

Introduction

This packing list contains information on S46 relay installation and system configuration that is necessary after installing new relays.

WARNING The information in this section is only intended for qualified service personnel. Do not attempt to replace parts or otherwise service the equipment unless you are qualified to do so.

Relay kits

Table 1 summarizes available relay kits and part numbers.

WARNING Use only the parts specified in Table 1 of this packing list when servicing the equipment. Use of improper parts may expose the operator to hazardous voltages that could result in personal injury or death.

Table 1
S46 relay kits

Relay location	Description	Relay kit model number	Kit parts summary	Keithley part number
1 to 8	SPDT RF relay	S46-SPDT-KIT	4-40 × 5/8 PPH screws (2) SPDT relay (1) L-bracket (1) Connecting cable (1) PVC tubing (1)	RL-258 SYS46-308A SYS46-311A TX-52-7
A to D	SP4T RF relay	S46-SP4T-KIT	4-40 × 3/16 PPHSEM screws (2) SP4T relay (1) Ribbon cable (1)	RL-259-2 CA-286-1A
A to D	SP6T RF relay	S46-SP6T-KIT	4-40 × 3/16 PPHSEM screws (2) SP6T relay (1) Ribbon cable (1)	RL-259-1 CA-286-1A

Relay installation

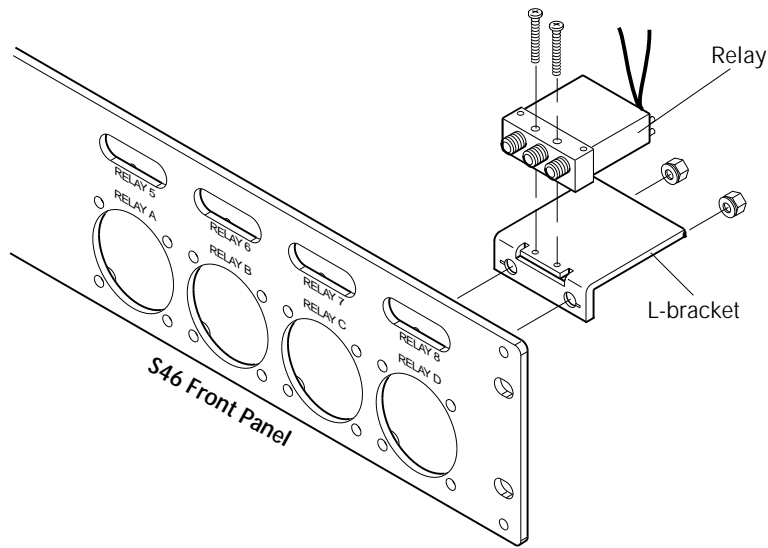
Before installing the relays, remove the screws that secure the S46 top cover, and then remove the cover. Refer to Figure 1, Figure 2, Figure 3, and Table 2 for the following relay installation procedures.

WARNING Disconnect the line cord and all cables from the S46 before removing the top cover.

RELAY 1-8 installation

1. Remove the nuts that secure the cover plate from the mounting hole where the new relay is to be installed. (See Figure 1.)
2. Install the support L-bracket at the relay location, and secure it with two nuts.
3. Install the relay on the support bracket using the supplied 4-40 screws.
4. Plug the wire connector into the appropriate circuit board connector (see Figure 3 and Table 2).
5. Install the top cover, and then configure the system as covered in *System configuration* on page 4 of this packing list.

Figure 1
RELAY 1-8 installation



RELAY A-D installation

1. Remove the four screws that secure the cover plate from the mounting hole where the new relay is to be installed. (See Figure 2.)
2. Connect the supplied ribbon cable to the relay, and then secure it with the two screws.
3. Insert the relay in the mounting hole, and then secure it with the four screws.
4. Plug the ribbon connector into the appropriate circuit board connector (see Figure 3 and Table 2).
5. Install the top cover, and then configure the system as covered in *System configuration* on page 4 of this packing list.

