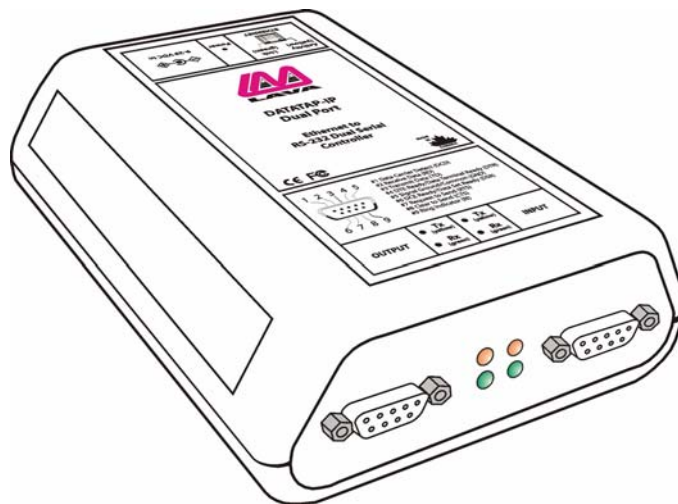




DataTap-IP Configuration Guide



DataTap-IP Configuration Guide

This document describes the configuration features of the DataTap-IP. It covers:

1. Hardware connection
2. On-line connection
3. Device network settings
4. Com port configuration
5. Ethernet side settings
6. Access restriction settings
7. Password configuration
8. Hardware status LEDs

1. Hardware connection

Hardware setup

1. Connect the power supply to the DataTap-IP and to AC power. The power (red) LED will light to indicate that the unit is receiving power.
2. Connect an Ethernet cross-over cable to the Ethernet RJ-45 jack of the DataTap-IP. Attach the other end of the crossover network cable to a host PC directly. Network status is indicated by two LEDs as described in "Hardware status LEDs" on page 11.
3. Open a web browser to the IP address of the DataTap-IP and configure the device as described in the following pages of this manual.
4. After configuring the DataTap-IP, attach it to your network and connect a POS station to its Input serial port and a printer to its Output serial port. Serial port activity is indicated by two status LEDs as described in "Hardware status LEDs" on page 11.

Cabling

The DataTap-IP looks exactly like the COM port of a PC from the point of view of the payment terminal, and should be hooked up in precisely the same fashion.

2. On-line connection

Configuration of the DataTap-IP begins by entering the IP address of the DataTap-IP (factory default is 192.168.0.35) into a web browser's location bar (Microsoft Internet Explorer recommended).

An embedded web server in the DataTap-IP will present the entry screen to the DataTap-IP configuration options, and shows the current settings for the device being addressed:

Opening Screen

LAVA DataTap-IP Configuration :: Information Page - Microsoft Internet Explorer

File Edit View Favorites Tools Help

LAVA

DataTap-IP
RS232 Pass-through with Ethernet Data Redirector

Device name:	DataTap
IP address:	192.168.0.35
Assigned TCP Port:	4098
Subnet mask:	255.255.255.0
Default gateway:	0.0.0.0
DNS Server IP:	0.0.0.0
DHCP:	DISABLED
Current Mode:	Client
MAC address:	00.04.3b.00.0c.d5
Firmware revision:	TAP 1.00.00/06.07.2005

	SETTINGS	ACTIVITY
PORT 1 (input):	9600,8,NONE,1,NONE	Active
PORT 2 (output):	9600,8,NONE,1,NONE	Active

[Refresh info](#)

Enter password:

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E-mail Tech Support: tech@lavalink.com

