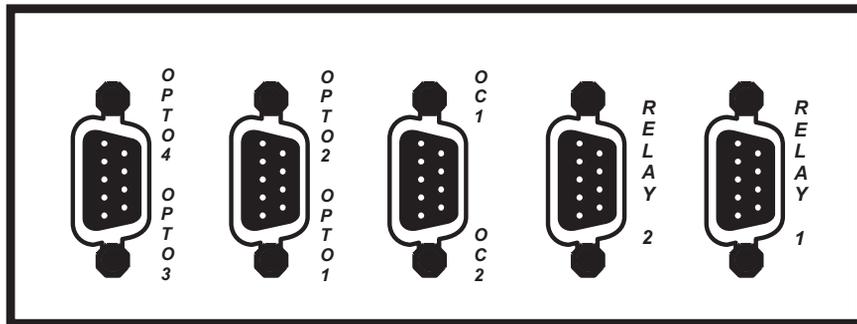


Installation Instructions

KP-12 GPI Module



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WARRANTY NOTICE

See the enclosed warranty card for further details.

CUSTOMER SUPPORT

Technical questions should be directed to:

Customer Service Department
RTS/Telex Communications, Inc.
12000 Portland Avenue South
Burnsville, MN 55337 USA
Telephone: 800-392-3497
Fax: 800-323-0498
Factory Service: 800-553-5992

RETURN SHIPPING INSTRUCTIONS

Customer Service Department
Telex Communications, Inc (Lincoln, NE)
Telephone: 402-467-5321
Fax: 402-467-3279
Factory Service: 800-553-5992

Please include a note in the box which supplies the company name, address, phone number, a person to contact regarding the repair, the type and quantity of equipment, a description of the problem and the serial number(s).

SHIPPING TO THE MANUFACTURER

All shipments of product should be made via UPS Ground, prepaid (you may request from Factory Service a different shipment method). Any shipment upgrades will be paid by the customer. The equipment should be shipped in the original packing carton. If the original carton is not available, use any suitable container that is rigid and of adequate size. If a substitute container is used, the equipment should be wrapped in paper and surrounded with at least four (4) inches of excelsior or similar shock-absorbing material. All shipments must be sent to the following address and must include the Proof of Purchase for warranty repair. Upon completion of any repair the equipment will be returned via United Parcel Service or specified shipper, collect.

Factory Service Department
Telex Communications, Inc.
8601 Cornhusker Hwy.
Lincoln, NE 68507 U.S.A.
Attn: Service

This package should include the following:

KP-12 GPI Module Installation Instructions

General Description

The KP-12 GPI Module installs in the KP-12 rear panel and adds the following features:

- Two DPDT relays with available NC, NO and COM contacts, programmable for activation from keypanel keys.
- Two open-collector output devices, programmable for activation from keypanel keys.
- Four opto-isolated control inputs, programmable for remote activation of KP-12 key groups or individual keys, or GPI relays. Can also be used to change the current setup page of key assignments.

Installation Procedure

1. Remove Power.
2. Remove all the screws securing the top cover. Carefully remove the top cover and note how the front and rear panel components are seated in the slots in the top and bottom covers. Make sure all components are properly seated in these slots during reassembly.
3. Remove and discard the long, blank panel section from the back panel of the KP-12. Or, if the KP-12 already has a Rear Connector Module installed, remove the short blank panel section from the center of the back panel.

4. Position the GPI Module in the slot in the bottom cover at the center of the back panel. If a Rear Connector Module is not being used, insert the short blank panel section next to the GPI Module. Then, insert the plastic spacers between the panels as shown.

