

## 734 Pulse Link Repeater

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### 1. GENERAL

1.01 This Section provides circuit description, installation procedures, and basic testing information for the Wescom 734 Pulse Link Repeater. This Section has been reprinted to include a general editorial update. No technical changes have been made.

1.02 The 734 Pulse Link Repeater (Figure 1) is used to connect, in tandem two E&M type signaling units providing M-lead output signals in response to E-lead input signals. It also contains two solid state current limiter circuits which safely control the current of each M-lead output to a maximum of approximately 90mA.

1.03 Features provided by the 734 are low pulse distortion and current limiting.

1.04 The 734 is constructed as a plug-in module designed to mount in one position of a Wescom Type 400 Mounting Assembly. Type.

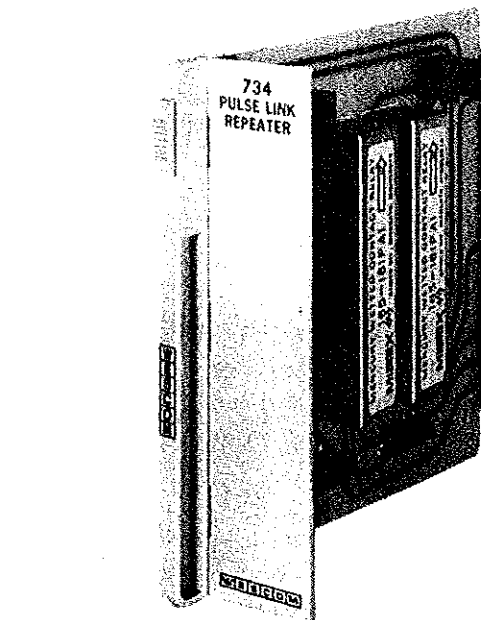


Figure 1. 734 Pulse Link Repeater

400 Mounting Assemblies are available in capacities of from 1 to 13 modules and allow for either Key Telephone Unit (KTU) apparatus-case or relay-rack mounting.

1.05 Electrical connection between the 734 module and the associated equipment is made through a 56-pin, wire-wrap connector provided as part of the mounting assembly.

### 2. CIRCUIT DESCRIPTION

2.01 The 734 Pulse Link Repeater consists of two identical current limiting circuits. One circuit (Q1-Q2) controls M-lead (W) and E-lead (E) signaling and the other circuit (Q3-Q4) controls M-lead (E) and E-lead (W) signaling. Since the circuits are identical, operation of Q1-Q2 will only be explained. Refer to the schematic diagram in Figure 2.

2.02 During the quiescent condition, the relay is deenergized and the transistors are cut-off.

2.03 A ground applied to pin 53, which is designated as the E-lead (E) input, causes relay RL1 to become energized. The closed contacts of relay RL1 completes a circuit path for the operation of Q1-Q2. These transistors function as a standard current limiter inhibiting the current output over the M lead (W) should conditions attempt to exceed 90mA during the signaling mode.

### 3. INSPECTION

3.01 Inspect the equipment thoroughly as soon as possible after delivery. If the equipment has been damaged in transit, immediately report the extent of damage to the transportation company.

3.02 Wescom equipment is identified by a model and issue number imprinted on the front panel. Each time a major engineering design change is made on the equipment, the issue number is advanced by one number on any following models that are manufactured. Therefore, be sure to include the issue number along with the model number when making inquiries about the equipment.

### 4. MOUNTING

4.01 The 734 is constructed as a plug-in module designed to mount in one module position of a Wescom 400 Mounting Assembly. Refer to Wescom Sections 400-103 and 400-U-101/3 for information on these mounting assemblies.

### 5. INSTALLER CONNECTIONS

5.01 The 734 Pulse Link Repeater makes electrical connection to the associated equipment through a 56-pin, wire-wrap card connector

provided as part of the mounting assembly. Make all connections to this connector in accordance with Table 1.

#### CAUTION

Do not make any connections with power applied to the equipment or modules installed in the mounting assembly.

