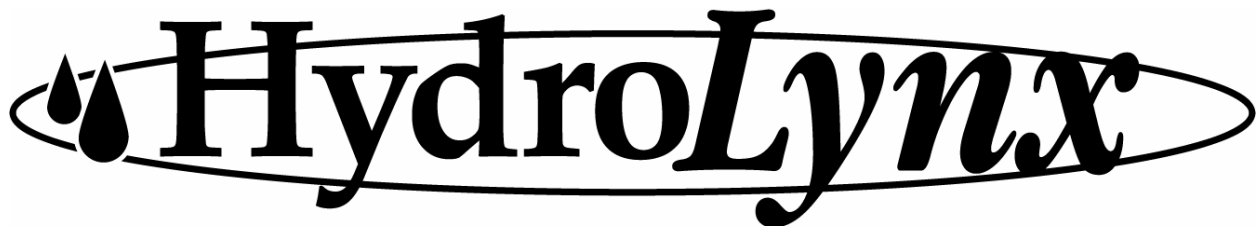


HydroLynx Systems, Inc.

Model 5351D
Decoder

Instruction Manual



Document No: A102679
Document Revision Date: August, 2006

Receiving and Unpacking

Carefully unpack all components and compare to the packing list. Notify HydroLynx Systems immediately concerning any discrepancy. Inspect equipment to detect any damage that may have occurred during shipment. In the event of damage, any claim for loss must be filed immediately with the carrier by the consignee. If the equipment was shipped via Parcel Post or UPS, contact HydroLynx Systems for instructions.

Returns

If equipment is to be returned to the factory for any reason, call HydroLynx between 8:00 a.m. and 4:00 p.m. Pacific Time to request a Return Authorization Number (RA#). Include with the returned equipment a description of the problem and the name, address, and daytime phone number of the sender. Carefully pack the equipment to prevent damage during the return shipment. Call HydroLynx for packing instructions in the case of delicate or sensitive items. If packing facilities are not available, take the equipment to the nearest Post Office, UPS, or other freight service and obtain assistance with packaging. Please write the RA# on the outside of the box.

Warranty

HydroLynx Systems warrants that its products are free from defects in material and workmanship under normal use and service for a period of one year from the date of shipment from the factory. HydroLynx Systems' obligations under this warranty are limited to, at HydroLynx's option: (i) replacing; or (ii) repairing; any product determined to be defective. In no case shall HydroLynx Systems' liability exceed product's original purchase price. This warranty does not apply to any equipment that has been repaired or altered, except by HydroLynx Systems, or that has been subjected to misuse, negligence, or accident. It is expressly agreed that this warranty will be in lieu of all warranties of fitness and in lieu of the warranty of merchantability.

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1.0 INTRODUCTION

1.1 General Description

The 5351D is a 300 baud modem. As a decoder, it is used to input data into the central site's computer. The data is received by the 5351R Receiver.

1.2 Equipment Included

5351D
AC/DC Power Supply
RS232 Cable 25M-9F

1.3 Specifications

Enclosure:	Desktop
Power Required:	120 Vac, 50 mA
Output:	Two RS232 DB25 Female connectors
Data format:	Determined by the data transmitter
Data baud rate:	300 baud
Audio Input:	800 mVp-p
Operating temperature:	-40 to 60 °C
Dimensions:	7.25 in. x 2.75 in. x 9 in.
Weight:	3 lbs

2.0 INSTALLATION

The 5351R/D Receiver/Decoder is composed of two devices: the radio receiver and the demodulator. The 5351R is installed at or near the antenna tower. The 5351D is installed at or near the operator's office.

2.1 Site Selection

The 5351D decoder must be installed within ten feet of the central site computer.

2.2 Connections

All wiring connections are located on the back panel.

CAUTION: Use shielded cable. Connect the shield to Earth Ground at the receiver.

