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***IPTran***  
***Installation & Configuration Guide***

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*Version 1.22*

***Standard***  
***IPTran Application***



# ***IPTran Installation & Configuration Guide***

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Printed in the United States of America

Revised: 23 February 2006

## ***Version Support***

This document supports the following application versions:

IPTran Standard Application, Version 1.22

DataTran: MPH50418 (or later) ABS version  
MPT50424 (or later) both ABS and AST versions  
NDH61612 (or later) ABS version  
NDC61612 (or later) both ABS and AST versions  
PNH50422 (or later) ABS version  
PNS50413 (or later) both ABS and AST versions  
SGH50428 (or later) ABS version  
NOV50415 (or later) ABS version  
VS250425 (or later) both ABS and AST versions  
CIT50412 (or later) both ABS and AST versions  
LNK50411 (or later) both ABS and AST versions

## ***Payment Processor Support***

This document supports the following payment processor:

- *Mercury Payment Systems (Host & Terminal)*
- *Global Payment Systems (Host & Terminal)*
- *Sterling Payment Technologies*
- *Paymentech via NetConnect (Host & Terminal)*
- *Nova Information Systems*
- *VITAL Processing Services*
- *FDMS North (CardNet)*
- *LYNK Systems*

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# **OVERVIEW**

## **Introduction**

### **About IPTran**

The IPTran is designed to allow POS systems that use DataTran to process transactions via IP and use direct dial as back up. This allows integrators to offer fast IP transactions over the Internet without any code changes in their systems that already support DataTran. Since the DataTran retains its internal modem functions, direct dial backup to the processor can be easily configured to provide the most reliable backup possible.

### **About Datacap**

Datacap Systems, Inc. develops and markets electronic payment interfaces that enable cash register and business systems developers to add electronic payment acceptance to their systems.

Datacap has various solutions that interface to virtually any hardware or software platform and send transactions to all major payment processors via most common communications technologies including dial, wireless, and Internet.

## **What's Included with your IPTran**

The *IPTran* system includes the following components in the shipping box:

- **IPTran** – The IPTran unit with power, Ethernet and three serial connectors. The IPTran has the software to support secure IP communications to PAYMENTECH installed at the factory.
- **Cable**– An RS232 cable terminated with a micro DIN 6 pin connector on each end. This is used to connect the DataTran 162 ML AUX RS232 port to the IPTran COM1 port.
- **Power Transformer** – for use with 110V AC power.
- **IPTran Installation Guide** – This installation guide.

## **How it works**

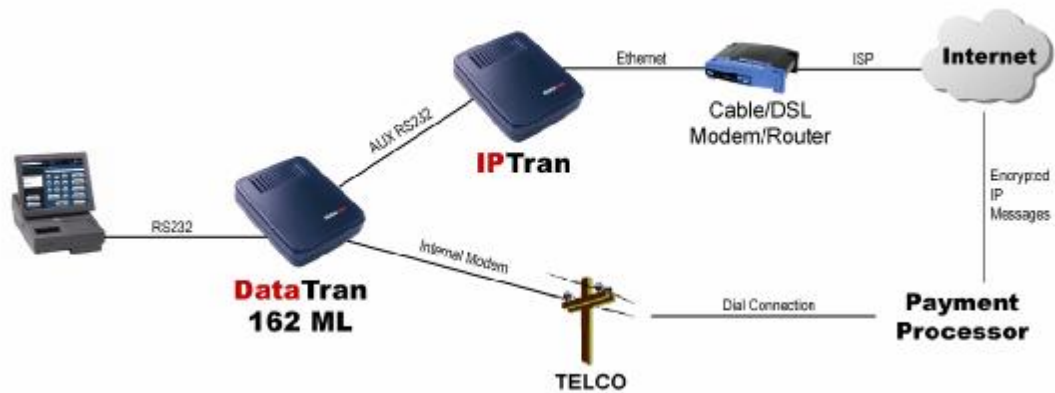
The IPTran is designed to allow POS systems that use DataTran to process transactions via IP and use direct dial as back up. The POS is connected to a DataTran 162 ML via the ECR port. The DataTran 162 ML is connected to the COM1 port of the IPTran with a cable to the AUX RS232 port. The IPTran is also connected via the Ethernet connector to a persistent IP connection with DHCP server available.