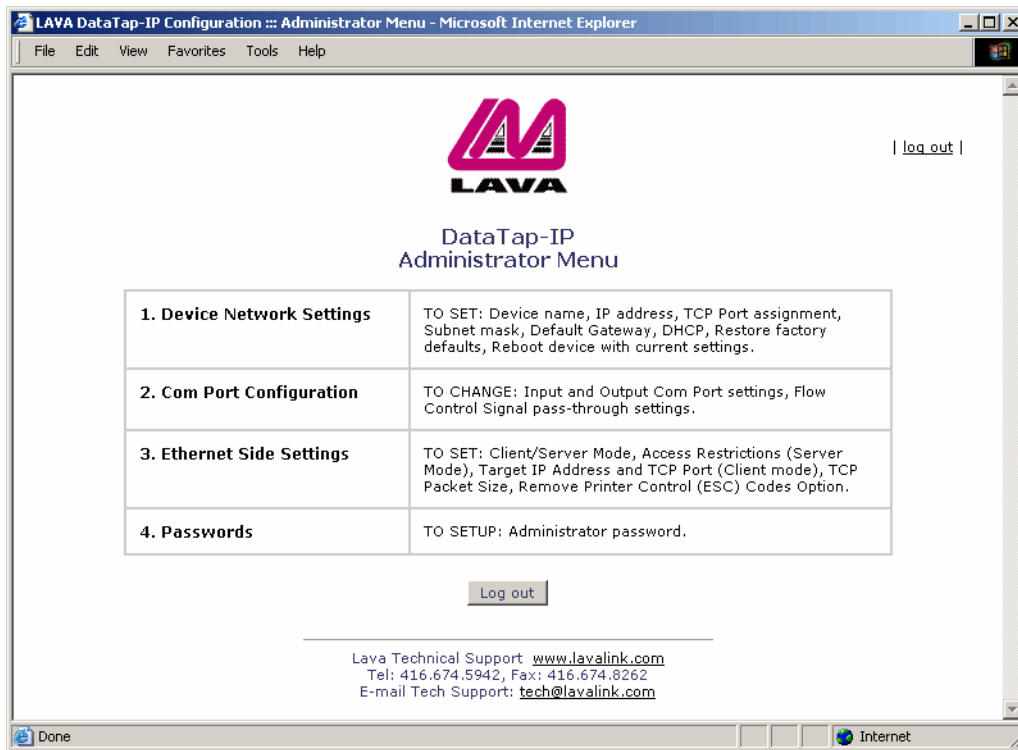
Done Internet

Log into the DataTap-IP by entering the password into the "Enter password:" text entry box and click on the "Configure" button (hitting the Enter key on your keyboard will not work). By default, the DataTap-IP ships with no password. To configure the DataTap-IP when no password is set, **do not enter any characters into the password box**; simply click on the "Configure" button.

NOTE: As a security feature, after five consecutive failed attempts at supplying a password, the DataTap-IP will refuse further password attempts. To unlock the DataTap-IP, it must be powered down and re-powered.

Once the password has been accepted, the DataTap-IP will present an Administrator Menu similar to the following:

Administrator Menu



From the Administrator Menu you can open screens to view and modify network configuration settings, port configuration settings, Ethernet configuration settings, and password administration for the DataTap-IP.

3. Device network settings

The Device Network Settings screen allows configuration of the network parameters for the DataTap-IP:

Device Network Settings

The screenshot shows a web browser window titled "LAVA DataTap-IP Configuration :: Device Network Settings - Microsoft Internet Explorer". The page features the LAVA logo and a "log out" link. The main heading is "Device Network Settings". Below this is a form with the following fields and controls:

Device name:	<input type="text" value="DataTap"/>	DHCP enabled: <input type="checkbox"/>
IP address:	<input type="text" value="192.168.0.35"/>	
Assigned TCP port:	<input type="text" value="4098"/>	
Subnet mask:	<input type="text" value="255.255.255.0"/>	
Default gateway:	<input type="text" value="0.0.0.0"/>	
DNS server IP:	<input type="text" value="0.0.0.0"/>	
HTTP port:	<input type="text" value="78"/>	

Below the form are four buttons: "Submit changes and reboot device", "Exit without changes", "Restore factory defaults and reboot device", and "Reboot device". At the bottom, contact information for LAVA Technical Support is provided: www.lavalink.com, Tel: 416.674.5942, Fax: 416.674.8262, and E-mail Tech Support: tech@lavalink.com.

The following network settings can be configured:

Device name

Use this field to supply a "friendly" name for the DataTap-IP device being configured. The friendly name is optional, and can be chosen to provide a conveniently-remembered name for the unit. By default this field is blank.

IP address

The IP address for the DataTap-IP will identify the device on the LAN on which it is located. Any conventional IP address can be used. The DataTap-IP ships with its default IP address as 192.168.0.35; ensure that this IP address is available on the LAN onto which the DataTap-IP is being installed.

NOTE: When DHCP is enabled, any IP address value entered here will be overridden.

Subnet mask

A subnet mask can be configured for the DataTap-IP in this dialog box; by default the DataTap-IP has a subnet mask of 255.255.255.0.

