

# Ingenico i6550 - The Missing Article



This Device is NOT SUPPORTED

*Note that this article covers the latest versions 6.0.50.x & 6.0.60.x Also note that this is only troubleshooting the device itself and getting it to work, it is not a step by step guide to running DSI Client etc, as this is covered in other articles Please refer to this when you encounter issues with the Device and loading forms.*

## Disclaimer

*This is not meant to be a bible to the I6550. When running into problems please do use your amazing technical support troubleshooting skill when you cannot find a solution in this guide. Sometimes asking simple questions can help. Things like: What are we plugged into? Where did we get the pad from? Is it turned on? Are we set to Eth on the initialising screen when booting up the pin pad or are we still on Serial on the pin pad? What drivers are we running? Did we check over all of our settings? What is our port number? Do we have a DHCP server on the router/server? Cards won't swipe, have we done an MSR Diagnostic on the Pin Pad? Are we using a Serial to USB Connector (Never do this)? Questions like this, always imagine you are there and what you would check when setting this device up. Let the customer be your eyes and try to visualize what is going on in the work environment.*

## Introduction

Having spent a good while working with these machines, I have finally pooled enough knowledge to write a good article to help everyone get better with these things. I will also add to this over time should I run into other conundrums involving this device. This is (almost) everything I've learned with this device so far, and, as I keep adding to it, it could get cluttered. Please also remember to do your own basic troubleshooting when things aren't going as planned...

## ¿ Questions To Ask ?

Some things to address with the customer:

- **“Where did you get your pin pad from?”** A very important question.

Some people in the past have purchased their pin pads on auction websites or from shops/stores. This is not good. The devices should always be bought through a recommended dealer, they need to be.

- **“Has your Pin Pad been encrypted for Mercury?”** Make sure the device has a sticker on it for JR's POS Depot (A company we recommend customers have their devices encrypted).

The device needs to be encrypted to handle Debit card sales, however credit

sales should go through regardless of encryption. Be wary however, a device bought from Ebay or not a recommended dealer, could have an encryption in there already, this means money or sales or data could be sending to someone else and not Mercury, which could be very detrimental to the customer and their business, and could cost them money in the long run.

- ***“Are you running the UPOS Interface Application?”*** This can be checked when rebooting the pin pad. [1] [Cancel] [Enter]

The i6550 runs its own application on the machine, this application can vary depending on where the pin pad was bought from. Some people purchase them online from auctions or shops. This means they can end up not having UPOS on it. I.e. If a pin pad is purchased from somewhere like Walmart or Block Busters. Then it will have its own hard coded interface application on it, that won't be compatible with the OP0S Drivers. Which, effectively, won't load any forms onto it, nor have any useful functions to the customer.

- ***“Are you running a wireless network to your pinpads?”***

Ensure your a not running your PINPAD over wireless. We support Terminal Services via wireless, because there is not data being transmitted, just screen and keyboard, however PINPADs transmit data. Wireless networks will drop or delay data much more often than wired networks.

## Preparation

First of all we need to determine some factors:-

- What is our setup?
  - Terminal Services (Remote Location, Local, VPN?)
  - Local
- How many devices?
- How are we connecting the pads?

We have a few options for connectivity.

1. Serial Cable
2. USB/Serial Adapter
3. Ethernet

Let's look at these options:

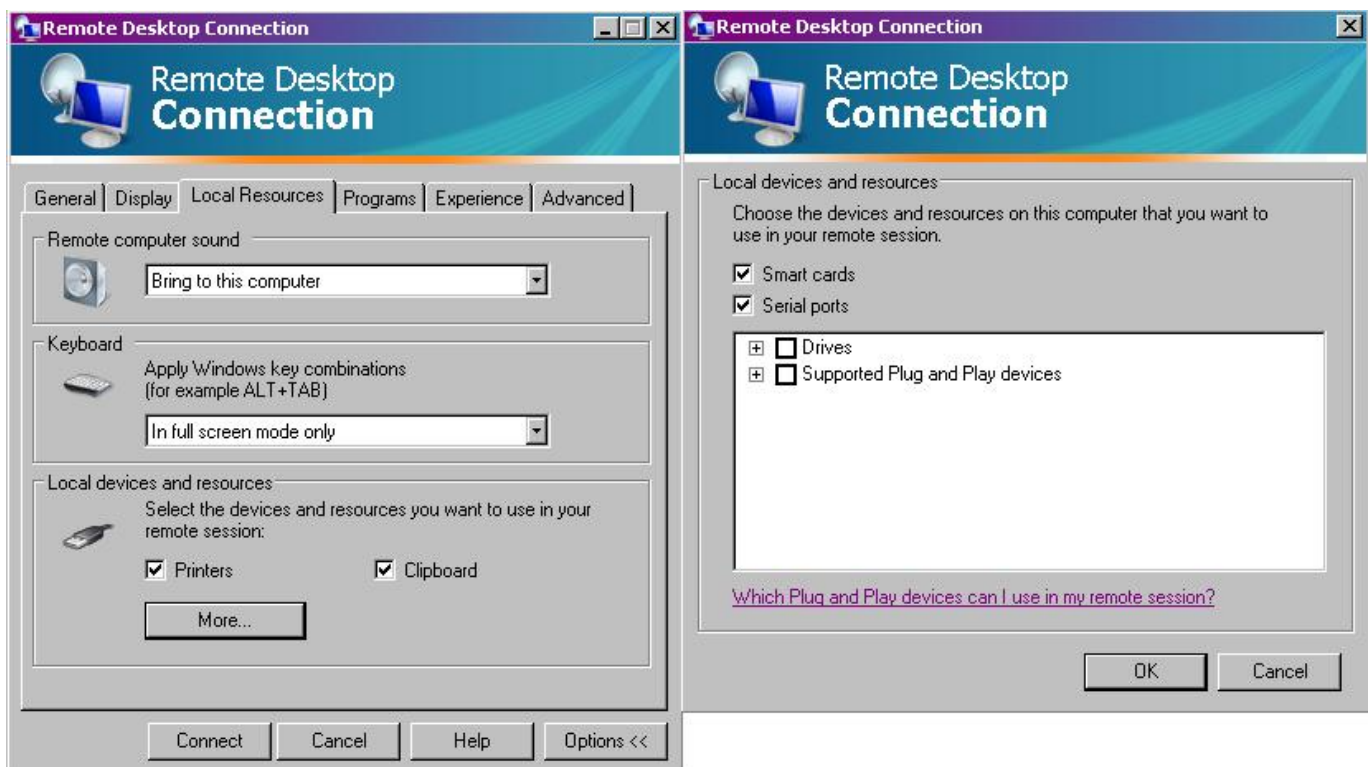
- Serial is very slow, not so much over a local connection, however port forwarding over terminal services is usually a big no no, and I would advise recommending to the customer that they consider Ethernet for this. Serial Cable locally can work, however if they have the space and capacity to accommodate Ethernet, use it! Even if they swear they want to use Serial over Terminal Services, guaranteed they'll come knocking when their connection speed is very slow and you were the one who set it up, keep this in mind...

- USB/Serial Adapter, there is only one thing I can say about this method. Don't do it, save the customer time and money and tell them to either go Ethernet as option one, or if they must, straight serial. USB/Serial Adapters are very flaky and nine times out of ten will work one day and then decide not to work another. Avoid by all means necessary.
- The prospect of setting up one of these pin pads over Ethernet can be very daunting if you've never done it, and because of the lack of documentation surrounding it, however you will find it is very simple, and a lot more so than Serial. Once you've done it once, you will swear by Ethernet as the best way. It's fast, reliable and it works!

## Serial

If you absolutely must set up serial over Terminal Services and you cannot do anything to convince the customer otherwise that Ethernet is the best solution for this, then you can set up port forwarding through Remote Desktop Connection.

Go to Local Resources and hit more when viewing Options.



Once you've done this, you should be able to go to a command prompt on the Remote Desktop and type `CHANGE PORT /QUERY` to see the mapped COM Ports being forwarded, once you've done this you know that the Pin Pad will load forms.

Next you're going to want to make sure the Pin Pad is configured properly for Serial. Hit [1] [CANCEL] & [ENTER] at the same time on the Pin Pad. Then hold down [1] [3] together straight away until the menu loads up. Then go to Supervisor Menu - Password xxxx. Once you're in there go to System Parameters → Setup Port. Go to PORT 1 & PORT 3 and make sure they're set to RS232 for Serial. On PORT 3 be sure to set the right value in the LOCAL IP PORT option i.e. Pin Pad 1 we might want as Port 8001, and Pin Pad 2 we might want 8002 etc.

The Cancel button will take the customer back a menu, it's also advisable to use fingers instead of the

pen as the pen has a habit of pushing things you don't want. Using your finger on the bottom and top right of the screen should scroll up and down the menu also. Next you want to set the HOST PORT to PORT 1. Now hot cancel until you come out of all the menus and the Pin Pad reboots. Once it's rebooted and intialised it should say HostPort: COM1,RS232:8001 or something similar.