When the DataTran receives a transaction request from the POS system, it first attempts to transmit the request to the IPTran over the serial interface rather than using its internal modem to dial using the phone system. The IPTran then reformats, encrypts and transmits the message to the processor. When the IPTran receives a response from the processor, it decrypts and reformats the response and sends it back to the DataTran over the serial connection.

If the IPTran is unable to process the transaction, it will return an error code to the DataTran. If the DataTran has been configured to use its internal modem to connect on its second attempt, it will then dial the processor using the phone system.

By using dial up communications automatically over the phone system for backup, outages in IP service does not halt payment processing. If desired, the DataTran can be configured to use only IPTran without dial backup.

A typical configuration for a DataTran/IPTran is as follows:



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# **INSTALLATION**

## **Requirements**

### **Networking Requirements**

To successfully install and run *IPTran*, you should confirm that there are networking services available with the following characteristics:

- An Ethernet connection supporting TCP/IP network connectivity
- DNS (Domain Name Services) on the Internet connection
- A persistent Internet connection; cable, DSL, dedicated line, frame relay, etc. Dial access that holds an open line will also work due to low bandwidth requirements.
- Active DHCP server availability. *IPTran* must be able to obtain a dynamically assigned IP address, DNS primary and secondary server addresses and gateway address from a DHCP server. A router or switch with a compatible DHCP server is ideal.

### **DataTran Requirements**

To successfully install and run *IPTran* with the Standard Application, you should confirm that a *DataTran* is attached to the POS system with following characteristics:

- DataTran: 162 ML model
- Load Modules: MPH50418 (or later) ABS version  
MPT50424 (or later) both ABS and AST versions  
NDH61612 (or later) ABS version  
NDC61612 (or later) both ABS and AST versions  
PNH50422 (or later) ABS version  
PNS50413 (or later) both ABS and AST versions  
SGH50428 (or later) ABS version  
NOV50415 (or later) ABS version  
VS250425 (or later) both ABS and AST versions  
CIT50412 (or later) both ABS and AST versions  
LNK50411 (or later) both ABS and AST versions
- Merchant parameters modified to utilize the *IPTran* on the DataTran AUX RS232 port.

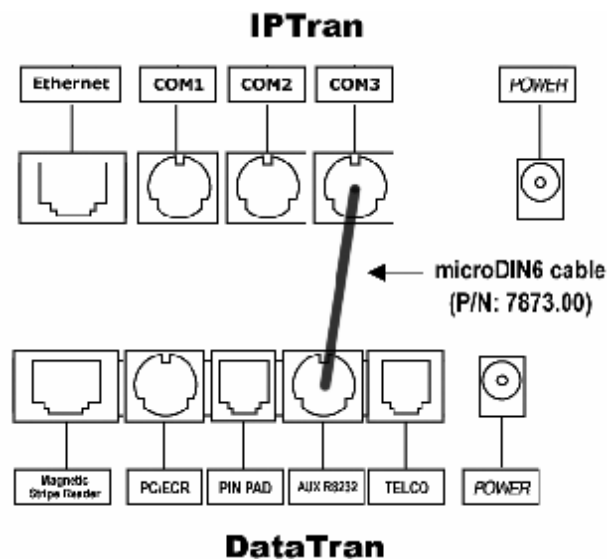
# Installation Procedure

## Connecting the DataTran

Before you begin installing *IPTran*, you should attach the *DataTran 162 ML* to the ECR/POS system and configure it in the usual manner. Refer to the *DataTran Installation Guide* packed with the *DataTran 162 ML* if you need assistance. Connect the power to the *DataTran* and verify that the red LED on the left front of the *DataTran* is lit.

## Connecting the IPTran

After the *DataTran* is connected to the POS, connect the *IPTran* to the *DataTran* with the supplied microDIN6 cable (P/N: 7873.00). Connect the *AUX RS232* port on the *DataTran* to any one of the COM (COM1-3) ports on the *IPTran*. Up to 3 *DataTran*s may be plugged into an *IPTran* simultaneously.



Connect the *IPTran* Ethernet port to the network using an appropriate cable type and length having an RJ45 modular connector at the *IPTran* end.

**Note:**

*IPTran* *must* be connected to a network with an *active* DHCP server that can assign a non conflicting IP address, and provide DNS address(es) and gateway address information. If you are experiencing problems with *IPTran* communications, you should verify the DHCP server is operating as described.