Default gateway

Configure the IP address of the default gateway that the DataTap-IP will use when communicating with devices outside its network segment. The default gateway is configurable as a 12 digit numeric (IP) address; by default this field is blank.

DNS server IP

If an external DNS server is being used to convert DNS names to IP addresses, the name of the DNS server is entered here. By default this field is blank.

DHCP enabled

If installing the DataTap-IP onto a network where IP addresses are to be assigned by a DHCP server, the “DHCP enabled” checkbox must be set. The DataTap-IP will act as a DHCP client and obtain its IP address from the DHCP server/s on its LAN. By default this function is disabled.

NOTE: When DHCP is enabled, any IP address value manually configured for the DataTap-IP will be overridden.

HTTP port

Configure the TCP port number used by web browsers when connecting by HTTP to the DataTap-IP. By default this port number is set to 80.

Implementing changes:

After making changes to the network settings, four options exist:

Submit changes and reboot device

This option will register the changes you have entered into the dialog box and reboot the DataTap-IP, implementing the changes on reboot.

Restore factory defaults and reboot device

This option will restore factory defaults and reboot the DataTap-IP, implementing the changes on reboot.

Exit without changes

This option will discard changes entered into the dialog box and return you to the “Administrator Menu” screen.

Reboot device

This option will reboot the device with the settings currently implemented, and discard changes entered into the dialog box and not submitted.

4. Com port configuration

If you choose the “Com Port Configuration” option from the Administrator’s Menu, a screen like the following will appear (four-port DataTap-IP devices will have Com ports configurable as pairs):

Com Port Configuration

The screenshot shows a web browser window titled "LAVA DataTap-IP Configuration :: Serial Port Settings - Microsoft Internet Explorer". The page features the LAVA logo and a "log out" link. The main content is titled "Com Port Configuration" and is divided into two columns: "Input Com Port Settings" and "Output Com Port Settings".

Input Com Port Settings		Output Com Port Settings	
Baud rate:	9600	Baud rate:	9600
Data bits:	8	Data bits:	8
Parity:	None	Parity:	None
Stop bits:	1	Stop bits:	1
Flow control:	None	Flow control:	None

Below the input settings is a "Reset Port" button. Below the output settings is a checkbox labeled "match input port settings" with the text "(user defined output port settings ignored when checked)".

Below these sections is a section titled "Pass Control Signal between Input and Output Com Ports" with two checkboxes: "DTR" (checked) and "RTS" (unchecked).

At the bottom are "Submit" and "Exit without changes" buttons. The footer contains contact information: "Lava Technical Support www.lavalink.com, Tel: 416.674.5942, Fax: 416.674.8262, E-mail Tech Support: tech@lavalink.com".

This screen provides access to conventional Com port settings for both input and output ports, control signal configuration between the two serial ports, and port reset.

Baud rate (Input Com Port and Output Com Port)

This parameter can be set from 110 to 115200 bps. The default baud rate is 9600 baud.

Data bits (Input Com Port and Output Com Port)

This parameter can be set from 5 to 8. The default data bits setting is 8 bits.

Parity (Input Com Port and Output Com Port)

This parameter can be set even, odd, none, mark, or space. The default parity setting is no parity (“none”).

Stop bits (Input Com Port and Output Com Port)

This parameter can be set 1, 1.5, or 2. The default stop bits setting is 1 bit.

Flow control (Input Com Port and Output Com Port)

This parameter can be set XON/XOFF, hardware, or none. The default flow control setting is no flow control (“none”).

NOTE: When setting the DataTap-IP to pass RTS control signal parameters, flow control should be set to “none” (See “Pass control signals between Input and Output Com ports”).

Reset port (Input Com Port only)

This button will reset the connection between the Input Com port and the DataTap-IP.

NOTE: If a TCP connection is open when the port is reset, that TCP connection is closed and must be reset. If the DataTap-IP is configured as an Ethernet client, TCP re-connection will be automatic; if the DataTap-IP is configured as an Ethernet server, the client device must re-establish the connection.

Match input port settings

This checkbox will cause the Output Com port settings to match those used on the Input Com port, over-riding any manually configured settings for the Output Com port.