Figure 2
RELAY A-D installation

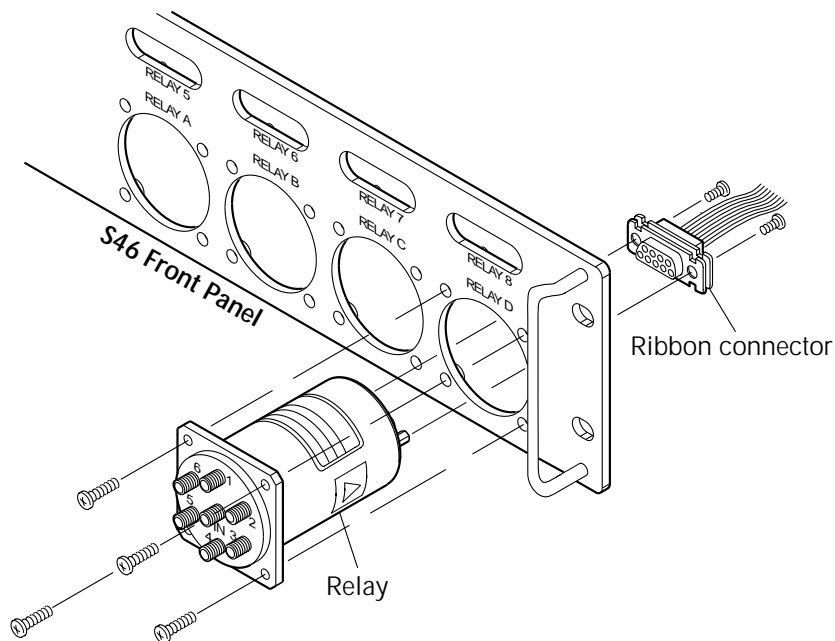
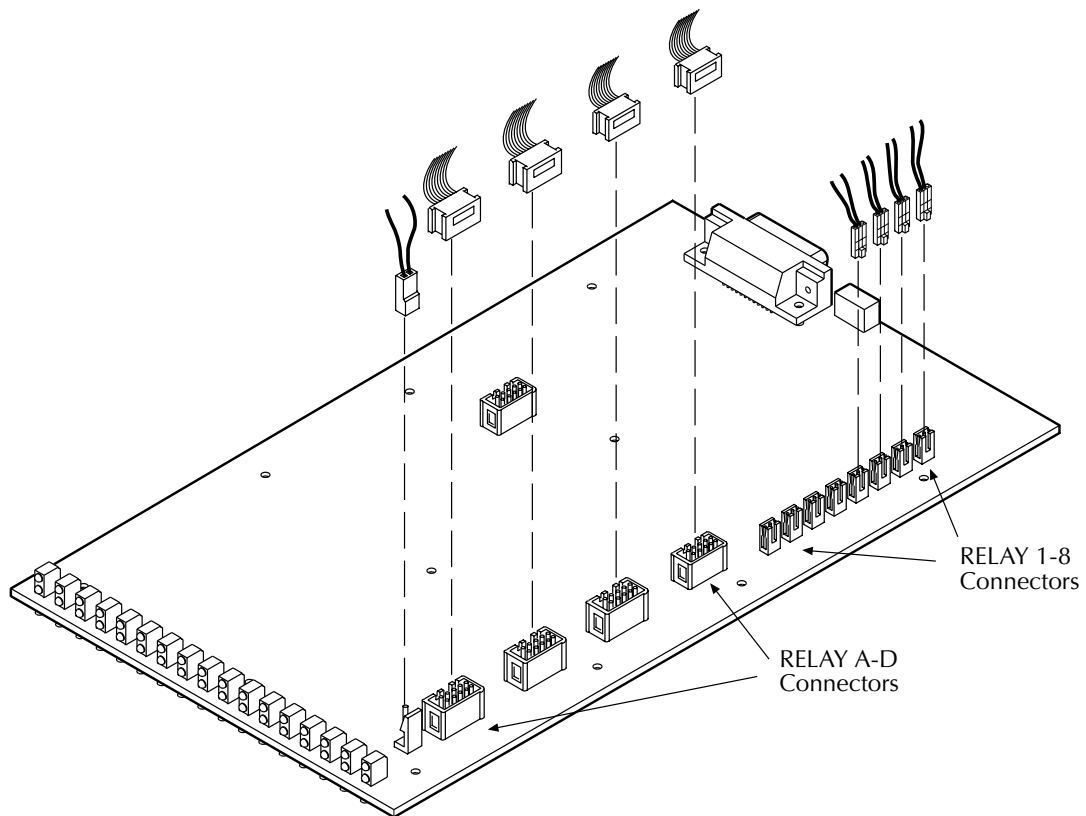


Table 2
Relay connectors

Relay	Connector
A	J5
B	J6
C	J7
D	J8
1	J18
2	J19
3	J20
4	J21
5	J22
6	J23
7	J24
8	J25

Figure 3
Relay connector locations



System configuration

After installing the new relays, you must program the S46 for the new relay configuration with the following command:

```
:ROUT:CONF:CPOL <clist>
```

<clist> is defined as follows:

```
clist = (@0 | 3-6, 0 | 3-6, 0 | 3-6, 0 | 3-6, 0 | 1, ... 0 | 1)  
Relay:   A     B     C     D     1   ... 8
```

Note that all switch locations must be included in the <clist> whether or not all locations are populated. The numeric value (1 or 3-6) indicates the number of throws, while a value of 0 indicates that a location is not populated.

For example, if RELAY A and RELAY B are SP6T, RELAY 1 and RELAY 2 are SPDTs, and all other locations are not populated, the command syntax would be:

```
:ROUT:CONF:CPOL (@6,6,0,0,1,1,0,0,0,0,0,0)
```

See Section 3 of the S46 Instruction Manual for more detailed programming information.