- ! Plug the decoder signal cable into the **Tone In** jack.
- ! Attach the computer cable to either of the standard 25 pin male RS232 connectors.
- ! Attach the power cord to the AC plug.
- ! Plug power cord into the central site's electrical power outlet. For best results, use surge protection and a battery backed power supply for all computer power

connections.

2.3 Mounting

The 5351D is designed for "desktop" indoor use and installation.

3.0 THEORY OF OPERATION

The 5351D Decoder receives audio signals from the 5351R Receiver and decodes these signals into RS232 signals. The decoder has tone filters for interference and noise elimination to ensure accurate input to the computer. The decoder is powered by 115 Vac and should use the central site's uninterruptible power supply (UPS) for back-up.

3.1 Fused AC input

Fuse is 1/4 amp.

CAUTION: Before replacing the fuse, always unplug AC power cord.

3.2 Power On Light

The power light is lighted whenever AC power is applied. Check the fuse if the light is off when the unit is plugged into AC power.

3.3 Inputs/Outputs

The 5351D receives ALERT format FSK tones as its input signal. The FSK modem circuitry converts these tones into RS232 logic level signals for output to a computer. The ALERT signal format is 2133 Hz for a logical "1" and 1920 Hz for a logical "0". The output transmission rate is 300 baud.

4.0 TESTING AND MAINTENANCE

CAUTION: HydroLynx recommends service be performed by trained personnel only.

4.1 Testing

4.1.1 RS232 Signal

- ! Attach an oscilloscope to the RS232 cable port. Pin 3 is signal and Pin 7 is ground.
- ! Verify that the standby voltage (no transmission) is -12 Vdc. The typical voltage is between -16 to -20 Vdc.
- ! Initiate a transmission to the receiver.
- ! Verify that the signal is a -12 Vdc (typical: -16 to -20) to +12 Vdc (typical 12 to 16) volt square wave.

4.1.2 Input Signal

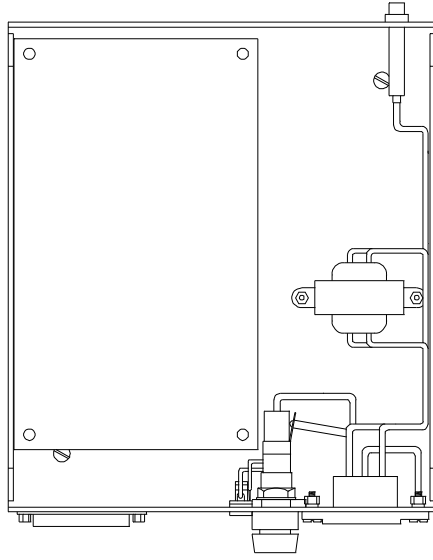
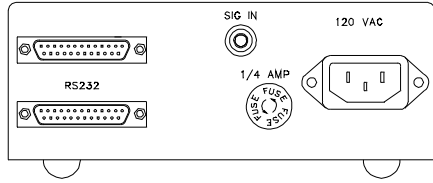
- ! Attach oscilloscope to the receiver/decoder signal cable.
- ! Initiate a transmission to the receiver.
- ! Verify that the signal is an 800 mVpp tone.
- ! Refer to 5351R manual for adjustment.

4.2 Maintenance

The 5351D is essentially a low maintenance unit, however, cables and connectors should be checked periodically for loose connections and wear.