Pass control signals between Input and Output Com ports

The port redirection capability of the DataTap-IP transmits TX and RX data between its Output and Input Com ports. In some circumstances additional control line information will need to be sent between the two ports, as for example when a printer attached to the Output Com port needs to send a “paper out” indication to a station attached to the Input Com port. In these situations, DTR and RTS line information can be transmitted as well. By default DTR is enabled as a control line and RTS is disabled.

The “Pass control signals” settings allow the DataTap-IP to pass control information across the serial port redirection link.

	TRANSFERRING CONTROL SIGNAL PARAMETERS	
	DTR	RTS
<input type="checkbox"/>	The DTR line is always set high on both Input and Output serial ports.	<div>If hardware flow control is not enabled on the Input serial port, then the state of the RTS line is always set high on both Input and Output serial ports.</div> <div>If hardware flow control is enabled on the Input serial port, then the state of the RTS line is determined by the state of the flow control at any time.</div>
<input checked="" type="checkbox"/>	The state of the DTR line on Input and Output serial ports is matched to the state of the DTR line of the device attached to Output and Input serial ports respectively.	<div>If hardware flow control is not enabled on the Input serial port, then the state of the RTS line is matched to the state of the RTS line of the device attached to the Output and Input serial ports respectively.</div> <div>If hardware flow control is enabled on the Input serial port, then the state of the RTS line is determined by the state of the flow control at any time.</div>
NOTE: The terms “set high” and “set low” are potentially confusing. This manual adopts the convention that “set high” means that a control line will have a voltage of -12 VDC and that the modem control register for that line is set to a logical “1”.		

As the table above indicates, settings using the RTS line will be affected by hardware flow control being enabled; when the RTS line is needed for device control, hardware flow control should be disabled.

After making changes to the Com port settings, two options exist:

Submit

This option will register the changes you have entered into the dialog box and reboot the DataTap-IP, implementing the changes on reboot.

NOTE: If a TCP connection is open when changes are submitted, that TCP connection is closed and must be reset. If the DataTap-IP is configured as an Ethernet client, TCP re-connection will be automatic; if the DataTap-IP is configured as an Ethernet server, the client device must re-establish the connection.

Exit without changes

This option will discard changes entered into the dialog box and return you to the “Administrator Menu” screen.


5. Ethernet side settings

The “Ethernet Side Configuration” dialog allows the DataTap-IP to be configured to send data over IP.

Ethernet Side Configuration

LAVA DataTap-IP Configuration :: Ethernet Side Configuration - Microsoft Internet Explorer

File Edit View Favorites Tools Help

 | [log out](#) |

Ethernet Side Configuration

DataTap-IP unit configured as:	
Client	<input checked="" type="radio"/> Target IP address: <input type="text"/> TCP port: <input type="text"/>
Server	<input type="radio"/> Access Restrictions

☐ Remove Printer Control (ESC) Codes before transmitting data over Ethernet

[Submit](#) [Exit without changes](#)

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Done Internet

Client/server configuration

The DataTap-IP can be configured as a client or server. When the “Client” option is selected, data received on the Input Com port is passed over the Ethernet port of the DataTap-IP to an IP address or DNS name supplied by the user. By default, the DataTap-IP has client connection enabled.

When the “Server” option is selected, the DataTap-IP will act as a server, accepting connections from clients with authorized IP addresses.

Remove Printer Control (ESC) Codes

Selecting this option will cause printer control codes (ESCAPE codes) to be removed from the data stream being sent over the Ethernet side of the DataTap-IP.

6. Access restriction settings

If you choose the "Access Restrictions" option from the Ethernet Side Configuration menu, a screen like the following will appear:

Access Restrictions

| [log out](#) |

Access Restrictions (Server Mode Only)

IP Range restrictions:

From: <input type="text"/>	To: <input type="text"/>
<input type="radio"/> Allow access	<input checked="" type="radio"/> Block access
From: <input type="text"/>	To: <input type="text"/>
<input type="radio"/> Allow access	<input checked="" type="radio"/> Block access
From: <input type="text"/>	To: <input type="text"/>
<input type="radio"/> Allow access	<input checked="" type="radio"/> Block access
From: <input type="text"/>	To: <input type="text"/>
<input type="radio"/> Allow access	<input checked="" type="radio"/> Block access
From: <input type="text"/>	To: <input type="text"/>
<input type="radio"/> Allow access	<input checked="" type="radio"/> Block access

