

Chapter 12

Trouble Shooting

This chapter will provide you with information helpful in trouble-shooting HYDRA II occurrences that may arise during installation, operation, or replacement of your unit. Depending on the nature of the occurrence many of the conditions may be resolved by the user without further technical support.

If you still need technical support it will be necessary to have the following items available **before** you contact the JDS Product Support Department:

- ☞ The HYDRA II Serial Number located on the rear side of unit.
- ☞ Microcode Level of unit. (i.e. 4.53..V = x or 5.22...V = x.) usually displayed on top of your screen with diagnostic commands or [CTRL]/Y key sequence.
- ☞ Associated documentation for: HYDRA II, Modems, Printers, Terminal Devices, and PC Software being used.

Indicator Lights

Red Test Light Burning Solid

Check terminals to determine whether error was reported on the HYDRA II Copyright screen. You can force the copyright screen to display by pressing **Ctrl/Y** followed by the **ENTER** key. If an error is detected refer to Chapter 7 for a detailed description of its meaning. Depending on the nature of the error, the unit may reset using the front panel switch.

Determine if the microcode in the v=8 v=9 unit has been damaged by attaching a 9600 baud 8-1-N terminal to port 00. If this is the case you will see a small menu appear on your terminal asking you to "Establish Connection". This menu will appear each time the reset button is pressed on the unit. Follow the instructions in Chapter 10 to perform a HYDRA II Microcode Download.

Check to see if the HYDRA's internal fuses have blown. Remove screws on the cover of the unit in order to gain access to fuse locations.

- a) HYDRA V=9 units have a total of three fuses: GMA-2A = Located on the Front of the switched power supply, 3AG-5A = Located on the right side of the power supply unit, and on the rear of the unit AGC-10 which is the main AC power fuse. (Note: if the rear fuse blows there will be no power to the unit at all)
- b) HYDRA V=8 units have a total of four fuses. 3AG-1.5 = Two fuses located on the top of the power supply,

Trouble-Shooting

MDL-12 = One fuse also located on top of the power supply, and AGC-10 which is the main AC power fuse located on the rear of the unit.

Since it may be difficult to tell if a fuse has blown beneath the silver band you may find it advantageous to test fuses with a continuity tester.

Green OPIN Light Burning Solid

HYDRA II is unable to pass an attention generating routine through the host channel to the CPU. This condition usually occurs as soon as a user presses an ENTER, PA, or PF function key on the terminal immediately following a HYDRA reset. This is usually an indication of poor connections on channel cables. Check serpentine connectors (50 pin connections) for bent or crushed pins as well as blue dog ear connections that attach to multi-colored ribbon cables.

There is also a possibility that the connections to the internal channel board may have vibrated loose. With the power off, open cover on HYDRA unit and look for a card with 4 small ribbon cables attached. Press firmly on each connector to make sure it is seated in place.

Yellow Off Line Light will not go out on V=9 Unit

HYDRA II has detected that the necessary host channel signals are unavailable and will not allow the unit to go into an on line state until proper host communication can be established. This is usually an indication of poor connections on channel cables. Check serpentine connectors (40 pin connections) as well as blue dog-ear connections that attach to multi-colored ribbon cables. If this is not the case the off line switch may be defective.

Terminal Related Conditions

Extraneous or Mis-Aligned Text on Screen

Either HYDRA or ASCII device is not abiding by proper flow control (data pacing) requests I.e. once device is sending data faster than the other can receive causing buffer over-runs. Check HYDRA II TYP1 record for this port and make sure of the two flow control methods are enabled (Either "FLOW" = YES or "DTR Flow Control Required" = YES. Make sure the ASCII device matches the method that HYDRA II is using.

Check to make sure HYDRA II and ascii device are both operating with the same Word Size, Stop Bits, and Parity.

Check HYDRA II serial cable and make sure that pin 2 located on the DB-25 connector (Transmitted Data) is not broken. Otherwise, HYDRA II will not be able to receive flow control commands.

Data Appears as Garbage on Screen

HYDRA and ASCII Terminal are not communicating at the same baud rate or Word Size, Stop Bits, or Parity is not synchronized on both devices. Check HYDRA's DSPLY TYP1 & DSPLY BAUD diagnostics and verify that settings match that of the ASCII device being used.

Terminal Appears Dead

Depending on the baud rate being used HYDRA II data can appear as garbage on the screen or worse fail to display data at all. Check to see if ASCII device is running at the same communications speed as the HYDRA.

If this is a first time installation set terminal to 9600 baud 8-1-N.

Check cable being used to ensure that it is properly wired.

If ASCII device has two ports on the rear make sure you are using the correct port.

