taken to avoid damaging the permanent magnets in these units during testing and to return the contacts to the normal condition after testing.

2.02 *Making Electrical Connections:* In making electrical connections to these relays, exercise extreme care to avoid shorting terminals. As stated in 2.01, the blowing of a fuse in the circuit may result in damage to the reeds of the sealed contacts in these relays.

2.03 *Testing Equipment:* Avoid the use of any testing equipment which might permit currents over 0.5 ampere to pass through the reeds. Provided that the relay is not operated or released with the receiver in series with the contacts, a headset having a high-resistance receiver may safely be used in testing circuits containing these relays. Suitable high-resistance receivers for this purpose are the 280-ohm No. 716C receiver and the 1100-ohm No. 509 receiver. Making or breaking the contacts with the receiver in series may result in damage to the contacts due to the high transient currents caused by the inductance of the receiver. Do not use headsets with low-resistance receivers such as the 56-ohm No. 528 receiver or the 1011-type handset, unless a suitable resistance is put in series with the receiver. Take particular care in the use of testing equipment employing such elements as tungsten filament lamps which limit the current to low values when hot, but permit the passage of considerably higher currents when cold.

2.04 *Testing Magnetic Latching Relay Units:* Current through the coil of these relays of only about ten times the specified operate value may change the magnetization of the permanent magnets, thus altering the operating characteristics of the relay. Therefore, a magnetic latching unit should be tested only with testing equipment specified on the circuit requirement table or in the Bell System Practice applying to the circuit containing the relay.

2.05 *KS-16751 Indicator:* The KS-16751 indicator provides visual means of determining closure of sealed contacts in 293-type relays when these relays are used in circuits in which ground is connected to terminals 12, 22, 32, 42, and 52 of the relays by closure of the sealed contacts associated with these terminals. The indicator is plugged on the test connection terminals at the front of the relay and the indicator cord connected to battery. Lamps in the indicator light when the corresponding contacts referred to above are closed.