

## ORDERING

### RPT-II/\*

Repeater for indoors

### RPT-O/\*

Repeater for outdoors

\* Specify data rate:

1 for T1 data rate (1.544 Mbps)

2 for E1 data rate (2.048 Mbps)

### P/S-AC/9/500

90 to 264 VAC external power supply

Specifications are subject to change without prior notice.



data communications

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# RPT



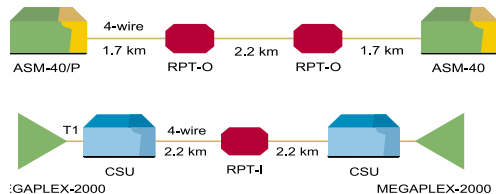
*Miniature T1/E1  
Repeater*



## FEATURES

- Extends operating range of T1 or E1 equipment
- Indoor and outdoor models
- Dynamic Range:  
0 to 39 dB for T1  
0 to 45 dB for E1
- Use of local or simplex power
- Local loopback support
- Easy to install, compact, lightweight

## APPLICATIONS



## DESCRIPTION

- RPT is a miniature G.703 repeater for extending the range of T1 (1.544 Mbps) or E1 (2.048 Mbps) equipment.
- Two models are available:
  - RPT-I for indoor operation, supplied in a miniature plastic case.
  - RPT-O for outdoor operation, supplied in an all-weather plastic case.
- RPT supports up to 39 dB attenuation at 772 kHz for T1, and up to 45 dB at 1024 kHz for E1. For a 22 AWG pulp cable, this represents a distance between repeaters of up to 2.2 km / 1.3 miles.
- RPT can be powered using either TELCO simplex line power or local power. If available, TELCO line power is normally used in preference to local line power. For TELCO power, both "through" and "loop" power methods are supported (refer to *Figure 1*). For local power, RPT can use either a battery or a wall-mounted AC power supply. The outdoor version (RPT-O) can be powered from TELCO simplex line power *only*.

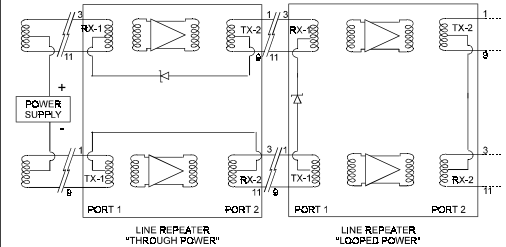


Figure 1. TELCO Simplex Power Arrangement

- RPT supports local loopback via a manual switch. When the loopback is activated, the receive data (RX-1) of side 1 is looped back to the transmit data (TX-1) of port 1, with the path from the receive data of port 2 disconnected. The loopback switch is located internally in RPT-O, and externally in RPT-I.
- Connection to the line is made via a 15-pin, D-type female connector for RPT-I and a terminal block for RPT-O.



## SPECIFICATIONS

### T1/E1 Link

- **Data Rate**

1.544 Mbps or 2.048 Mbps

(see *Ordering*)

- **Line Code**

Bipolar

- **Impedance**

100Ω for T1

120Ω for E1

- **Signal Levels**

Transmit:

±3V, ±10%

Receive (referenced to Transmit Level):

0 to -39 dB for T1

0 to -45 dB for E1

- **Connector**

RPT-I:

D-type 15-pin, female

Transmit (tip and ring) – pins 1, 9

Receive (tip and ring) – pins 3, 11

Ground termination wire for safety ground is connected to the DB-15 shield.

RPT-O:

Terminal block

Transmit (tip and ring) – pins 1, 2

Receive (tip and ring) – pins 3, 4

- **Diagnostics**

Loopback of port 1 data, switch activated

- **Power**

Line power

Source: TELCO line

Current: 60 mA simplex loop power  
(can tolerate up to 140 mA)

Voltage drop: 6.3V

Local power:

Source: External power supply

Voltage: 9 VDC

Current: 100 mA

Connector: Miniature jack, tip positive,  
sleeve ground

- **Physical**

RTP-I

Length: 135 mm / 5.3 in

Height: 30 mm / 1.2 in

Width: 49 mm / 2.0 in

Weight: 100g / 3.5 oz

RTP-O

Length: 160 mm / 6.3 in

Depth: 60 mm / 2.4 in

Width: 80 mm / 3.2 in

Weight: 250g / 8.7 oz

- **Environment**

Temperature: 0-50°C / 32-122°F

Humidity: up to 90%,  
non-condensing

## Declaration of Conformity

**Mfr. Name:** RAD Data Communications Ltd.

**Mfr. Address:** 12 Hanechoshet St.

Tel Aviv 69710

Israel

**declares that the products:**

**Product Names:** RPT-I, RPT-O

Conform to the following standard(s) or other  
normative document(s):

**EMC:** EN 55022 (1994): Limits and  
methods of measurement of radio  
disturbance characteristics of  
information technology equipment.  
EN 50082-1 (1992): Electromagnetic  
compatibility - Generic immunity  
standards for residential, commercial  
and light industry.

### Supplementary Information:

The product herewith complies with the requirements  
of the EMC Directive 89/336/EEC. The product was  
tested in a typical configuration.

Tel Aviv, April 28th, 1996

Haim Karshen  
VP Quality

European Contact: RAD Data Communications  
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## INSTALLATION

**Caution.** This is a delicate instrument. Be careful when setting jumpers or performing any actions within the product so that you do not break or shake any components.

RPT comes strapped for through-power option.

For local power operation, simply connect the wall-mounted external power supply via the miniature jack.

For "loop" power operation proceed as follows:

1. For RPT-I, open the unit by pressing the marked places on the sides. If this is difficult, insert a small screwdriver into the slot, and lift the handle, gently levering the tip of the screwdriver down. The cover will separate without pressure.

**Caution:** Do not insert the screwdriver straight into the middle of the slot; this may break off the prongs which snap the cover together.

For RPT-O, open the sealed box using a screwdriver.

2. Set the power switch (**SW1**) (refer to Figure 2). If RPT is located as the last unit in the link with TELCO line power, set SW1 to LOOP position. In all other cases of TELCO line power, set SW1 to THRU.

**Note:** The loopback switch (**SW2**) must be set of OFF, unless you want to activate a local loopback (see Description).

3. Close the unit and connect both sides directly to the T1/E1 line.

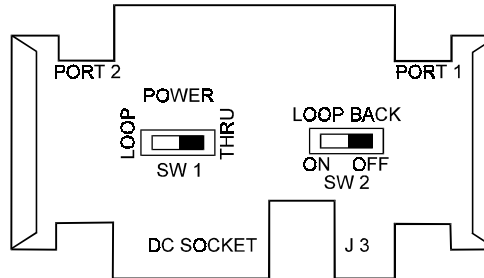


Figure 2. Strapping Diagram