Connect the power to the *IPTran* and verify that the red LED on the left front of the *IPTran* is illuminated within ten seconds. If this LED does not light within that time, verify the network cable and status, disconnect the power and reconnect the power.

**Note:**

The red LED on the front edge of the *IPTran* must be illuminated indicating that it's NIC (Network Interface Controller) is properly initialized.

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# **CONFIGURATION & TESTING**

## **Introduction**

This chapter explains how to configure and test the *DataTran* and *IPTran*.

*IPTran* is delivered with all internal software and settings loaded at the factory. Other than properly connecting *IPTran*, there is no other hardware or software setup.

The *DataTran* must be loaded with the appropriate network version and parameters must be set to utilize the attached *IPTran*.

## **Configuration**

The *DataTran* must be loaded with one of the following compatible networks:

MPH50418	(or later) ABS version
MPT50424	(or later) both ABS and AST versions
NDH61612	(or later) ABS version
NDC61612	(or later) both ABS and AST versions
PNH50422	(or later) ABS version
PNS50413	(or later) both ABS and AST versions
SGH50428	(or later) ABS version
NOV50415	(or later) ABS version
VS250425	(or later) both ABS and AST versions
CIT50412	(or later) both ABS and AST versions
LNK50411	(or later) both ABS and AST versions

## **Setting DataTran Parameters**

The *DataTran* should first be programmed with the merchant's personalized parameter information supplied by the merchant's bank or service provider as if it were a normal *DataTran* dial installation. To enable *IPTran* operation, the following *DataTran* parameters must be set as indicated:

**Mercury Terminal: MPT50424 (ABS or AST)**

Internet for All Communications		DMP	DSS
TID14	Main (Primary) Settlement Method	2	IPTran/DDOV
TID16	Alternate (Secondary) Settlement Method	2	IPTran/DDOV
	Main Authorization Access Method	2	IPTran/DDOV
	Alternate Authorization Access Method	2	IPTran/DDOV

The above changes will enable the IPTran to use the Internet for both Main and Alternate access to Mercury. If a phone line is available and dial backup directly to Mercury is desired, then only the Main Access methods should be changed. Use the following template for dial backup operation:

Dial Backup Configuration		DMP	DSS
TID14	Main (Primary) Settlement Method	2	IPTran/DDOV
TID16	Alternate (Secondary) Settlement Method	0	Normal Dial
	Main Authorization Access Method	2	IPTran/DDOV
	Alternate Authorization Access Method	0	Normal Dial

**Mercury Host: MPH50418 (ABS)**

Internet for All Communications		DMP	DSS
TID14	Main (Primary) Settlement Method	2	IPTran/DDOV
TID16	Alternate (Secondary) Settlement Method	2	IPTran/DDOV
	Main Authorization Access Method	2	IPTran/DDOV
	Alternate Authorization Access Method	2	IPTran/DDOV

The above changes will enable the IPTran to use the Internet for both Main and Alternate access to Mercury. If a phone line is available and dial backup directly to Mercury is desired, then only the Main Access methods should be changed. Use the following template for dial backup operation:

Dial Backup Configuration		DMP	DSS
TID14	Main (Primary) Settlement Method	2	IPTran/DDOV
TID16	Alternate (Secondary) Settlement Method	0	Normal Dial
	Main Authorization Access Method	2	IPTran/DDOV
	Alternate Authorization Access Method	0	Normal Dial

**Global Payments Terminal: NDC61612 (ABS or AST)**

Internet for All Communications		DMP	DSS
TID14	Main (Primary) Settlement Method	2	IPTran/DDOV
TID16	Alternate (Secondary) Settlement Method	2	IPTran/DDOV
	Main Authorization Access Method	2	IPTran/DDOV
	Alternate Authorization Access Method	2	IPTran/DDOV

The above changes will enable the IPTran to use the Internet for both Main and Alternate access to Global Payments. If a phone line is available and dial backup directly to Global Payments is desired, then only the Main Access methods should be changed. Use the following template for dial backup operation:

Dial Backup Configuration		DMP	DSS
TID14	Main (Primary) Settlement Method	2	IPTran/DDOV
TID16	Alternate (Secondary) Settlement Method	0	Normal Dial
	Main Authorization Access Method	2	IPTran/DDOV
	Alternate Authorization Access Method	0	Normal Dial

