Needham's Electronics - (916) 924-8037
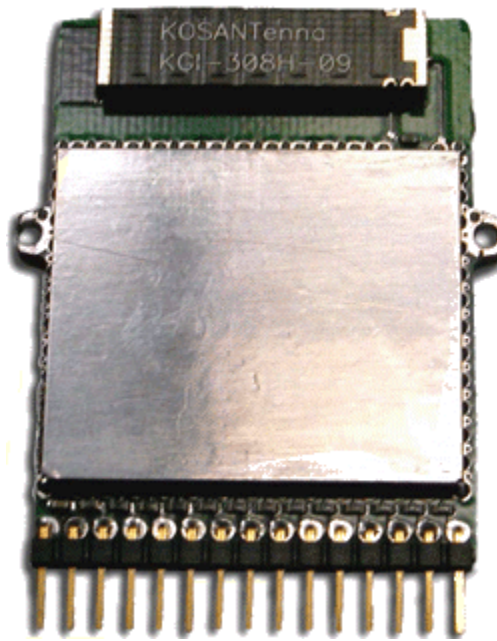**- SALES - SERVICE - SUPPORT - 6AM to 5PM Pacific Sta**

Home
RF Transceiver
   SureLink 915A-FM
   QuickLink 232A
Programmers
   EMP-10
   EMP-11
   EMP-20
   EMP-21
   EMP-30
   EMP-31
Prices/Accessories
   EMP-10
   EMP-11
   EMP-20
   EMP-21
   EMP-30
   EMP-31
   EBC Adapters
   Misc Accessories
Devices
   EMP-10
   EMP-11
   EMP-20
   EMP-21
   EMP-30
   EMP-30 (DOS)
   EMP-31
Distributors
   International
   Domestic
Downloads
   Software
   Documents
Support/Info
Checkout
Viewcart
SiteMap

RF Transceiver
SureLink 9

Quantit
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Using the SureLink   RF 101

The SureLink 915A-FM

The Needham's Electronics RF transceiver, the SureLink 915A-FM, gives yo
solution with the ability to transmit information point to point or point to mul
of sight. Most other wireless solution require you develop a working solution
is need with our RF transceivers is a module to send, a module to receive, pov
that needs to be sent. Used in conjunction with the QuickLink 232A and you
PC, a version of the software will be available to download soon.

The SureLink 915A-FM has the capability to transmit data at 76.8K BPS up t
BPS up to 1000 FT distance in a urban setting. This low power module is gre
in acquiring information from a remote location, home automation, instrumer
monitoring, remotely controlling circuits or in anything you can dream of.

For customers looking to integrate the SureLink into their existing or new pro

Electronics RF design services are available. Depending on the amount of wo
the cost will vary. The SureLink 915A-FM utilizes both a Xemics 1202 and a
antenna.

As with the entire line of products that Needham's Electronics has designed a
this RF Transceiver Module is built using quality product and care. All manu
product is done in house to insure that the quality that Needham's Electronics
known for will always be there.

Any questions or comments please feel free to call our support staff at (916) 9

Header Connections						
Pin[1]	1	2	3	4	5	6
Description	IO1	IO2	IO3	IO4	IO5/AD1	IO6/AD2	IO7.

Pin[1]	9	10	11	12	13	
Description	IO9/SI	IO10/S0	Reset	IO11/FO/AD5	$\overline{\text{VEnable}}$	G

Mode Settings

Demo Mode: Use this mode to ensure a connection can be established and te
a given distance and Data Rate. By depressing the momentary switch on the Q
or TX LED on the other QuickLink will light. A connection to a PC is not nec
Mode.

Cable Link Mode: As a RS-232 cable replacement the SureLink transmits a
data point to point. If using the QuickLink 232A the DB9 Serial and DB9 Flo
can be swapped with a couple of flips of a jumper. If the SureLink is directly
no swapping of these lines is needed.