5.0 FORMS AND DRAWINGS

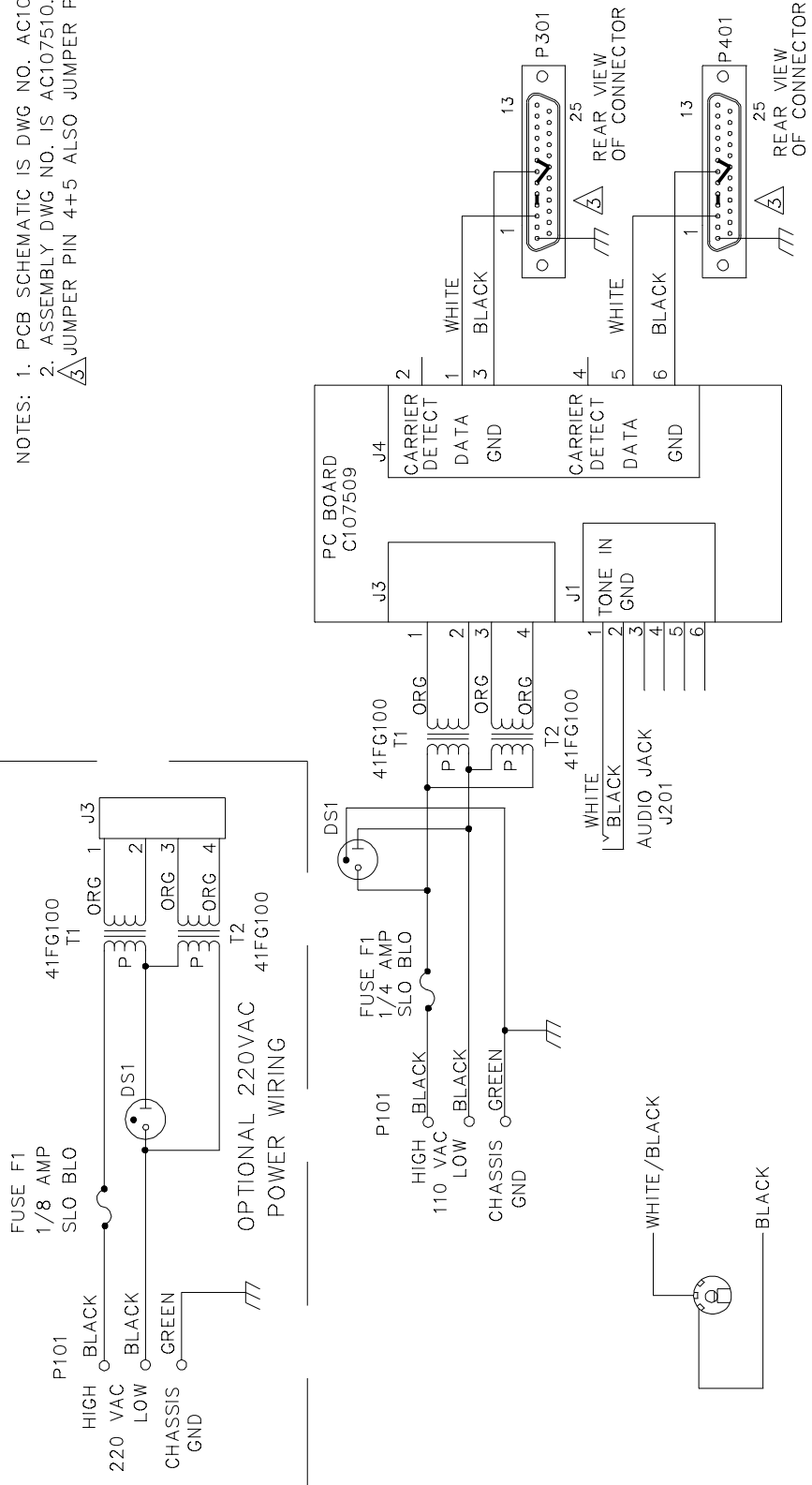
AC102369 Outline - Decoder
AC107511 Wiring Diagram - Chassis
AC107510 Assembly - PCB
AC107484 Transmission Formats