## DRIVERS

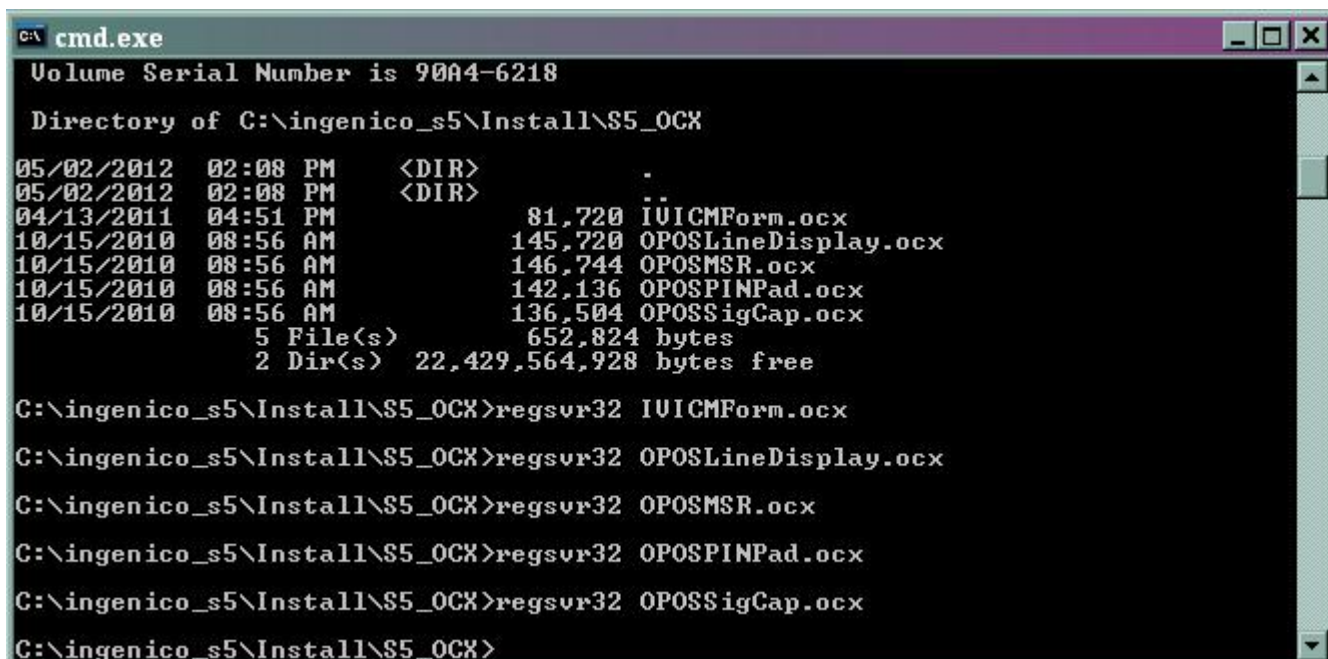
For the Pin Pad to work properly with System Five we need 3 things installed. The OPOS Software, the Form Designer and the Com Objects. These can be located in the following ZIP file on the FTP server. Note that the new drivers need to be applied to 6.0.50.x and 6.0.60.x as the old ones won't work.

[INGENICO I6550 DRIVERS](#) You will need 7ZIP to extract the drivers.

Once you've unzipped this file place the folder in the root directory of C:\ So you will end up with C:\ingenico\_s5

You now need to install the Form Designer, Com Objects & the OPOS Drivers:

- **OPOS COM OBJECTS** Install this from this location C:\ingenico\_s5\Install\OposCCOs-1\_13\_001.exe
- **OPOS DRIVERS** Install this from this location C:\ingenico\_s5\Install\OPOS Drivers\SL00031-02.74-0\ OPOS for the Ingenico iSeries.exe
- **FORM DESIGNER** Install this from this location C:\ingenico\_s5\Install\Ingenico Utilities\Form Designer\SA00660-04.92.0 (1.8.3.x control)\ Ingenico Form Designer\_18.exe
- **OCX FILES** Install from this location C:\ingenico\_s5\Install\S5\_OCX



```
C:\>cmd.exe
Volume Serial Number is 90A4-6218

Directory of C:\ingenico_s5\Install\S5_OCX

05/02/2012  02:08 PM    <DIR>          .
05/02/2012  02:08 PM    <DIR>          ..
04/13/2011  04:51 PM             81,720  IUICMForm.ocx
10/15/2010  08:56 AM            145,720 OPOSLineDisplay.ocx
10/15/2010  08:56 AM            146,744 OPOSMSR.ocx
10/15/2010  08:56 AM            142,136 OPOSPINPad.ocx
10/15/2010  08:56 AM            136,504 OPOSSigCap.ocx
           5 File(s)              652,824 bytes
           2 Dir(s)  22,429,564,928 bytes free

C:\ingenico_s5\Install\S5_OCX>regsvr32 IUICMForm.ocx
C:\ingenico_s5\Install\S5_OCX>regsvr32 OPOSLineDisplay.ocx
C:\ingenico_s5\Install\S5_OCX>regsvr32 OPOSMSR.ocx
C:\ingenico_s5\Install\S5_OCX>regsvr32 OPOSPINPad.ocx
C:\ingenico_s5\Install\S5_OCX>regsvr32 OPOSSigCap.ocx
C:\ingenico_s5\Install\S5_OCX>
```

Once you've fired up System Five after installing the previous 3, you will get a screen saying OCX files aren't cosigned etc, this will also affect the way the pinpad works, and may cause problems. You'll need to also register the System Five OCX files. Open up a Command Prompt (Start -> Run -> CMD).

