

HYDRA



RS-485 Network System Master

Operation Manual

March 2008





CAUTION!
RISK OF ELECTRICAL SHOCK!
DO NOT OPEN!



TO PREVENT ELECTRIC SHOCK, DO NOT REMOVE THE COVER. DO NOT EXPOSE THE EQUIPMENT TO RAIN OR MOISTURE. NO USER SERVICEABLE PARTS ARE INSIDE. REFER SERVICING TO QUALIFIED PERSONNEL.

WARNING!

THIS EQUIPMENT GENERATES, USES, AND CAN RADIATE RADIO FREQUENCY ENERGY AND IF NOT INSTALLED AND USED IN ACCORDANCE WITH THE INSTRUCTION MANUAL MAY CAUSE INTERFERENCE TO RADIO COMMUNICATIONS. IT HAS BEEN TESTED AND FOUND TO COMPLY WITH THE LIMITS FOR A CLASS A COMPUTING DEVICE PURSUANT TO SUBPART J OF PART 15 OF FCC RULES, WHICH ARE DESIGNED TO PROVIDE REASONABLE PROTECTION AGAINST SUCH INTERFERENCE WHEN OPERATED IN A COMMERCIAL ENVIRONMENT. OPERATION OF THIS EQUIPMENT IN A RESIDENTIAL AREA IS LIKELY TO CAUSE INTERFERENCE IN WHICH CASE THE USER AT HIS/HER OWN EXPENSE WILL BE REQUIRED TO TAKE WHATEVER MEASURES MAY BE REQUIRED TO CORRECT THE INTERFERENCE.



The lightning flash with the arrowhead symbol within an equilateral triangle, is intended to alert the user to the presence of uninsulated “dangerous voltage” within the product’s enclosure that may be of sufficient magnitude to constitute a risk of electrical shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

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SPECIFICATIONS

Electrical Characteristics

| | |
|------------------------|--------------------------------------|
| Operating Voltage..... | 9 - 12VDC |
| Supply Current..... | < 200mA @ 12VDC |
| Data Ports..... | 1 x RS-232 (DB-9), 2 x RS-485 (RJ45) |

Physical Characteristics

| | |
|-------------|--|
| Size..... | 130 x 125 x 32 mm / 5.1 x 4.9 x 1.3 in |
| Weight..... | 600 g / 1.3 lbs |
| Case..... | Beige Metal |

RS-232 Parameters

| | |
|----------------|------|
| Baud Rate..... | 9600 |
| Data Bits..... | 8 |
| Parity..... | None |
| Stop Bits..... | 1 |

Network Parameters

| | |
|----------------------|-----------------------------------|
| Standard..... | RS-485 |
| Baud Rate..... | 9600 or 57.6K Dipswitch Seletable |
| Max Line Length..... | 4000 ft |
| Cable Type..... | 120 Ohm Terminated |

INTRODUCTION

The Hydra is an interface device that allows the connection of multiple cash register terminals using the Regcom/Networker/Vnetworker slave units for the purpose of transaction logging.

The Hydra receives RS-485 data from the Regcom/Networker/Vnetworker networks and converts this to an RS-232 at a fixed 9600 baud that DVRs or the VSI-Pro can read.

The Hydra can be dipswitch selectable for a network communication speed of 9600 or 57.6K baud. It also can be selected to operate with either the Regcom or Networker or Vnetworker protocol as standalone systems or in conjunction with the AVE DVRs. See Dipswitch Settings on Page 6.

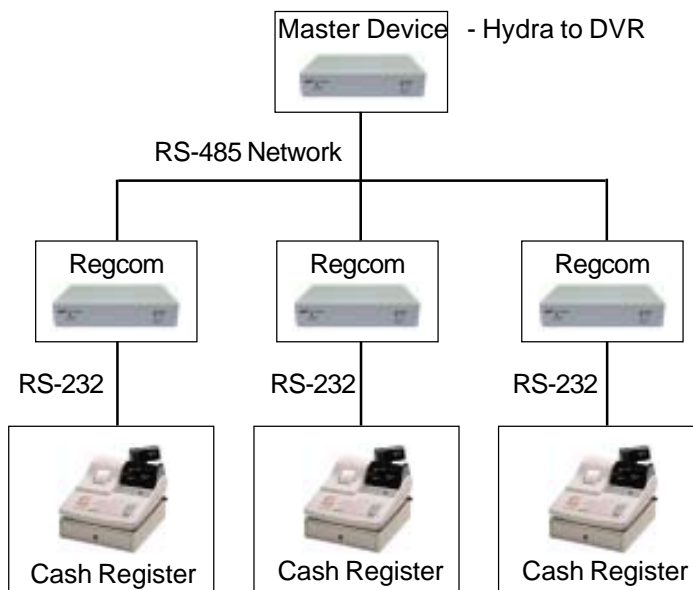


Figure 1: Network Diagram

CONNECTIONS

The Hydra uses a bi-directional 2-wire RS-485 data bus to communicate to the slave devices. The device at each end of the network must be terminated. An 8-DIP switch on the rear of the unit is used to set the termination. Switch No. 8 is the terminal switch. When set to ON, the device is terminated. When set to OFF, it will be un-terminated.