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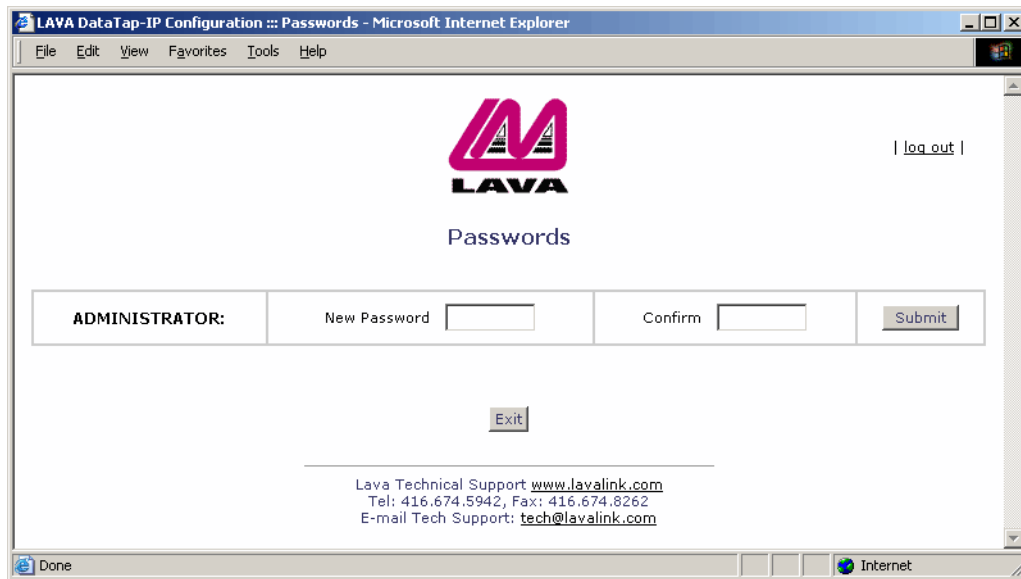
http://www.lavalink.com/ Internet

This dialog box allows access to the DataTap-IP to be restricted or permitted according to the IP address of the client system. Five separate ranges can be configured to each either allow or block access, and the logic sum of these range restrictions is the access allowed to the port.

7. Password configuration

If you choose the “Passwords” option from the Administrator’s Menu, a screen like the following will appear:

Administrator Password Configuration



The screenshot shows a web browser window titled "LAVA DataTap-IP Configuration :: Passwords - Microsoft Internet Explorer". The browser's menu bar includes File, Edit, View, Favorites, Tools, and Help. The main content area features the LAVA logo (a stylized 'M' with 'LAVA' text below it) and a "log out" link. Below the logo, the word "Passwords" is centered. A form contains an "ADMINISTRATOR:" label, a "New Password" input field, a "Confirm" input field, and a "Submit" button. An "Exit" button is located below the form. At the bottom, contact information for LAVA Technical Support is provided: www.lavalink.com, Tel: 416.674.5942, Fax: 416.674.8262, and E-mail Tech Support: tech@lavalink.com. The status bar at the bottom shows "Done" and "Internet".

This dialog box allows a new password to be set for the DataTap-IP. Enter the new password, confirm it by retyping it in the second entry box, and then click the “Submit” button. To configure the DataTap-IP when no password is set, **do not enter any characters into the password box**; simply click on the “Configure” button.

NOTE: As a security feature, after five consecutive failed attempts at supplying a password on the main entry screen, the DataTap-IP will refuse further password attempts. To unlock the DataTap-IP, it must be powered down and re-powered.

8. Hardware status LEDs

Hardware Status LEDs	
Power	
<i>RED - Power connection status</i>	
ON	Power is being received by the DataTap-IP
OFF	Power is not being received by the DataTap-IP
Ethernet	
<i>Green - LAN connection status</i>	
ON	DataTap-IP is connected to LAN
OFF	DataTap-IP is not connected to the LAN, or the DataTap-IP is in the process of being reset
<i>Amber - Data communications activity status</i>	
ON-OFF-ON (Flickering)	Packets are being seen by the DataTap-IP
STEADY	No data activity is being seen by the DataTap-IP
Serial DB-9	
<i>Green - Transmit status</i>	
ON	Data is being transmitted on the serial port
OFF	Data is not being transmitted on the serial port
<i>Yellow - Receive status</i>	
ON	Data is being received on the serial port
OFF	Data is not being received on the serial port