Then open up the OCX files directory. They should be in the C:\ingenico\_s5\Install\S5\_OCX directory. CD to this directory. Type CD C:\ingenico\_s5\Install\S5\_OCX Once here type DIR to show a list of all the OCX files in there. Now type regsvr32 IVICMForm.ocx and hit enter. This will register that .ocx file, do this for the rest listed and then start System 5, this should get rid of the cosign error and make the pin pad functional.

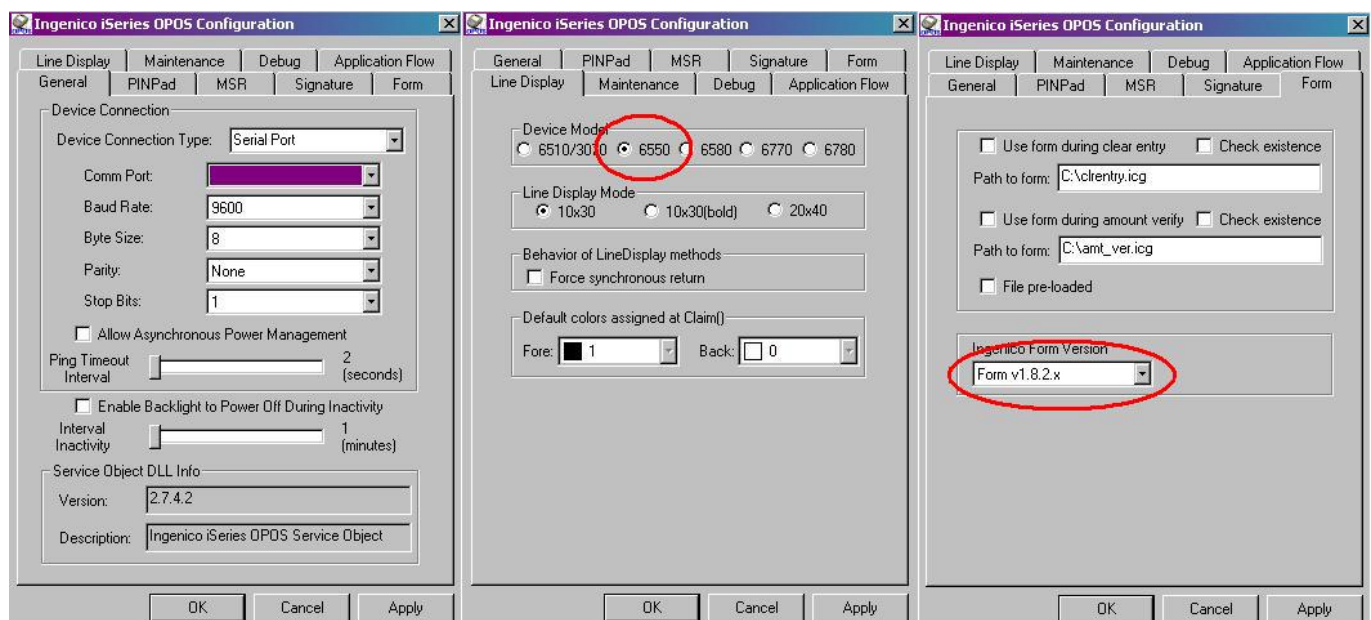
You may need to install this as admin by right clicking and selecting *Run As Admin*

You will also need to install DSI Client on each machine with a Pin Pad attached or with Payment Processing. [Get it here](#)

## TESTING

To make sure the drivers and everything works correctly, go to the Start Menu, Programs, Ingenico, Ingenico iSeries OPOS Configuration. Run it and note that the version at the bottom is 2.7.4.2 This is the version we want, not 2.5.

Now we want to Specify our Device Connection Type as Serial Port, whichever com port we're on, 9600 baud rate (This can be checked in the Pin Pad's System Parameters itself), Byte Size 8, Parity None, Stop Bits 1. Then go to the FORM TAB, make sure that at the bottom the Ingenico Form Version is set to Form v1.8.2.x Then go to the Line Display tab and set the Device Model 6550. (MAKE SURE YOU SELECT THE RIGHT MODEL, DEPENDING IF IT'S A 6780 or 6550, FOR ALL POSSIBLE OPTIONS!)