Figure 2: Regcom Rear Panel

| | |
|-------|-------------|
| PIN 1 | |
| PIN 2 | RX (RS-232) |
| PIN 3 | TX (RS-232) |
| PIN 4 | |
| PIN 5 | GROUND |
| PIN 6 | |
| PIN 7 | |
| PIN 8 | |
| PIN 9 | |

Table 1: DB-9 Pin-Out

| | |
|-------|------------|
| PIN 1 | |
| PIN 2 | |
| PIN 3 | |
| PIN 4 | RS-485 (+) |
| PIN 5 | RS-485 (-) |
| PIN 6 | |
| PIN 7 | |
| PIN 8 | |

Table 2: RJ45 Pin-Out

(120 Ohm impedance terminated)

| | |
|-----------|-----------|
| RJ45 | RJ45 |
| PIN 4 (+) | PIN 4 (+) |
| PIN 5 (-) | PIN 5 (-) |

Table 3: RS-485 Network
Data Cable Wiring

LED STATUS INDICATION

The front panel of the unit has 3 LED indicators - one to show when power is connected and two to indicate the status of the device as follows:

When the unit is powered up, it performs a self-test, status light B will illuminate to indicate the test has completed successfully and that the unit is functioning correctly. Status light A will flash whenever data is received at the RS485 input.

Cable Connections

| | | |
|-------|--------|---------|
| Hydra | PC/DVR | VSI-Pro |
| DB9M | DB9F | DB9M |

| | | | | |
|-------|-------|-------|-------|-------|
| GND 5 | ----- | 5 GND | ----- | 5 GND |
| TXD 3 | ----- | 2 RXD | ----- | 2 RXD |

Dipswitch Settings

The Hydra output protocol is commonly called "VSI-ADD". Therefore when connecting to a VSI-Pro select this format in the register selection menu. When using an AVE DVR select this format when configuring the RS-232 and Text Insertion menus.

| SW1 | SW2 | SW3 | SW4 | SW5 | Input | Output |
|-----|-----|-----|-----|-----|------------|--------------------|
| Off | Off | Off | Off | Off | Regcom | VSI-ADD 9600 baud |
| On | Off | Off | Off | Off | Vnetworker | Vnetworker |
| Off | On | Off | Off | Off | Vnetworker | MVDR3000/5000 |
| On | On | Off | Off | Off | Regcom | Dallmeier Addr 1-8 |
| Off | Off | On | Off | Off | Vnetworker | Dallmeier Addr 1-8 |
| On | Off | On | Off | Off | Regcom | VSI-ADD 57.6K baud |

LIMITED WARRANTY

(Terms and Conditions)

For **2 years** from the date of shipment, Seller warrants to Buyer that the Product is free from defects in material or workmanship **under normal use and service**. Equipment manufactured by other than Seller but furnished by Seller carries the same warranty to Buyer as Seller receives from the other manufacturer, notwithstanding any provision to the contrary. If Buyer has specified a particular manufacturer's product which is not the brand standardly supplied by Seller, Buyer shall look only to the other manufacturer's warranty and Seller shall not warrant such item.

EXCLUSIONS. Seller's warranty does not cover the following:

- (1) in-transit damage claims, improper handling by carrier or post office (Note: only the consignee of the shipment can file a claim with the common carrier)
- (2) damages caused by incorrect use, modification, carelessness, improper storage, hostile operating conditions, or unauthorized service, installation or repairs without proper training from the Seller
- (3) damages caused by fire, flood, lightning, collision, acts of God or other events beyond the control of Seller
- (4) products or parts thereof that have had serial numbers removed, altered or defaced
- (5) products returned without an RMA number and sales or delivery receipt showing the date of original purchase
- (7) use of components that do not meet Seller's specifications
- (9) external parts such as cabinets or keypads
- (10) periodic maintenance and adjustments resulting from normal use

WARRANTIES EXCLUDED. SELLER EXPRESSLY DISCLAIMS AND EXCLUDES ANY EXPRESS OR IMPLIED WARRANTY OR MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE WHICH EXCEEDS OR IS INCONSISTENT WITH THE WARRANTY HEREIN EXPRESSLY SET FORTH.

NON-WARRANTY CLAIMS. In the event Buyer makes a warranty claim and Seller's warranty does not apply, Buyer shall reimburse Seller for all reasonable expenses incurred by Seller in diagnosing the installation/repair problem.



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