Unable to enter terminal type at Selection Menu

This problem generally occurs when the Parity or Word Size settings of the terminal does not match the current hydra settings. This usually results in a beep or bell noise made when the user tries to type in characters.

No response on several adjacent ports

On V = 9 units check the black back panel cables and make sure they are connected properly to the rear of HYDRA II.

There is also a possibility that the internal ribbon cable that links to the RS-232 processor board may have vibrated loose. Open cover of unit and inspect connections to be sure nothing has loosened up. Using the palm of your hand press firmly on each board to be sure it is seated tightly.

Terminal Keys do not work correctly

Check communications parameters for both HYDRA II and for Terminal. Also check to make sure you are using the correct Terminal Definition (TDF) for that particular model of Terminal.

Printer Related Conditions

Detached 3286 Printer not receiving data

Terminal Definition (TDF) being used does not have the proper AUX-ON (auxiliary port on) AUX-OFF (auxiliary port off) sequence encoded. This sequence is sent before and after each report to be printed. This would cause data to appear on terminal screen rather than routed to the printer.

Detached printer is not configured for the port immediately following the terminal device.

Auxiliary Port of Terminal is not configured with proper communications parameters for printer.

Use of improperly wired RS-232 terminal cable fails to provide a positive signal to HYDRA II's DSR lead.

1403/3211 Printer not positioning properly.

If printer port is being used as 1403 type device it is important to answer YES to the correct line length questions (+0 IF NO; +64 IF YES?) otherwise HYDRA will not keep correct count of lines per page.

If printer port is being used as 3211 make sure that you have loaded the correct FCB (Forms Control Buffer) before report is printed. NOTE: port must be defined to Mainframe as 3211-type printer in order to support FCB's

If printing odd-length pages check printer configuration switches to determine if top-of-forms setting matches the paper being used.

Host errors reported when printing duplicate copies on laser printer

Some laser printers have the ability of printing multiple copies of the same report. This is done by sending a special escape sequence to the printer after the initial report has been loaded into memory. While the printer is busy it sends an XOFF command to HYDRA II to stop further sending of data. If the port remains XOFF'ed longer than allowed by the operating system's Missing Interrupt Handler HYDRA II will be unable to present correct device status for the printer port. We do not support this practice when printing multiple copies.

Duplicate lines of data received on 1403/3211 Printer Devices

This condition usually occurs following an intervention condition on the printer. Alter printer's TYP1 diagnostic and change "SPECIAL INTERVENTION MODE?" to YES

Printer does not start after a unit or port reset.

Alter printer's TYP1 diagnostic and change "ALLOW READY INTERRUPTS?" to YES. Then, when condition occurs, press ONLINE/OFFLINE three times. This will send a stand alone device end to host and resume printing.

Printer data skewed or omitted, columns mis-aligned after first page is printed

HYDRA II is sending data to the printer's buffer faster than it can be processed causing portions to be omitted. Ensure that printer and HYDRA II are using the same method of flow control (data pacing).

Modem Related Conditions

Check HYDRA II serial cable and make sure that pin 2 located on the DB-25 connector (Transmitted Data) is not broken. Otherwise, HYDRA II will not be able to receive flow control commands.

DTR goes low after caller disconnects

Occurs if invoking UM0 at logoff and host session goes into keyboard lock when attempting to send it's contents. Since HYDRA has no way of monitoring the keyboard lock bit while sending this sequence you must alter the sequence to work in all situations. When a user disconnects DTR is dropped first, the contents of UM0 are sent (if specified in the TYP1 diagnostic), and DTR is raised only after sending the last character of UM0.

Try logging onto the affected port and access the mainframe application. Once logged on use **Ctrl/U 0** (Control Capital-U, release keys then press Zero) to execute the contents of UM0. Watch the screen to see where the lockup occurs.

If the problem cannot be corrected see **DSPLY SYS** diagnostic for a flag that will abort UM0 processing after 60 seconds.

Modem will not answer incoming call

Check modem lights and make sure DTR signal is high. If this is the case consult modem manual and make sure that "auto answer" mode is enabled (ATS0=1).

Callback Security does not dial out

Make sure "DTR Flow Control Required?" is set to NO (Located in **DSPLY TYP1** diagnostic). Check **DSPLY DIAL** diagnostic and be sure **ATDT*+*M*-** is coded on the correct line for the port being used. Ensure that dialback telephone number in **DSPLY PASS** diagnostic contains ***+ -** following the number.

Attach a terminal to dialback port and enter initial password for dialback. Quickly detach and re-attach cable from HYDRA II port and verify that modem dialing command appears on terminal screen. If this works, modem is not responding to AT commands correctly. For more suggestions see Technical Support Bulletin #14 on the JDS Product Support BBS or consult modem manual for additional information.