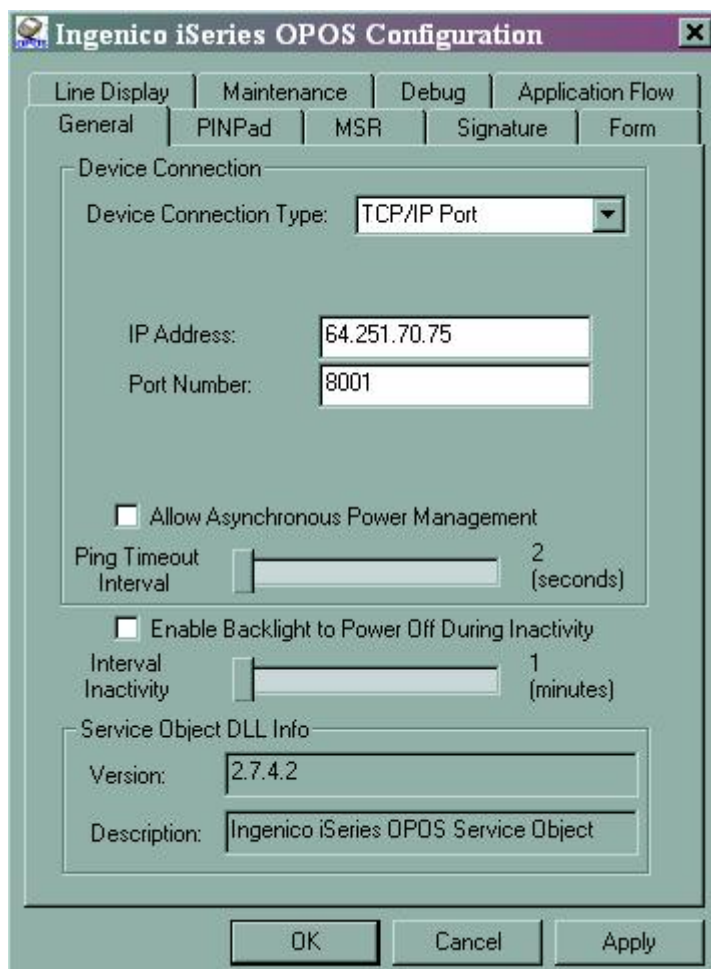
Now that we've done this we should be ready to go in Windward. Please refer to the i6550 setup article to do this. However as a point to note, make sure that in the Terminal Service settings, the correct port is set up for each individual device for each terminal. Make sure the ports are correct and then attempt to load a form in. First of all it is best to test in the Form Designer that you can load forms too. If this is a terminal service session all of the drivers and settings need to be defined and installed on the Terminal Server Machine, not the local client end.



# ETHERNET

Now for the fun part. Ethernet is no way as scary as it sounds. First of all we need to know their setup, as one time I had experienced setting up one of these devices over terminal services at a remote location, with a router behind a router. Before we get ahead of ourselves let's determine if this is a local connection or a remote location connection. If it is local, then it should be incredibly easy.

First of all let's reboot the Pin Pad: Hold down [1] [Cancel] [Enter] Once the screen dims and shuts off hold down [1] [3] straight away. Keep it held until the menu appears. Then hit Supervisor Menu: Password 2634. Then go to Sys Parameters → Set Up Port. Set up the Interface Type for Port 1 & 3 to Ethernet. Set the HOST PORT to PORT 3. Then go back into Port 3 and set the following settings. If using a fixed IP assigned by a Tech, then we can turn off DHCP in the DHCP option. Then we can set the Local IP to the assigned IP. We also need to specify the Local IP Port, and set this to a number from 8001- whatever you feel like, keep the numbers different for each Pin Pad being set up. If we are using DHCP we need to set up a reservation. To get onto the local router open up a command prompt and enter the command IPCONFIG -ALL. Then take the Gateway for the Local Area Connection and put the ip in the browser to get to the router. Once we're on we need to usually enter Admin as the user name and Password as the password as this is the norm for most Routers, if not double check with the customer, and always confirm with them if it is okay to get onto the router and sign in before doing this.



