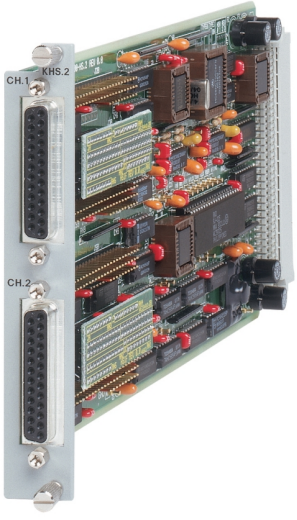
Data Sheet

Kilomux-2100/2104

KHS.2

2-Channel Synchronous Data Module



- Selectable data rates in multiples of 2.4, 4.8, 9.6 or 19.2 (depending on the main link rate).
- Separate DB-25 connector for each channel
- Each channel can be configured for V.24/RS-232, V.35, RS-530, V.36/RS-449 or X.21 interface
- Independent parameter selection for each channel
- Local support or end-to-end control signal transfer

Two synchronous data channels

KHS.2 is a high-speed data module providing two high-speed synchronous data channels for the Kilomux system. Operating parameters can be programmed independently for each channel.

The data rate on each channel can be selected in the following increments:

- n x 2.4 kbps for main link speeds of up to 192 kbps
- n x 4.8 kbps for main link speeds of 256 kbps or 384 kbps
- n x 9.6 kbps for main link speeds of 512 or 768 kbps
- n x 19.2 kbps for main link speeds of 1024 or 1536 kbps.

This ability to program the module in small increments results in a more effective use of the main link bandwidth.

Each channel can be configured for one of three timing modes (DCE, DTE1 and DTE2).

Built-in elastic buffers enable connection to all types of digital lines. A channel configured for DTE2 clock mode can be used as a reference for the Kilomux transmit clock. The physical interface of KHS.2 emulates a DCE, therefore special cables are provided for connection to another DCE (see *Ordering*).

One control signal per channel can be transmitted end-to-end for handshaking purposes. Typical end-to-end delay is 2.5 msec.

Comprehensive diagnostics reduce downtime to a minimum. These include local loopback, remote loopback, PRBS injection and BER test (PRBS injection and BER test are limited to one channel at a time). Automatic self-test, buffer monitoring and alarm reporting are performed during power-up and normal operation.

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KHS.2

2-Channel Synchronous Data Module

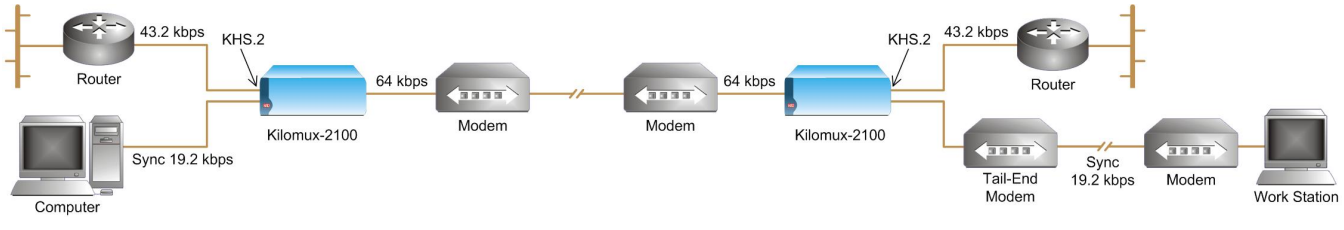

Figure 1. Extending Synchronous Data

Specifications

Number of Channels
2

Interface (Electrical)
V.24/RS-232, V.35 or
V.11/RS-422, selectable

Interface (Physical)
V.24/RS-232
RS 530 (convertible to V.35, V.36/RS-449, or X.21 via adapter cables see *Ordering*)

Connectors
Two 25-pin D-type, female

Pin Assignment
Per EIA RS-530 and
ITU-T V.24/RS-232

Channel Data Rates
According to main link rate employed:
up to 192 kbps: n x 2.4 kbps (n = 1 to 53)
256 kbps: n x 4.8 kbps (n = 1 to 53)
384 kbps: n x 4.8 kbps (n = 1 to 64)
512 kbps: n x 9.6 kbps (n = 1 to 53)
768 kbps: n x 9.6 kbps (n = 1 to 64)
1024 or 1536 kbps: n x 19.2 kbps (n = 1 to 32)

Data Clamp
Mark hold on Out of Sync

Bandwidth Allocation on Main Link
Automatic, according to the programmed channel data rate

Control Signals
Local support: RTS-CTS delay, software controlled DSR and DCD

End-to-end, selectable per channel: RTS-DCD, DTR-DSR (V.24 interface only)

Timing Modes
DCE: Transmit and receive clocks to synchronous DTE

DTE1: Transmit clock from tail-end modem (synchronous DCE) and receive clock to tail-end modem

DTE2: Both transmit and receive clocks from tail-end modem (synchronous DCE)

Diagnostics
Independent for each channel, software-controlled:
- Local loopback
- Remote loopback
- Built-in PRBS injection
- BER test

Auto self-test upon power-up and during normal operation

Indicators
For selected channel: TX, RX, RTS and DCD on Kilomux front panel
Kilomux Alarm Indications (KAI) module

Management
Programmable via terminal interface, Telnet or RADview Network Management System

KHS.2

2-Channel Synchronous Data Module

Ordering

KM-2000M-KHS.2

OPTIONAL ACCESSORIES

CBL-HS2/*/#

Adapter cable for KHS.2's DB-25 channel connectors. Converts to connector of type specified (separate cable is needed for each connector). Cable must be chosen to match the desired clock mode. Cable length is 2m (6 ft).

Legend

* Clock mode interface:
- **V/1** 34-pin V.35, DCE
- **V/2/M** 34-pin V.35, DTE1, male connector only
- **V/3/M** 34-pin V.35, DTE2, male connector only
- **R/1** 37-pin V.36/RS-449, DCE
- **R/2** 37-pin V.36/RS-449, DTE1
- **R/3** 37-pin V.36/RS-449, DTE2
- **X/1** 15-pin X.21, DCE (30 cm/1 ft long)

\# Cable connector type (on user side):
- **F** for female
- **M** for male

Table 1. Kilomux-2100/2104 Data Modules

	KHS.1	KHS.2	KHS.U	KHS.703	KLS.1/N	KLS.2
No. of Channels	2	2	1	2	2	4
Interface	V.35, RS-530, V.36/RS-449 or X.21	V.35, RS-530, V.36/RS-449 or X.21, V.24/RS-232	ISDN "U"	Codirectional, per G.703	V.24/RS-232, Sync or Async	V.24/RS-232
Connector	Two 25-pin D-type, female	Two 25-pin D-type, female	RJ-45	RJ-45	Two 25-pin D-type, female	Four RJ-45 connectors
Data Rates	32, 48, 56, 64, 128, 192, 256 or 384 kbps*	2.4 kbps to 614.4 kbps*	Per B Channel 16, 32 and 64 kbps Per D Channel 16 kbps	64 kbps	Group 1: 300 bps to 38.4 kbps, sync and async, Group 2: 7.2, 14.4, 28.8, 57.6 kbps, sync and async, Group 3: 8, 16, 24, 32, 48, 56, 64 kbps, sync	300 bps to 19.2 kbps async. (statistically multiplexed)

Note: *The supported channel data rates specified in Table 1 are dependent on the main link rates employed. To view limitations please refer to* Specifications *in the relevant module data sheets.*

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

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