5.02 When all installer connections have been completed, insert the 734 into the mounting assembly. An identification label designated 734 is also provided on the front lower lip of the mounting assembly if the mounting assembly is factory wired.

Table 1. 734 Installer Connections

CONNECT	TO 56-PIN CONNECTOR
M lead (W)	3
E lead (E)	53
M lead (E)	49
E lead (W)	7
-48Vdc battery	25 or 35
Positive ground	11 or 17

#### CAUTION

The 734 contains a mercury-wetted relay. During shipment, excess mercury may collect on the contacts of this relay causing it to be "shorted." Consequently the 734 should be gently tapped on a hard surface while being held in an upright position before inserting the module.

#### NOTE

Removal and installation of modules should be done with care. Do not force a module into place. If excessive resistance is encountered while installing a module, remove the module and check the card guides and connector for improper alignment or the presence of foreign particles.

### 6. TESTING

6.01 If trouble is encountered with the operation of the 734 verify that all installer connections have been properly made in accord-

ance with Table 1. Verify that the module is making good connection with the mounting assembly card connector; remove and reinsert the module. If technical assistance is required, contact the Wescom Technical Services Department by calling:  
(312) 971-2010 or  
TWX 910-695-4735

Canadian Customers:  
(416) 453-2222 or  
TWX 610-492-2697

## 7. WARRANTY

**7.01 STANDARD WARRANTY:** Wescom products are warranted to be free from defects in material, workmanship, and design given proper installation and regular maintenance. Wescom's obligations under this warranty are limited to correction and replacement at Wescom's production facility of any defective items received by Wescom, transportation prepaid, for a period of 18 months from the date of original shipment. Warranty and remedies on products not manufactured by Wescom are in accordance with the warranty of the respective manufacturer. WESCOM MAKES NO OTHER WARRANTY OF ANY KIND WHATSOEVER, EXPRESSED OR IMPLIED; AND ALL IMPLIED WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE WHICH EXCEEDS THE AFORESAID OBLIGATIONS IS HEREBY DISCLAIMED BY WESCOM.

**7.02** Field repairs involving the replacement of components within a unit are not recommended. If an item is found to be defective, contact Wescom, Inc., by telephone or TWX, for instructions regarding replacement or repair.

**7.03** If a replacement unit is required, it will be shipped in the fastest manner consistent with the urgency of the situation. Upon receipt of a replacement unit, return the defective unit in the carton in which the replacement was shipped, using the shipping label provided, to:

Wescom, Inc.  
8245 Lemont Road  
Downers Grove, Illinois 60515

### Canadian Customers:

Wescom Canada, Ltd.  
287 Glidden Road  
Brampton, Ontario L6W1H9  
Canada

### Repair or Exchange Services

**7.04** In addition to the standard Wescom Warranty Service, Wescom offers a repair or exchange service for those items out of warranty. Under this arrangement, faulty units may be shipped to Wescom for either complete repair and quality testing or exchanged for a replacement unit. To obtain details of this service and a schedule of prices, contact your local Wescom Sales Representative.

## 8. SPECIFICATIONS

**8.01** The electrical and physical characteristics of the 734 are as follows:

- (a) DIALING DISTORTION: Less than 4%.
- (b) DIALING SPEED: 8 to 14pps.
- (c) M-LEAD CURRENT LIMITING: 90mA, approximately.
- (d) M-LEAD CONDITION: On-hook, ground; off-hook, 48Vdc.
- (e) E-LEAD CONDITION: On-hook, open; off-hook, ground.
- (f) OPERATING ENVIRONMENT: Temperature, 35° to 120°F; humidity, 10 to 95%.
- (g) POWER REQUIREMENTS: Filtered battery, -48Vdc at 178mA, maximum.
- (h) WEIGHT: 0.75 lbs (approximately).
- (i) DIMENSIONS: Height, 5.59 inches; width, 1.5 inches; depth, 6 inches.
- (j) MOUNTING: One module position in a Wescom 400 Mounting Assembly.