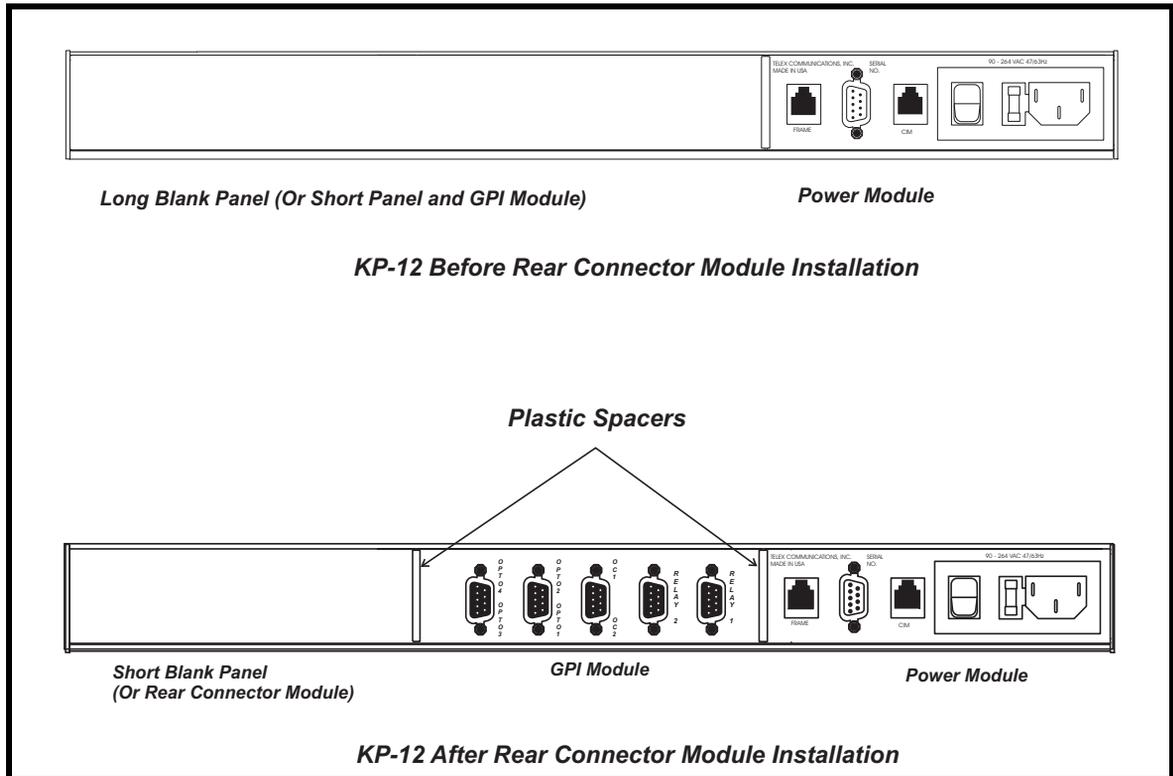


FIGURE 1. KP-12 Rear Panel Reference View

5. Refer to Figure 4, “I²C Cable Routing Showing Connection to GPI Module.,” on page 5 and connect the extra connector on the I²C cable to the GPI board, as shown.
6. Reassemble the top cover, making sure that all front and rear panel components are properly seated in the top and bottom cover slots.

External Device Connections

Connector pin-outs are listed on page 6. Two sets of contacts are provided for relays, each with NC (normal closed) and NO (normal open) contacts. Sample connections for the OC outputs and the OPTO inputs are shown in the figures below.

Operational Notes

Relays and the OC1/OC2 Outputs

Relays and the OC outputs can be assigned to keys using LOCAL I/O in the KP-12's KEY ASGN menu. Note, the GPI module relays are designated as LRY1 and LRY2 (local relay 1 and 2) to distinguish them from intercom system relays (RY1, RY2, etc).

Opto-isolated Inputs

Assign the opto-isolated inputs using OPTO in the KP-12's SERVICE menu.

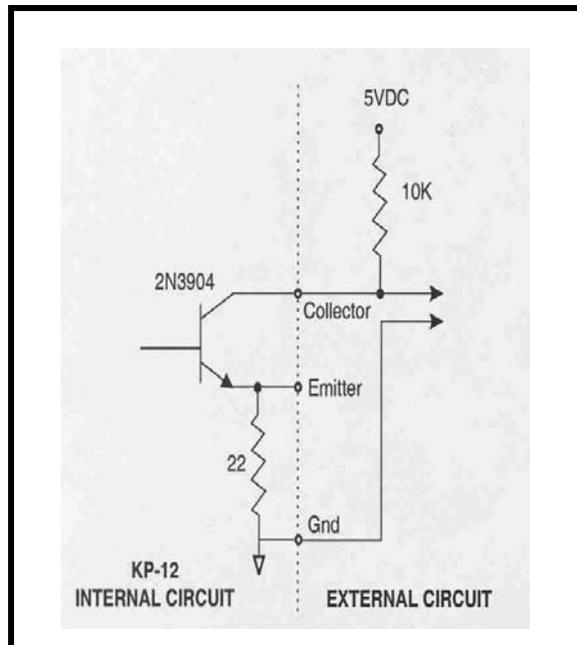


FIGURE 2. Typical connection for the OC1 and OC2 outputs using an external 5VDC source. Use any combination of voltage and resistor up to 40VDC, 200mA maximum.