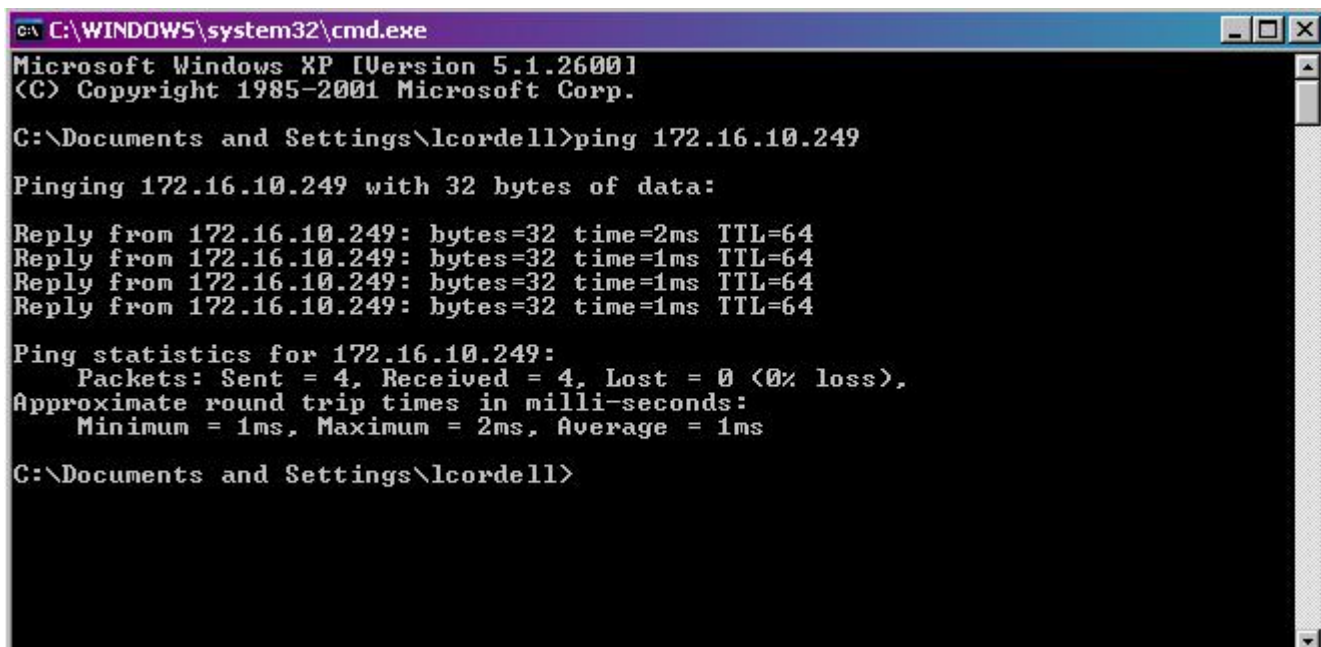
Once you are on, search through the menus until you find the list of connected devices to it. You

should see a nameless entry with the device, you can unplug the i6550 from the router if you like and refresh the menu to confirm this is the device. Once you've done this set up a DHCP reservation, which is easy and self explanatory, scout through the menus until you find this option (Unless you aren't using a DHCP server and have a fixed IP instead, in which case you should still be able to see the reserved device on the list) We should also see the information of the device (It should say something like COM3:Ethernet followed by and IP xxx.xxx.xxx.xxx followed by a port number i.e 192.168.1.7:8001 or i.e. 10.0.0.9:8012 or i.e. 172.16.10.12:8003 something like this. We know this device has been recognized by the router. Now we need to set up Port Forwarding.

On the router find the Port Forwarding option, if you look at the menu you should be able to find out the device model of the router and google how to port forward with it, however it should be simple enough to find the port forwarding options as they are usually found in the security or firewall options of the router. Once you are here, make sure to port forward the port we have selected in the device i.e. 8001, 8002, 8003 etc and forward it to the IP of our device i.e 192.168.1.7 if this happened to be the IP Address. Please google articles on Port Forwarding for the device you are using as they are limitless and the best resource in this instance as the models and features of individual routers can be very broad and differ from model to model in terms of their capabilities.

Once you have done this we need to know if we are using this locally or over the internet in term services. Let's assume we are doing it locally over the network, we would use our local IP. A local IP or Internal IP is not accessible over the internet, only internally, you can tell if it is local by it's beginning numbers. If it starts with a 192 a 172 or a 10, it is a local IP and accessible only on the network.

Let's try pinging the device. Double check with the customer he can see the IP on the screen of the Pin Pad, get them to read you this number and the port associated with it and open up a Command Prompt. Type, for instance if our IP is 172.16.10.249, we would put: PING 172.16.10.249 and get a response.



```
C:\WINDOWS\system32\cmd.exe
Microsoft Windows XP [Version 5.1.2600]
(C) Copyright 1985-2001 Microsoft Corp.

C:\Documents and Settings\lcardell>ping 172.16.10.249

Pinging 172.16.10.249 with 32 bytes of data:

Reply from 172.16.10.249: bytes=32 time=2ms TTL=64
Reply from 172.16.10.249: bytes=32 time=1ms TTL=64
Reply from 172.16.10.249: bytes=32 time=1ms TTL=64
Reply from 172.16.10.249: bytes=32 time=1ms TTL=64

Ping statistics for 172.16.10.249:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 1ms, Maximum = 2ms, Average = 1ms

C:\Documents and Settings\lcardell>
```

IT'S ALIVE!

First of all we need to go to the Ingenico iSeries OPOS Configuration, we need to change our Device Connection Type to TCP/IP, then we put in our local IP i.e. 192.168.1.5, then our Port Number, we can see this on our Pin Pad after our IP, or if we have remembered it. I.e. 8002. Then check the Forms tab and make sure the Forms we have is version 1.8.2.x. Then we need to check the Line Display to make

sure the device selected is 6550. Now open up the Form Designer and open up one of the forms in the ingenico\_s5/forms/i6550 directory and try loading it in.



