HDLC-RSD

Datasheet

Foreword

Notational Conventions

The following categorized signal words with defined meaning might appear in the manual.

Signal Words	Meaning
⚠ DANGER	Indicates a high potential hazard which, if not avoided, will result in death or serious injury.
⚠ CAUTION	Indicates a potential risk which, if not avoided, could result in property damage, data loss, lower performance, or unpredictable result.
ANTISTATIC	Indicates static sensitive equipment.
DANGER! ELECTRIC SHOCK	Indicates High voltage danger.
TIPS	Provides methods to help you solve a problem or save you time.
NOTE	Provides additional information as the emphasis and supplement to the text.

Table of Contents

1 Overview

1.1 Introduction

The Yacer HDLC-RSD Synchronous Serial Splitter is an active data distributor with a maximum baud rate of 250 Kbps, capable of 1 in 4 and 1 in 8 data sharing for HDLC synchronous serial ports.

It can be used as a radar distributor to realize digital sharing of the output of ATC primary surveillance radar, secondary surveillance radar, ADS-B and other equipment.

Optional 1U, 19-inch standard rack chassis or compact chassis, low power consumption, no fan high reliability design, support dual power redundancy.

1.2 Features

- Baud rate up to 250 Kbps, support 64K, 128K, 9600, 19200, 38400, 115200 and other rates;
- Support synchronous HDLC, asynchronous UART;
- No configuration, easy to use;
- Main channel support RS2322, RS422;
- 1U, 19-inch standard rackmount chassis or compact chassis;
- Dual power redundancy;
- Low power consumption, no fan design.

1.3 Application

- ATC monitoring system, ADS-B, secondary surveillance radar (SSR) signal lead and output;
- Air Traffic Control automation system (ATC), Air Traffic Management (ATM);
- Synchronous serial port, asynchronous serial port splitter;
- ATC radar data splitter;
- Serial data sharer;
- RS-422 to RS-232.

1.4 Order Information

Product Model	Main Channel	Sub Channel	Chassis	Power
HDLC-RSD-400	RS-232 + RS-422	4 x RS-232	Compact	DC 12V
HDLC-RSD-800	RS-232 + RS-422	8 x RS-232	1U, 19-inch	Dual AC Redundancy

1.5 Technical Specifications

Item	Parameters	Details
Main Channel (input)	Quantity	2 x RJ-45
	Working mode	Synchronous HDLC, Asynchronous UART
	Interface type	RS-232 + RS-422
	Baud rate	$\leqslant$ 250 Kbps
	ESD protection	$\pm$ 15 KV
Sub Channel (output)	Quantity	4 / 8 x RJ-45
	Working mode	Synchronous HDLC, Asynchronous UART
	Interface type	RS-232
	Baud rate	$\leqslant$ 250 Kbps
	ESD protection	$\pm$ 15 KV
Power Requirements	Power redundancy	Dual AC redundancy (AC2 priority) AC + DC redundancy (AC priority)
	AC power supply	85 ~ 265VAC
	DC power supply	9 ~ 36VDC
	Power consumption	< 5 W
Mechanical Characteristics	Dimensions	HDLC-RSD-800: 1U, standard 19-inch rack mounted HDLC-RSD-400: H x W x D: 32 x 193.55 x 124 mm
	Weight	HDLC-RSD-800: 3.0 Kg HDLC-RSD-400: 450g
Operating Environment	Operating temperature	-10 ~ +60℃
	Storage temperature	-30 ~ +75℃
	Operating humidity	30 ~ 90% RH (no condensation)
	Storage humidity	10 ~ 90% RH (no condensation)

2 Working Principle

Main channel is used as input, and after level conversion to multiple sub channel outputs.

The RS-232 interface and RS-422 interface of main channel cannot work at the same time, and the user must choose one of them to access the signal, and the other one is suspended.

MAIN CHANNEL   SUB CHANNEL

RS-232   S1
[Level conversion]   [Level conversion]

                                                                            S2
                                        [Level conversion]