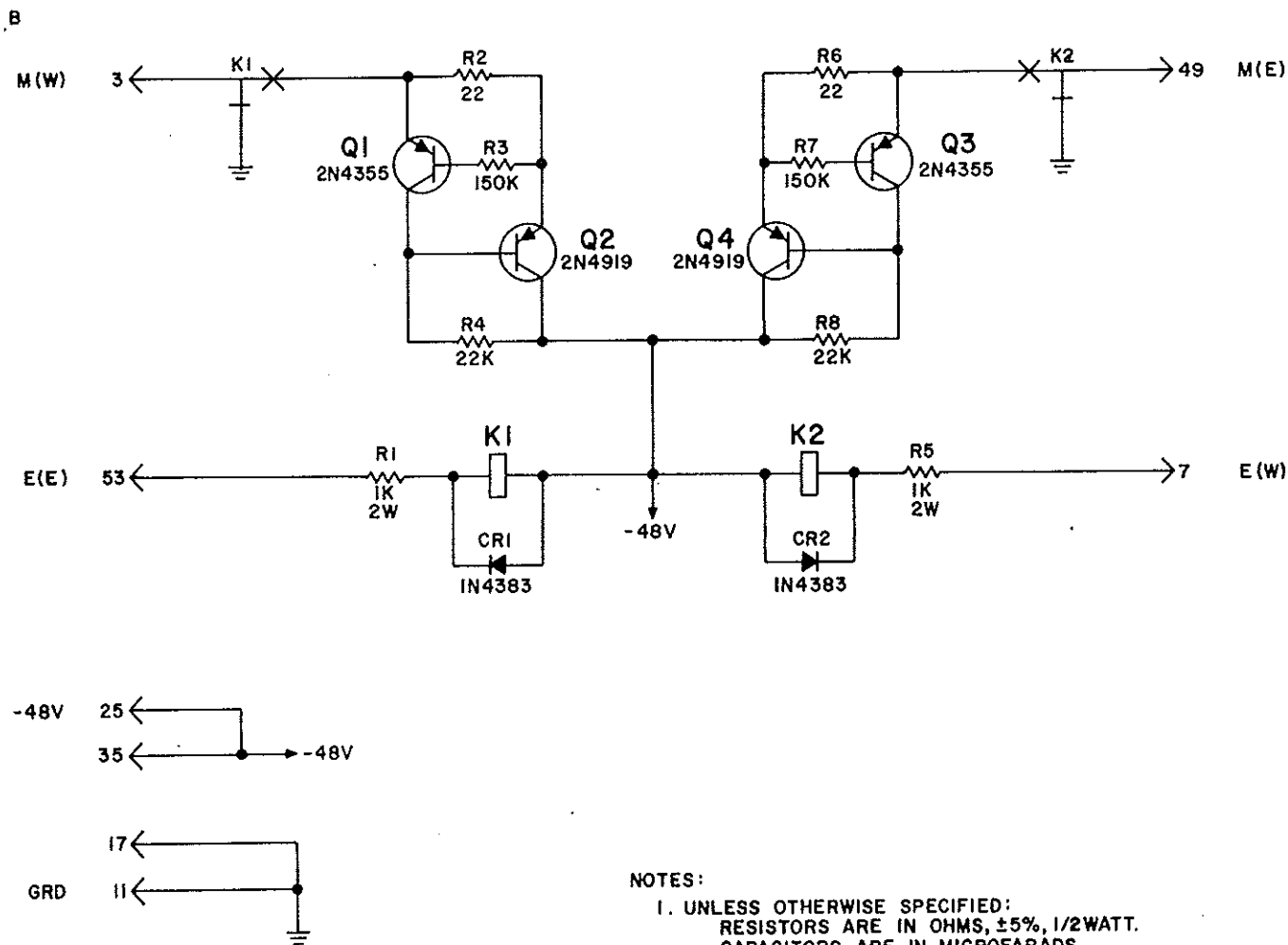


Figure 2. 734 Pulse Link Repeater Schematic Diagram (Issue 2)