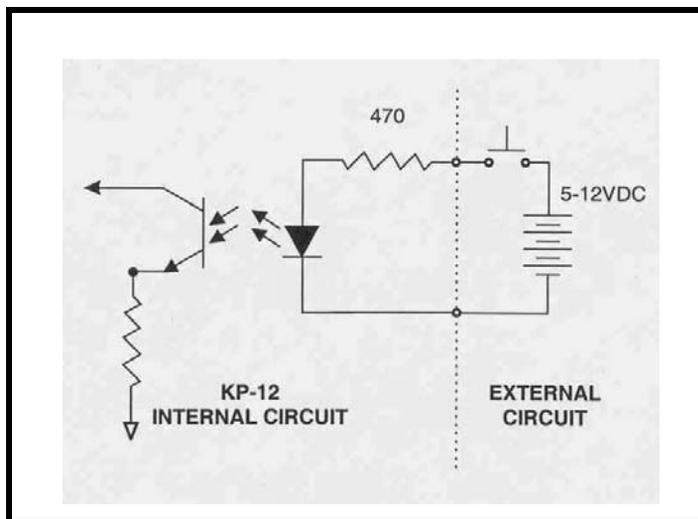


FIGURE 3. Typical connection for the OPTO inputs using an external 5-12VDC source. In this case, no external current limiting resistor is required. If the current is limited to 60 mA maximum by an external resistor, external voltages of up to 30VDC may be used.

NOTE: The KP-12 Foot Switch must be connected at J6 (Opto-4 & Opto-3) on the back of the KP-12. It also must be cabled across pins 5 & 9 of the Opto-4 & 3 DB-9 connector (see Figure 4).

When the foot switch is enabled, activated talk keys enter standby mode and the talk LED turns orange. Once you press the foot switch, the crosspoint is closed and the Talk LED turns green for normal operation.