RS-422   S8
[Level conversion]   [Level conversion]
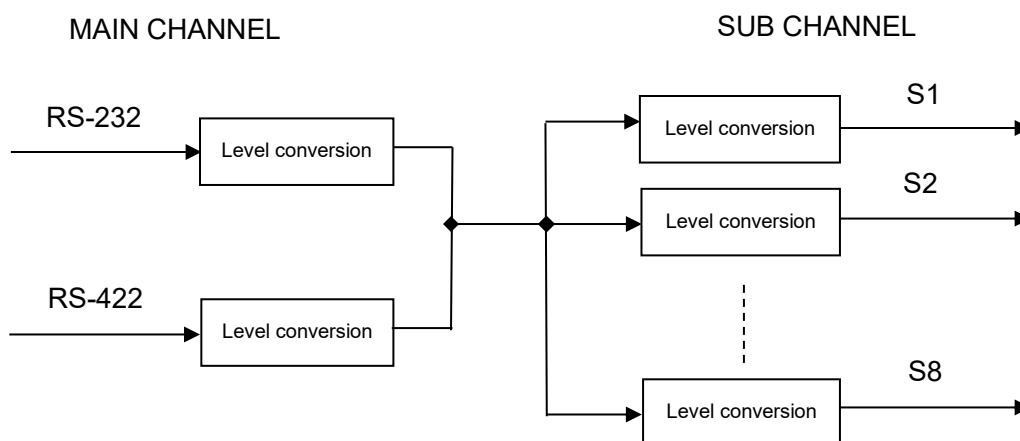
3 Baud Rate Configuration

No configuration is required and is able to automatically adapt in the range of 400 bps ~ 250 Kbps.

The baud rate of the sub channel is the same as the baud rate of the main channel.

4 HDLC-RSD-800/1000

4.1 Chassis and panels

The chassis is 19-inch standard chassis and 1U high.

The front panel includes two main channel and eight sub channel, both with RJ-45 connectors.

The rear panel includes:

- Power switch;
- AC power socket: 110V / 220V AC power input, with fuse;
- DC power socket: 9 ~ 36VDC input, on-board self-recovery fuse;
- Grounding stud.

4.2 Main Channel

4.2.1 Interface

Two main channel are used as inputs to the splitter, one for RS-232 and one for RS-422. each RJ45 port has two indicators, with a blinking yellow light indicating a clock input and a blinking green light indicating a data input.

4.2.2 Main Channel RS-232 Definition

RJ45	RS-232	Description
1	GND	Ground
2		
3		
4		
5		
6	RxData	Receive Data
7		
8	RxClock	Receive Clock

4.2.3 Main Channel RS-422 Definition

RJ45	RS-232	Description
1	GND	Ground
2	RxData -	Receive Data -
3		
4	RxClock -	Receive Clock -
5		
6	RxData + +	Receive Data +
7		
8	RxClock	Receive Clock +

4.3 Sub Channel

4.3.1 Interface

Eight Sub Channels are used as outputs of the splitter, all of which are RS-232 interfaces. Each RJ45 interface has two indicators, where a blinking yellow light indicates clock output and a blinking green light indicates data output.

4.3.2 Sub Channel RS-232 Definition

RJ45	RS232	Description
1	GND	Ground
2	TxData	Send Data
3		
4	TxClock	Send Clock
5		
6		
7		
8		

5 HDLC-RSD-400

5.1 Chassis and panels

The HDLC-RSD-400 adopts a compact chassis, and the front panel includes two Main Channel and four Sub Channel, both using RJ-45 connectors.

The DC power connector is on the back.

5.2 Power

HDLC-RSD-400 is powered by +12V DC power supply.

5.3 Main Channel

5.3.1 Interface

Two main channel are used as inputs to the splitter, one for RS-232 and one for RS-422. each RJ45 port has two indicators, with a blinking yellow light indicating a clock input and a blinking green light indicating a data input.

5.3.2 Main Channel RS-232 Definition

RJ45	RS-232	Description
1	GND	Ground
2		
3		
4		
5		
6	RxData	Receive Data
7		
8	RxClock	Receive Clock

5.3.3 Main Channel RS-422 Definition

RJ45	RS-232	Description
1	GND	Ground
2	RxData -	Receive Data -
3		
4	RxClock -	Receive Clock -
5		
6	RxData + +	Receive Data +
7		
8	RxClock	Receive Clock +

5.4 Sub Channel

5.4.1 Interface

Four Sub Channels are used as outputs of the splitter, all of which are RS-232 interfaces. Each RJ45 interface has two indicators, where a blinking yellow light indicates clock output and a blinking green light indicates data output.

5.4.2 Sub Channel RS-232 Definition

RJ45	RS232	Description
1	GND	Ground
2	TxData	Send Data
3		
4	TxClock	Send Clock
5		
6		
7		
8		

About the Manual

- The manual is for reference only. If there is inconsistency between the manual and the actual product, the actual product shall prevail.
- We are not liable for any loss caused by the operations that do not comply with the manual.
- All the designs and software are subject to change without prior written notice. The product updates might cause some differences between the actual product and the manual. Please contact the customer service for the latest program and supplementary documentation.
- There still might be deviation in technical data, functions and operations description, or errors in print. If there is any doubt or dispute, we reserve the right of final explanation.
- Upgrade the reader software or try other mainstream reader software if the manual (in PDF format) cannot be opened.
- Please visit our website, contact the supplier or customer service if there is any problem occurring when using the device.
- If there is any uncertainty or controversy, we reserve the right of final explanation.