CHASSIS SHOWN WITH COVER REMOVED

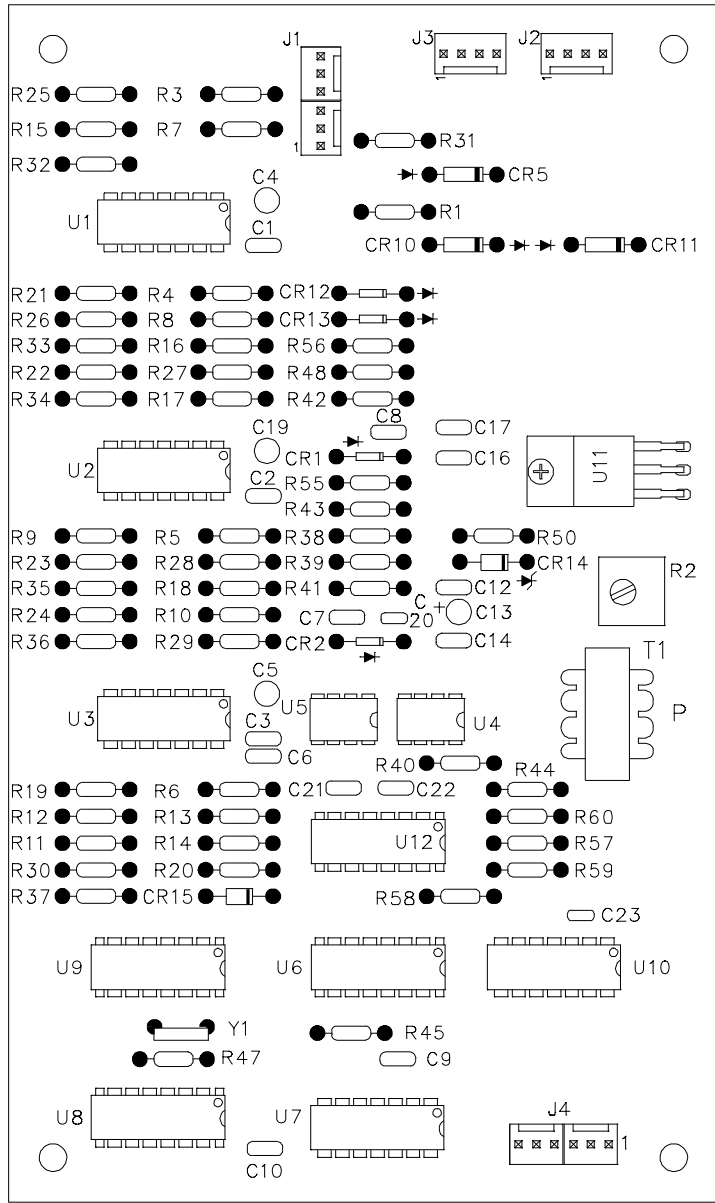
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MODEL USAGE		
MODEL NO.	5051-DE	
TITLE	DECODER	
DRAWN BY: TY KIM		
CHECKED BY:	B	DATE: 03/31/00
	SIZE: B	DATE: 03/31/00
	OUTLINE	REV: D
	AC102369	

- NOTES: 1. PCB SCHEMATIC IS DWG NO. AC107509.
 2. ASSEMBLY DWG NO. IS AC107510.
 Δ JUMPER PIN 4+5 ALSO JUMPER PINS 6,8+20



ECN#	DESCRIPTION	DATE
MODEL USAGE		
MODEL NO. 5051D		
TITLE CHASSIS		
DWG TYPE WIRING DIAGRAM		
DRAWN BY R. BROWN	DATE 3/9/99	SIZE A
CHECKED BY	DATE	DWG NO. AC107511
		REV C





- NOTES: 1. SCHEMATIC IS DRAWING NO. AC107509
 2. WIRING DIAGRAM IS DRAWING AC107483.

N/A	REDRAWN ON NEW BOARDER	10/7/98
NL055	ACAD REDRAWN	4/12/95
ECN #	DESCRIPTION	DATE
MODEL USAGE		
MODEL NO. 5051D, 5062		
TITLE PCB, FSK MODEM		
DWG TYPE ASSEMBLY		
DRAWN BY MYERS	DATE 10/7/98	SIZE A
CHECKED BY	DATE	DWG NO. AC107510
		REV B