Session freezes during file transfer on high speed modem equipment.

There is an improper flow control setting between HYDRA II, Modems, and Personal Computer. Try hooking PC directly to HYDRA to determine if problem still exists. If file transfer works correctly consult modem manual or manufacturer for correct flow control settings. Do not use Hardware (RTS/CTS) flow control methods when using modems with HYDRA II.

High speed modems do not switch baud rates properly between callers

Many high speed modems will lower their serial baud rate to match an incoming call but fail to raise the baud rate upon the next high speed connection. Therefore, it is better to lock both HYDRA II and Modem serial baud rates to match the highest speed supported by the modem. Afterwards, when an incoming call occurs the two modems will negotiate for the highest data link baud rate possible while the modem attached to HYDRA II will operate at a fixed serial port speed. The data will be buffered between the two modems while the connection takes place.

To lock the HYDRA II at one baud rate use the DSPLY BAUD diagnostic and change the first entry in the table to the baud rate you wish the port to be locked at. Save the table with a new name instead of DFLT (i.e. FAST). HYDRA II will always use this baud rate when communicating with devices on that port.

Next, alter the DSPLY TYP1 diagnostic for this port and change "Allow Dynamic Baud Rate" to NO and insert the name of the new BAUD table.

Transmit and Receive modem lights on solid

This is known as an "RS-232 Line Ringing" condition where data coming out of the HYDRA II gets sent right back to it from the modem. This is due to either bad cabling or poor modem configuration. The problem is seen more often when modem ports are configured as "ONLINE" type devices.

Alter the TYP1 diagnostic and try setting "DCE Communication Line" to YES and "Allow Incoming Calls" to YES. If the problem continues check the modem and ensure that "Data Echo" (E0) and "Command Responses" (Q1) are disabled.

Host Related Conditions

Path Not Available on XA or ESA Systems

Display both the CUU and the CHPID (Channel Path ID) and note the status of the HYDRA device. Take appropriate action to ensure all device paths are varied online. If this message is displayed during normal operation on multiple occasions contact JDS Product support to determine if hardware or microcode change is necessary for this operating environment. Have the serial number of the unit ready so your hardware may be cross-referenced.

Check Control Unit address switch on HYDRA to ensure that it is set to the correct CUU address as defined on the host system.

Ensure that all channel cables and connections are secure. For Non-Rack Mounted units: insert a small screwdriver into right-hand opening and ensure that all 4 channel cable connectors are securely snapped in place.

Missing Channel & Device End

Determine whether message was reported on a printer, terminal or modem device.

PRINTERS: Check TIME field on TYP1 record and make sure that it is defined as PRTR. If this is the case check the Missing Interrupt Handler timeout specified on the host system. It should be set in the range of 3 to 5 minutes.

TERMINALS: Check the Missing Interrupt Handler Timeout specified on the host system. It should be set in the range of 3 to 5 minutes. Determine if Terminal is sending XOFF characters to HYDRA when powered off. If this is the case set the missing XON flag found in the DSPLY SYS diagnostic.

MODEM: (same procedure as listed above for terminals).

Sessions Not Logged Off When User Disconnects

Check TYP1 record to ensure that you are invoking User Message 0 at logoff. Check UMSG field and make sure the proper UM table name is included.

Check UM0 sequence being sent to host by manually logging on to port in question. Run application and then use [CTRL]/U 0 to make UM0 send it's commands to host. (must use a capital U). If all commands are being processed correctly terminal session should log off.

Command Reject Reported on CICS Transactions

Ensure that Extended Attribute Sequences are not being sent to HYDRA terminal port from CICS. HYDRA II does not support these sequences.

CICS may be sending Erase Write Alternate to HYDRA. Use DSPLY SYS diagnostic and map channel command X'0D' to a X'05' as described in the example.

HYDRA Does not Respond to VM Vary Command

Ensure all channel connections are secure. There may be a bent or crushed pin in the square serpentine channel connectors. Check all other connections and make sure that they are snapped tightly in place.

Check control unit address switch and make sure it corresponds to the correct CUU defined on system..

Determine if there is another device on the channel that may be responding to this address also. Some communications controllers have

additional addresses added to them in advance. There may be an overlap taking place.

HYDRAUTL Related Conditions

HYDRAUTL goes into an infinite loop.

Determine what type of device is connected to the port designated in the HYDRA Utility job stream. If the device is a modem detach the cable from HYDRA II and run the job again.

Determine what baud rate the port designated in the HYDRA Utility job stream is configured for. If set to a baud rate slower than 2400 temporarily change it to something higher or assign the HYDRAUTL job to a port with a higher baud rate. Do not run job on a port with communication parameters set to 7-1-E.