Go step by step when loading in a form, Clear all the forms on the device first, then load the form in, then display it. You can't display a form you haven't yet loaded!

If you can load it in, you should be able to load it in Windward. Please refer to the setup guide of the i6550 to finish off the rest as it should be easy from here on in. Just make sure the Terminal Service settings tab on the setup for the device is set to TCP/IP and has the correct IP for this device and port also.

## REMOTE LOCATION TERM SERV

If this is a Remote Location Term serv and we're using Ethernet, we just follow the same steps as before, make sure we have our device added to the router, and make sure we have Port Forwarding on the router set up to allow whichever port we've specified on our Pin Pad, as mentioned before. This is seen on the initialize screen of the Pin Pad, if it's not initializing, check back through the settings as mentioned in this guide to troubleshoot, if all is well you should see something like i.e.

HostPort:COM3,ETH → 192.168.1.3:8002

Now check the router for the External IP or go to [What Is My IP](#) or [IP Chicken](#) However I would advise trying to get the External IP from the router itself as sometimes these websites can be quirky with their answers. Once we have the external IP, and if our Port Forwarding is set up correctly, i.e. Port 8001-8001 (Our port) to 192.168.1.x (our device) we should be able to load forms. Go to the Ingenico iSeries OPOS Configuration and make sure that the IP under TCP/IP is set to the external IP found on the Router or the two aforementioned sites. This is the only real change we need in these settings as



far as changes go, make sure you have double checked your settings, if it isn't working, go back and make sure drivers, form designer, and com objects are set up correctly. Make sure device is on Router, make sure form version is set to 1.8.2.x i.e. everything mentioned in this article. You should, in this effect, be able to send a form and clear forms on this device using the Form Loader from your own machine if you have the settings set properly on your OPOS Configuration installed on your own computer (An excellent troubleshooting tool for doing this over Ethernet)

WARNING: Make sure that you DO check the router for the External IP. If this is a Local IP number and you are sure this is displaying as an external number, this could be a router behind a router...

## **ROUTER BEHIND A ROUTER, BEHIND A ROUTER, BEHIND A ROUTER.....**

If you experience some strange behaviour, and note that the external IP on the router is a local IP. NOT THE LAN IP, but the WAN IP or External IP that is usually on the Router or Modem settings, you could be dealing with a router behind a router. I.e. The router says 10.0.0.1 for the gateway or IP for the LAN and 192.168.1.1 as the gateway for the WAN, then this is most likely a router behind a router or modem that is routing.

What you need to do is confirm this. Go to the gateway address of this extra router if you suspect it, log in using admin as the username and password as the password (Or Google the router/modem model for the generic access codes. And always ask the customer first if you can get on and do this!) Once you are here, you should see the other router show up as a list of devices on this modem/router. If so, do the same and set up port forwarding. Find the location of this on the page and forward the ports we're going to use for our device, i.e. PORT 8001, however this time we forward the port the the other router, so if the other router is say 10.0.0.2, and shows up as a device on the modem/router, then we point the Port Redirect to this device. Thus, when we send a form or a request, it should trickle into the main Modem/Router, forward our request from 8001 or our Port number to our secondary router, and (If set up correctly on the other router) should forward that Port to our Ingenico Pin Pad.

This same process could technically work through a string of routers if done correctly, however if in doubt, you can always plug the Pin Pad into the top router with internet access to avoid all of this Port Forwarding through routers.

## **VPN**

If on the off chance that the customer is using VPN like LogMeIn Hamachi, there is the chance that trying to get onto the customers router via the machine that has LogMeIn Hamachi enabled is going to give us the router page of the remote location. As a past example, there was a customer who had LogMeIn Hamachi enabled, they also had a router behind a modem serving as a router. We had a local IP for the first router which had a gateway of 10.0.0.1 however the router had an external gateway of 192.168.1.1 This meant that the router was behind a router. HOWEVER, the remote locations router also had a gateway of 192.168.1.1 and, upon trying to log onto the router 192.168.1.1, the router being displayed was the one at the Remote Location. The way to get onto the modem serving as the router at the location the Pin Pad was being set up on, was to log out of Term Serv, and disable Hamachi temporarily, then it was possible to get onto the modem at 192.168.1.1 as

opposed to the Remote Locations router. Keep this in mind, be vigilant and check to make sure something like this isn't running in the system tray or background. Disable it with the consent of the customer, and then turn it back on again once you have your port forwarding set up, you should then be able to send forms and communicate via the external IP.

## Signature Capture

When you set up the Sig Cap device, as shown in the following article, make sure you select the right Sig Cap Device Method:

- **Legal** - If you select Legal, the signature will be saved but encrypted with the document. This means that you won't be able

to print the signature out on an invoice, it will be attached to the document, but not printable.

- **Non-Legal** - If you select Non-Legal, the signature isn't encrypted and is stored and can be viewed with the document. This means

when you print out your invoice, and provided you have the sig cap attached to the document, you should be able to view the signature.