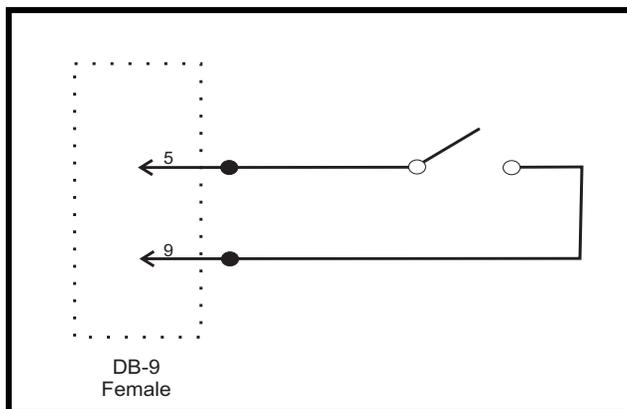


FIGURE 4. Foot Switch Connection Diagram

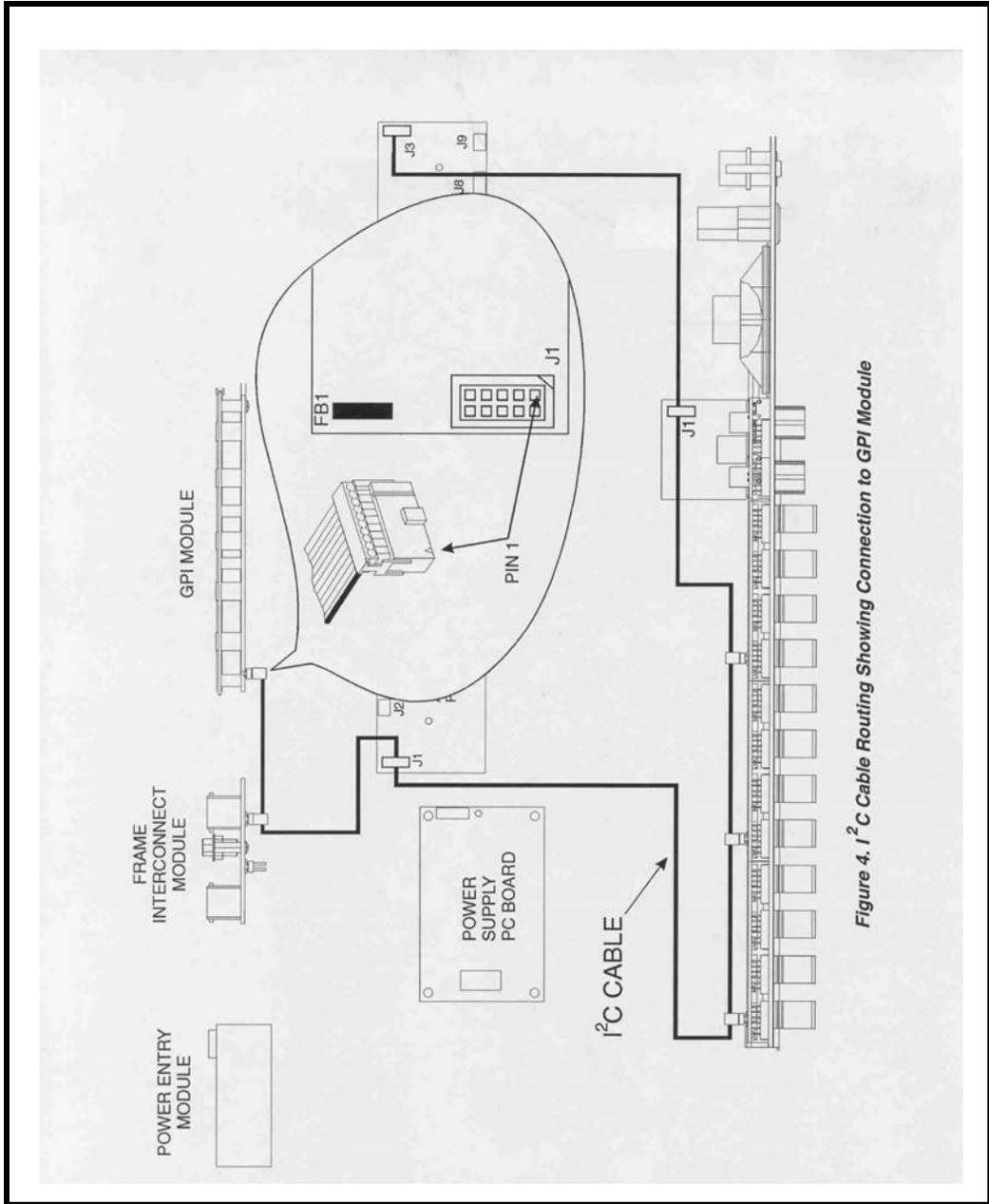


FIGURE 5. I²C Cable Routing Showing Connection to GPI Module.

Figure 4. I²C Cable Routing Showing Connection to GPI Module

Reconnector Module Pin-outs

NOTE: All connectors are DE9P, 9-pin male D-sub

Relay 1 (J2)

Pin 1	NC contact 1a ¹
Pin 2	NO contact 1a
Pin 3	COM contact 1a
Pin 4	NC contact 1b
Pin 5	NO contact 1b
Pin 6	COM contact 1b
Pin 7	No connection
Pin 8	No connection
Pin 9	No connection

Relay 2 (J3)

Pin 1	NC contact 2a
Pin 2	NO contact 2a
Pin 3	COM contact 2a
Pin 4	NC contact 2b
Pin 5	NO contact 2b
Pin 6	COM contact 2b
Pin 7	No connection
Pin 8	No connection
Pin 9	No connection

OC1 and OC2 (J4)

Pin 1	Gnd OC1
Pin 2	Collector OC1
Pin 3	Emitter OC1
Pin 4	Gnd OC2
Pin 5	Collector OC2
Pin 6	Emitter OC2
Pin 7	No connection
Pin 8	No connection
Pin 9	No connection

OPTO1 and OPTO2 (J5)

Pin 1	Input 1, +5 to +12 VDC
Pin 2	Input 1, Gnd
Pin 3	No connection
Pin 4	Input 2, +5 to +12 VDC
Pin 5	Input 2, Gnd
Pin 6	No connection
Pin 7	No connection
Pin 8	No connection
Pin 9	No connection

OPTO3 and OPTO4 (J6)

Pin 1	Input 3, +5 to +12 VDC
Pin 2	Input 3, Gnd
Pin 3	No connection
Pin 4	Input 4, +5 to +12 VDC
Pin 5	Input 4, Gnd, Foot Switch enable
Pin 6	No connection
Pin 7	No connection
Pin 8	No connection
Pin 9	No connection, Foot Switch GND

1. The a and b contacts for each relay are electrically identical



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