EEROM Error reported when loading configuraiton

This generally occurs when attempting to load a configuration from an older hardware/microcode style unit into a newer unit. Edit the configuration file and change all references of EEROM to NVMM then run the load again.

Note: this may also occur if you are running a very old version of HYDRAUTIL. Contact JDS Product Support for upgrade procedure.

SENSE=X'40' when HYDRAUTL is executed

This indicates that the mainframe is unable to communicate with the port because it's in an "Intervention State." This condition will occur if the port assigned to HYDRAUTL is configured with "INTERVENTION AT DISCONNECT = YES" and the port does not have an active connection. You can either:

- 1) Connect a device to the port and activate it. If the device is a modem it will be necessary to dial it in order to raise DCD/DSR before running the program.
- 2) Alter the DSPLY/TYP1 port configuration and set the option to "NO" before running HYDRAUTL.

See chapter 5 for more information on HYDRAUTL error messages.

Conditions That Occur After Unit Replacement

No Response from Terminals

The HYDRA factory default configuration is designed to support terminals running with the following parameters:

Wordsize = 8
Stop Bits = 1
Parity = None
Baudrate = 2400 - 9600 (Auto-Baud)

If your terminals are not operating within this criteria you must temporarily adjust settings until you can re-load your customized configuration.

Group of Eight Devices Appear Dead

For V=9 units: check the black back panel cables and ensure that they are connected to the correct ports.

Open cover of unit and check gray RS-232 ribbon cables that attach to each communications processor card. There is a chance that one of them may have become skewed or detached during unit shipment. Press firmly on all cards using the palm of your hand to be sure they are firmly seated.

Green OPIN Light Burning Solid

HYDRA II is unable to pass an attention generating routine through the host channel to the CPU. This condition usually occurs as soon as a user presses an ENTER, PA, or PF function key on the terminal immediately following a HYDRA reset. This is usually an indication of poor connections on channel cables. Check serpentine connectors (50 pin connections) for bent or crushed pins as well as blue dog-ear connections that attach to multi-colored ribbon cables.

On non-rack mounted units, there is a possibility that the connections to the internal channel board may have vibrated loose. With the power off, open cover on HYDRA unit and look for a card with 4 small ribbon cables attached. Press firmly on each connector to make sure it is seated in place. An alternative is to use the eraser end of a pencil and enter the unit from the side to press down on each of the 4 channel board connections.

Yellow Off Line Light will not go out on V=9 Unit

HYDRA II has detected that the necessary host channel signals are unavailable and will not allow the unit to go into an on line state until proper host communication can be established. This is usually an indication of poor connections on channel cables. Check serpentine connectors (40 pin connections) as well as blue dog-ear connections that attach to multi-colored ribbon cables. If this is not the case the off line switch may be defective.

Red Test Light Burning Solid

Check terminals to determine whether error was reported on the HYDRA II Copyright screen. You can force the copyright screen to display by pressing [Ctrl/Y] followed by the [ENTER] key. If an error is detected refer to Chapter 7 for a detailed description of its meaning. Depending on the nature of the error, the unit may reset using the front panel switch. Whenever an error is reported the message "sticks" to the copyright screen with each usage of the port. To clear a message that may have

Trouble-Shooting

already been corrected, the user can issue [Ctrl/R] or a "clear" sequence while sitting at the copyright display. Once cleared, the displayed message is released from the port display with successive logons.

Determine if the microcode in the v=8 v=9 unit has been damaged by attaching a 9600 baud 8-1-N terminal to port 00. If this is the case you will see a small menu appear on your terminal asking you to "Establish Connection". This menu will appear each time the reset button is pressed on the unit. Follow the instructions in Chapter 10 to perform a HYDRA II Microcode Download.

Check to see if the HYDRA's internal fuses have blown. Remove screws on the cover of the unit in order to gain access to fuse locations.

- a) HYDRA V=9 units have a total of three fuses: GMA-2A = Located on the Front of the switched power supply, 3AG-5A = Located on the right side of the power supply unit, and on the rear of the unit AGC-10 which is the main AC power fuse. (Note: if the rear fuse blows there will be no power to the unit at all)
- b) HYDRA V=8 units have a total of four fuses. 3AG-1.5 = Two fuses located on the top of the power supply, MDL-12 = One fuse also located on top of the power supply, and AGC-10 which is the main AC power fuse located on the rear of the unit.

Since it may be difficult to tell if a fuse has blown beneath the silver band you may find it advantageous to test fuses with a continuity tester.

Fan is not Operating

Check fuse on rear of unit and replace with AGC-10 if necessary.

HYDRA Address Does Not Appear to be Functional

Check Control Unit Address Switches to make they matche the CUU specified in the host operating system.