**Global Payments Host: NDH61612 (ABS)**

Internet for All Communications		DMP	DSS
TID14	Main (Primary) Settlement Method	2	IPTran/DDOV
TID16	Alternate (Secondary) Settlement Method	2	IPTran/DDOV
	Main Authorization Access Method	2	IPTran/DDOV
	Alternate Authorization Access Method	2	IPTran/DDOV

The above changes will enable the IPTran to use the Internet for both Main and Alternate access to Global Payments. If a phone line is available and dial backup directly to Global Payments is desired, then only the Main Access methods should be changed. Use the following template for dial backup operation:

Dial Backup Configuration		DMP	DSS
TID14	Main (Primary) Settlement Method	2	IPTran/DDOV
TID16	Alternate (Secondary) Settlement Method	0	Normal Dial
	Main Authorization Access Method	2	IPTran/DDOV
	Alternate Authorization Access Method	0	Normal Dial

## **Sterling Host: SGH50428 (ABS)**

<b>Internet for All Communications</b>		<b>DMP</b>	<b>DSS</b>
TID7	Main (Primary) Settlement Method	2	IPTran/DDOV
TID9	Alternate (Secondary) Settlement Method	2	IPTran/DDOV
	Main Authorization Access Method	2	IPTran/DDOV
	Alternate Authorization Access Method	2	IPTran/DDOV

The above changes will enable the IPTran to use the Internet for both Main and Alternate access to Sterling. If a phone line is available and dial backup directly to Sterling is desired, then only the Main Access methods should be changed. Use the following template for dial backup operation:

<b>Dial Backup Configuration</b>		<b>DMP</b>	<b>DSS</b>
TID7	Main (Primary) Settlement Method	2	IPTran/DDOV
TID9	Alternate (Secondary) Settlement Method	0	Normal Dial
	Main Authorization Access Method	2	IPTran/DDOV
	Alternate Authorization Access Method	0	Normal Dial

## **Nova Host: NOV50415 (ABS)**

<b>Internet for All Communications</b>		<b>DMP</b>	<b>DSS</b>
TID6	Main (Primary) Settlement Method	2	IPTran/DDOV
TID8	Alternate (Secondary) Settlement Method	2	IPTran/DDOV
	Main Authorization Access Method	2	IPTran/DDOV
	Alternate Authorization Access Method	2	IPTran/DDOV

The above changes will enable the IPTran to use the Internet for both Main and Alternate access to Nova. If a phone line is available and dial backup directly to Nova is desired, then only the Main Access methods should be changed. Use the following template for dial backup operation:

<b>Dial Backup Configuration</b>		<b>DMP</b>	<b>DSS</b>
TID6	Main (Primary) Settlement Method	2	IPTran/DDOV
TID8	Alternate (Secondary) Settlement Method	0	Normal Dial
	Main Authorization Access Method	2	IPTran/DDOV
	Alternate Authorization Access Method	0	Normal Dial

**VITAL Terminal: VS250425 or later (ABS or AST)**

Internet for All Communications		DMP	DSS
TID15	Main (Primary) Settlement Method	2	IPTran/DDOV
TID17	Alternate (Secondary) Settlement Method	2	IPTran/DDOV
	Main Authorization Access Method	2	IPTran/DDOV
	Alternate Authorization Access Method	2	IPTran/DDOV

The above changes will enable the IPTran to use the Internet for both Main and Alternate access to VITAL. If a phone line is available and dial backup directly to VITAL is desired, then only the Main Access methods should be changed. Use the following template for dial backup operation:

Dial Backup Configuration		DMP	DSS
TID15	Main (Primary) Settlement Method	2	IPTran/DDOV
TID17	Alternate (Secondary) Settlement Method	0	Normal Dial
	Main Authorization Access Method	2	IPTran/DDOV
	Alternate Authorization Access Method	0	Normal Dial

**CardNet (FDMS North) Terminal: CIT50412 or later (ABS or AST)**

Internet for All Communications		DMP	DSS
TID20	Main (Primary) Settlement Method	2	IPTran/DDOV
TID22	Alternate (Secondary) Settlement Method	2	IPTran/DDOV
	Main Authorization Access Method	2	IPTran/DDOV
	Alternate Authorization Access Method	2	IPTran/DDOV