Some customers may not want this method though, as the signature isn't encrypted, meaning that it can't be proven that the document hasn't been changed. I.e. the signature could technically be tampered with, whereas the Legal mode doesn't do this.

If you find a customer is complaining they have missing signatures, more than likely they have had Legal as their set up in the past, or still do.

ALSO! Note that signature capture needs to be set up for the document for it to display on the document, it won't print the signature to the document if you signed for a card sale. You need to sign for the card sale and then sign for the document.

Signatures won't print out on Merchant/Customer copy credit card receipts, this may be a feature added in future however at the current point in time, this is not possible. Also be careful what printer you attach the sig cap to, if the default, or sig cap printer, is set to a slip/dot matrix printer, you may get range check errors and form 111 errors etc. Make sure it is attached to a non slip printer.

The following [article](#) can help you with any Sig Cap queries you might have.

## Errors/Common Problems

Okay so here are a few common errors or problems and fixes.

- **Error OPOS device not claimed** - This means that it can't find the device on the port, meaning you need to check the connection.

- **Error opening OPOS device** - This means that an instance of the form designer is still opened somewhere, go to task manager and close it.
- **I always get an error loading forms when I set it up in System Five, even though I just loaded forms into the form designer fine** Sometimes after you've set it up in OPOS and loaded forms in through the Designer, then go to System Five and select the device from the menu, it can mess up your driver settings. If it says error loading forms, just open up the OPOS Driver Config, you'll see menus on top of menus, select the device type which should set it back to normal, then try loading forms to the correct device and port again, it should work.
- **I keep getting file trust issues when I load System Five** Did you remember to re-register the System Five OCX files? If not go up to the drivers section and re-read it.
- **Declined UNAUTH USER** Make sure the customer has a sticker on the side of their pin pad saying JR's POS DEPOT, and make sure that it says Mercury beneath it. Also check their setup sheet from Mercury, make sure they are set up for Debit.
- **Bad Track 1 or 2 error** If you're getting a bad track error, you may want to do some general troubleshooting. However be sure to check the diagnostic on the pin pad for the MSR. We need track 2 in order to make sales with these pin pads, track 2 is very important. So what we need to do is hold down [1] [Cancel] [Enter] then release. Once we have done this we need to hold down [1] & [3] to boot into the Extended Menu. Go to Diagnostic Menu, once we're here go to Mag Stripe Reader. Have the customer swipe multiple cards. If only track 1 or 3 or no tracks are being detected, then the pin pad is faulty and needs to be fixed, if however track 2 is being detected on all cards, then it could be the card that was swiped during the sale. Sometimes when a bad track error comes up, and the diagnostic menu does read track 2, it could just be a dirty or scratched card, try performing the sale again or using another card.
- **The Authorization Screen freezes up after approval, the Approved button is greyed out and I can't do anything** I have found this mainly happens for Debit cards. Debit cards act different to Credit Cards. Check on the Receipts tab in the Credit Card set up and make sure you at least have a printer set up for the Merchant copy. If this doesn't fix it, it could be connectivity: Check to make sure all pin pads (If using ethernet), have separate port numbers. If they're using term services and a serial cable, this could cause slowness and crashes, get them on ethernet. Do your due diligence and troubleshoot :)
- **This application failed to start because side-by-side-configuration is incorrect** I found that this error was due to user permissions, while I haven't pin pointed the exact fix, this can be dealt with by logging in as admin, configuring and loading in forms and doing a test sale. If it works, log in as a regular user, it should work now, however you will only be able to configure the pin pad as admin.

## INGENICO I6550 MANUAL

If you're having trouble seeing what the customer is seeing, and want to understand the menu a little bit better, or for general troubleshooting, consult this manual.

[http://ingenico.berylapp.com/INGENICO\\_GALLERY\\_CONTENT/Documents/USA/products/multilane/DL00458\\_RevE\\_i6500.pdf](http://ingenico.berylapp.com/INGENICO_GALLERY_CONTENT/Documents/USA/products/multilane/DL00458_RevE_i6500.pdf)

Please let me know if you think additions or revisions need to be added to this document. I will do my best to keep this updated should I run into anymore conundrums with the i6550. Remember, don't be scared to go Ethernet, it really is the best way forward and usually headache free. If it isn't you are doing it wrong; read this article again or do some basic techie troubleshooting (You can do it!).

Last update:  
2022/02/24 11:05 (2 years ago) ingenico\_i6550\_-\_the\_missing\_article [https://wiki.windwardsoftware.com/doku.php?id=ingenico\\_i6550\\_-\\_the\\_missing\\_article](https://wiki.windwardsoftware.com/doku.php?id=ingenico_i6550_-_the_missing_article)

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ALSO! I would strongly advise trying to get every customer running these machines under Ethernet, as they are a lot more reliable. So if in doubt, use Ethernet!

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