

S-RPT/EFM

2/4-Wire SHDSL/SHDSL.bis Repeater



- SHDSL/SHDSL.bis extension based on TC-PAM 16/32 coding
- Duplex data transmission over one or two symmetrical pairs at up to 11.4 Mbps over 4-wire line
- Ethernet in the First Mile (EFM) bonding support
- TDM services transmission with HDLC encapsulation
- Weatherproof metal enclosure for outdoor installation
- Remote power feeding capabilities for different topologies

S-RPT/EFM is a compact 2/4-wire SHDSL/SHDSL.bis repeater, extending the range of data transmission over SHDSL/SHDSL.bis infrastructure. S-RPT/EFM can be chained to increase the transmission range.

Based on the latest DSL technology, S-RPT/EFM provides superior distance and speed using TC-PAM 16/32 encoding, which offers a narrower power spectrum than 2B1Q and other technologies.

The xDSL ports comply with ITU-T G.991.2 and ETSI TS 101524 standards, and operate at bit rates from 192 to 11392 kbps, depending on the repeater and modem configuration (2- or 4-wire).

S-RPT/EFM is available in two different compact versions:

- Tabletop plastic enclosure for indoor use
- Weatherproof metal enclosure for outdoor installation.

S-RPT/EFM extends DSL connection between the Central Office (CO) unit (Megaplex-4 equipped with ASMi-54C modules) and the Customer Premises Equipment (CPE) units (ASMi-53, ASMi-54L, or LA-210) providing:

- Ethernet services connectivity with end-to-end EFM solution from CO to CPE
- Remote power feeding (with the external MPF unit).

S-RPT/EFM performs a digital loopback test towards the CO SHDSL unit.

2/4-Wire SHDSL/SHDSL.bis Repeater

- Locally, from an ASCII terminal via a serial control interface (indoor unit only)
- Remotely, from the CO unit via the standard Embedded Operations Channel (EOC) commands.

RADview management station, connected to the CO unit, can manage the S-RPT/EFM units throughout the entire SHDSL link providing access to statistics, status, and diagnostics tools.

S-RPT/EFM can be powered locally, using a 48 VDC power supply, or remotely, over the SHDSL line from a power feeding hub, such as RAD's MPF (for the Megaplex-4100 SHDSL modules).

Note: Rate examples shown in Table 1 were obtained in the laboratory without real line interference.



SHDSL Rate [Mbps]	Link 1 Range (Figure 1) S-RPT/EFM/4W Powered Remotely ASMi-54L/4W Powered Locally		Link 1 Range (Figure 1) S-RPT/EFM/4W Powered Remotely ASMi-54L/4W Powered Remotely	
	[km]	[miles]	[km]	[miles]
11.4	4.5	2.8	4.5	2.8
4.096	7.5	4.7	6	3.7

Specifications

LINE INTERFACE

Line Type

Symmetrical PSD

2/4-wires unconditioned dedicated line
(twisted pair)

Compliance

ITU-T G.991.2, ETSI TS 101524

Line Coding

16/32 TC-PAM

Line Rate

4-wire: 384 to 11392 kbps

2-wire: 192 to 5696 kbps

Impedance

135Ω

xDSL Connectors

Plastic enclosure: 2 x RJ-45

Metal enclosure: 8-pin sealed circular
connector

CONTROL PORT (PLASTIC ENCLOSURE)

Interface

V.24/RS-232

Type

DCE

Format

8 bit, no parity, 1 stop bit, no linefeed
with carriage return

XON/XOFF enabled

Data Rate

115.2 kbps

Connector

9-pin, D-type, female (EIA/TIA 574)

INDICATORS

Front Panel (indoor unit)/**Cover** (outdoor
unit)

SHDSL SYNC 1, SHDSL SYNC 2 - tricolor
LED indicators (red/yellow/green), see
specification in *Table 1*

Rear Panel (indoor unit only)

RPF (green) -

On: remote power feeding is received

Off: no remote power feeding.

MANAGEMENT

Local Management (Indoor Unit Only)

Direct connection of ASCII local terminal
or terminal emulation

Remote Management

EOC messages from the CO

POWER

Local

Plastic enclosure: 48 VDC (36 to 72 VDC)

Remote

60 to 140 VDC over xDSL line

Power Consumption

3.6 W (2-wire)

4.0 W (4-wire)

GENERAL

Physical

Plastic enclosure:

Height: 43.7 mm (1.7 in)

Width: 220 mm (8.6 in)

Depth: 170 mm (6.7 in)

Weight: 0.6 kg (1.3 lb)

Metal enclosure:

Height: 40 mm (2.6 in)

Width: 214 mm (12.2 in)

Depth: 188 mm (6.5 in)

Weight: 1.3 kg (2.9 lb)

Environment

Temperature: -5° to 45°C (23° to 113°F)
for plastic enclosure

Temperature: -20° to 65°C (-4° to 149°F)
for metal enclosure

Humidity: 5% to 85%, non-condensing

S-RPT/EFM**2/4-Wire SHDSL/SHDSL.bis Repeater****Ordering****RECOMMENDED CONFIGURATIONS****S-RPT/4W/EFM**

4-wire SHDSL/SHDSL.bis repeater, plastic enclosure

S-RPT/4W/IP67/EFM

4-wire SHDSL/SHDSL.bis repeater, metal enclosure

SUPPLIED ACCESSORIES**Cable Connector**

Mating circular plug to the outdoor unit input/output port

WM-37

Wall-mounting kit for outdoor unit installation

OPTIONAL ACCESSORIES**S-PRT-PS**

100/240 VAC to 48VDC power adapter

RM-33-2

Hardware kit for mounting one or two S-RPT/EFM indoor units in a 19-inch rack

International Headquarters

24 Raoul Wallenberg Street
Tel Aviv 69719, Israel
Tel. 972-3-6458181
Fax 972-3-6498250, 6474436
E-mail market@rad.com

North America Headquarters

900 Corporate Drive
Mahwah, NJ 07430, USA
Tel. 201-5291100
Toll free 1-800-4447234
Fax 201-5295777
E-mail market@radusa.com

www.rad.com

Order this publication by Catalog No. 805044



Your Network's Edge