Command Mode: This allows the SureLink to connect and read or write the
Flash memory; UART, and configure or read the I/O and A/D pins of itself or
unit Peripheral SureLink. The command unit can give the requested data from
satellite units using the command set to the user serial device. This mode can
point or point to multipoint.

AT Command Mode: Using the basic AT modem commands to dial a specif
the user can transmit and receive RS-232 data point to point or point to multi
these satellite SureLinks. The internal registers, Flash memory, UART, I/O a
disabled in the mode; it is only for serial data.

Peripheral Mode: The setting for both AT and Command modes. Multiple s
used with both modes. To set the unit address a QuickLink needs to be used t
unit.

RC Mode: Gives the user the ability to remotely control any of the 10 I/O po
Mode SureLink point to point. Although the is a master and slave set the com
directional, any of the 10 I/O pins can be set as either input or output as long
SureLink is configured to the opposite. An example would be if the master ur
configured as an input the corresponding pin on the slave unit must be set as a

want to have pin 3 on the slave unit to have the ability to toggled high and lo[w]
master unit will be set as an input and pin 3 on the slave unit will need to be s[...]
When pin 3 is raised high on the master transceiver the corresponding pin 3 o[...]
raise to match.

Control Connections						
Pin[1]	1	2	3	4	5	6
Control Signals	Mode	Speed	Baud Rate		Channel	
Command	Demo Mode	4.8K BPS	Demo Mode		Channel0	
Pin Settings	Gnd	High	High	High	Gnd	Gnd
Command	Cable Link	19.2K BPS	300 BPS		Channel1	
Pin Settings	Gnd	Float	Gnd	High	Gnd	Float
Command	Command Mode	76.8K BPS	1200 BPS		Channel2	
Pin Settings	High	Gnd	Float	Float	Float	Gnd
Command	Peripheral Mode		2400 BPS		Channel3	
Pin Settings	Float		High	Gnd	Float	Float
Command	R/C Mode		4800 BPS		Channel4	
Pin Settings	Float		Float	High	Low	High
Command			9600 BPS		Channel5	
Pin Settings			Float	Gnd	Float	High
Command			19.2K BPS		Channel6	
Pin Settings			High	Float	High	Gnd
Command			38.4K BPS		Channel7	
Pin Settings			Gnd	Float	High	Float
Command			57.6K BPS		Channel15	
Pin Settings			Gnd	Gnd	High	High

[1] Pins are numbered left to right viewed from solder side

Features

- Calibrated OnBoard Temperature Sensor

- Small Size W/ OnBoard Antenna

- RS232 Data Full Duplex

- Auto Error Detection and Retransmission

- 11 User I/O ports are available

    - 5 Ports of 10 Bit A/D are available

- - RS232 with flowcontrol is available using 4 pins

  - All ports are 0 - 3.3 Volts

- Modes

  - Point to Point

  - Point to MultiPoint (Up to 65000 Units)

- Up to 16 Channels (4 User Configurable)

- Auto Compensation for Crystal Drift due to Temperature

- Onboard Regulator w/ Shutdown

- 5.0 Volt Tolerant I/O

WIRELESS SOLUTIONS	
	SureLink 915A-FM
RF Data Rate	4.8K, 19.2K, 38.4K, 76.8K bps
Serial Baud Rate	300 to 57.6K
Spread Spectrum	No
In-City Range (high data rate to low data rate)	300-1000 FT
Line of Sight Range	Over 1000 FT
Transmit Power	-3 DBM
Receiver Sensitivity	TBD
TDMA current consumption	TBD
Rx current consumption	TBD
Transmit Frequency	902-928 MHz
Security	128 bit encryption
Checksum	32 bit CRC
Connection	15 pin .1 spacing header
Operating Voltage	3.5-12 Vdc
VEnable Voltage	0-5 Vdc
Fcc Approved	pending
Size	44mm X 60mm X 4.85mm
Cost (quantity price available)	$59.95