The above changes will enable the IPTran to use the Internet for both Main and Alternate access to CardNet. If a phone line is available and dial backup directly to CardNet is desired, then only the Main Access methods should be changed. Use the following template for dial backup operation:

Dial Backup Configuration		DMP	DSS
TID20	Main (Primary) Settlement Method	2	IPTran/DDOV
TID22	Alternate (Secondary) Settlement Method	0	Normal Dial
	Main Authorization Access Method	2	IPTran/DDOV
	Alternate Authorization Access Method	0	Normal Dial

**LYNK Terminal: LNK50411 or later (ABS or AST)**

<b>Internet for All Communications</b>		<b>DMP</b>	<b>DSS</b>
TID15	Main (Primary) Settlement Method	2	IPTran/DDOV
TID17	Alternate (Secondary) Settlement Method	2	IPTran/DDOV
	Main Authorization Access Method	2	IPTran/DDOV
	Alternate Authorization Access Method	2	IPTran/DDOV

The above changes will enable the IPTran to use the Internet for both Main and Alternate access to LYNK. If a phone line is available and dial backup directly to LYNK is desired, then only the Main Access methods should be changed. Use the following template for dial backup operation:

<b>Dial Backup Configuration</b>		<b>DMP</b>	<b>DSS</b>
TID15	Main (Primary) Settlement Method	2	IPTran/DDOV
TID17	Alternate (Secondary) Settlement Method	0	Normal Dial
	Main Authorization Access Method	2	IPTran/DDOV
	Alternate Authorization Access Method	0	Normal Dial

## Port Usage

The IPTran connects to different IP ports depending on the processor utilized. The following chart lists the port usage by processor. This information should be used to configure network components, such as firewalls, routers, switches, etc as necessary to allow traffic to/from the IPTran.

Processor	URL	Source Ports	Remote Ports
Mercury	x1.mercurypay.com b2.backuppay.com	1024 thru 5000	9000
Global Payments	igusproda.globalpay.com igusprodb.globalpay.com	1024 thru 5000	443
Sterling	expresslane1.sterlingpayment.com expresslane2.sterlingpayment.com expresslane3.sterlingpayment.com	1024 thru 5000	9000
Paymentech	netconnect1.paymentech.net netconnect2.paymentech.net	1024 thru 5000	443
Nova	webgate.viaconex.com	1024 thru 5000	443
VITAL	ssl2.vitalps.net	1024 thru 5000	5003
FDMS/CardNet	vxn.datawire.net vxn1.datawire.net	1024 thru 5000	443
Lynk Systems	tptrans.lynksystems.com	1024 thru 5000	6660

# Testing

## **Important! - Before You Start**

You should arrange with your bank and payment processor for testing *IPTran* and all other related components before going live.

**It is the sole responsibility of the merchant account holder to verify that the merchant information entered into *DataTran* is correct.**

**You should only process actual payments after verification that all test transactions have been successfully deposited.**

Datacap Systems is not responsible for typographical errors, data entry errors or any other inaccuracies arising out of the creation and/or downloading of merchant data.

Furthermore, Datacap Systems shall not be liable for any errors or for incidental or consequential damages in connection with the use of the software or other programmed information, including customer supplied or Datacap supplied information.

# Troubleshooting

IPTran problems are usually related to either incorrect DataTran setup, LAN setup or firewall issues.

1. Verify that you have a compatible DataTran application load for use with IPTran.
2. Verify that the DataTran parameters are set for IPTran use.
3. Verify that both the RED and GREEN LED's on the front edge of the IPTran are illuminated. The IPTran will not operate unless both of these LEDs are illuminated!
4. If the RED LED is not illuminated, then there is a cable or electrical problem with the Ethernet connection. Verify cable integrity and connections to other LAN components such as routers, switches and modems.
5. If the GREEN LED is not illuminated, then the IPTran was unable to get an IP address from a DHCP server. Verify that there's a working DHCP server on the LAN which can issue a non conflicting IP address, DNS address(es) and gateway address to the IPTran.
6. If both LEDs are illuminated and the DataTran is properly loaded and configured, then there may a firewall or router configuration which is preventing the IPTran from reaching the processing host. See the IPTran Port Usage table and verify that none of your network components are blocking traffic on the port(s) used by your processor.

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