
FLEX iPP320

PAYMENT TERMINAL INSTALLATION GUIDE



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FLEX IPP320 PIN pad installation

This guide is intended for the distributor mandated by the merchant to install the Desjardins iPP320 PIN pad terminals required for use with the FLEX integrated payment solution in the store. It provides details of all the steps the installer must complete to prepare, start up and present the terminal to the merchant.

The steps are, in order:

- Install the terminal
 - o Connect the communication cable
 - o Connect to the Point-of-sale System¹
 - o Plug in the power supply
- Start up the terminal
 - o Check the terminal configuration
 - o Initialize
 - o Download
 - o Register the Point-of-sale System's IP address²
- Train the user

The following sections describe each of these steps in detail.

IMPORTANT – INSTALLATION PREREQUISITE

Check the equipment configuration before going to the merchant location, to make sure you have the correct equipment with you – i.e. that which has been preconfigured for this specific merchant. To do this, follow the “Checking the PIN pad configuration” procedure on page 9 of this document.

¹ For Serial communication between the terminal and Point-of-sale System

² Required only for IP communication between the terminal and Point-of-sale System.

I. Required hardware

	INSTALLATION TYPE	
	IP connection to Host + IP connection to Point-of-sale System	IP connection to Host + serial connection to Point-of-sale System
Terminal (includes power supply)	iPP320 PIN pad with Bell's payment application	iPP320 PIN pad with Bell's payment application
Cables	- iPP320 Ethernet cable (2 meters, part no. 296106335)	- Network cable (3 m) - « Magicbox » adaptor for IPP320 (2 meters, part no. 296121027) - « null modem » serial cable (2 meters, part no. DB9-M/FSPEC-10)
Documentation	<ul style="list-style-type: none"> - User guide - "Introduction to the chip card" brochure 	
Cards	<ul style="list-style-type: none"> - Credit test card (magnetic stripe) - Credit test card (chip) - Debit test card (magnetic stripe) - Debit test card (chip) 	

II. Connecting the terminal

This section describes the different connections required for the device to operate correctly.

1. *Connect the communication cable(s) (based on the installation type)*

A single connection is needed at the back of the FLEX PIN pad, regardless of the communication mode used to the Point-of-sale System and to the Desjardins host. The type of cable used, however, differs depending on the context.

N.B. The FLEX PIN pad permits only IP connection to the Desjardins host.



○ **Serial connection to the Point-of-sale System**

- The PIN pad must first be connected to a special adaptor called “Magic box” (part number 296121027). This adaptor has several interfaces, thus allowing for different types of connection to the Point-of-sale System and to the host.



- A Category 5 networking cable will be used to attach the "Magic Box" adaptor to the Local Area Network (LAN) for communication with the host.



- A serial "null modem" cable (part number DB9-M/FSPEC-10) will connect the "Magic Box" adaptor cable to the Point-of-sale System.



○ IP connection to Point-of-sale System

- The connection to the Point-of-sale System in IP mode uses the same interface and cable as for IP communication to the Desjardins host – Ethernet iPP320 cable (part no 296106335). No additional connection is required. (Note that the "Magic box" adaptor with a category 5 networking cable could also be used)



2. Connect the power supply

- The power supply must be connected to the cable that links the Payment Terminal to the Point-of-sale System or to the network.



Connection of power supply for an IP link to Point-of-sale System



Connection of power supply for a serial link to Point-of-sale System

N.B. The power supply cable **must be the last one connected** in order to ensure that the PIN pad detects and initializes the appropriate interfaces during start-up.

III. Starting up the terminal

This section describes the steps for starting up the FLEX IPP320 PIN pad. It contains the procedure for validating the device configuration and initializing the Payment Terminal as well as for downloading and activating the required application.

1. Checking the PIN pad configuration

These steps allow you to confirm the terminal preconfiguration for communication mode (to the host and to the Point-of-sale System) and for identification to the Desjardins host.

○ Check the terminal identification (terminal number)

- On the idle screen, if «MENU» is not displayed above the F1 key, press the yellow key followed by the “0” key to unlock the terminal menus.
- Press F1, the terminal displays (Main menu) screen.
- Select (Configuration) then press the green key, the terminal displays (Configuration) screen.
- Using F2 or F3 to navigate, select (Config. report) and press the green key.
- Select (Merchant Info) and press the green key.
- The terminal displays configuration data related to the merchant’s identification. To validate the PIN pad’s configured terminal number, look at the line that starts with RETLRxxxxxyy (it may be necessary to scroll down using the F2 key in order to see this line). See [Appendix A](#) for details.

○ Check the host communication mode

- On the idle screen, if «MENU» is not displayed above the F1 key, press the yellow key followed by the “0” key to unlock the terminal menus.
- Press F1, the terminal displays (Main menu) screen.
- Select (Configuration) then press the green key, the terminal displays (Configuration) screen.
- Using F2 or F3 to navigate, select (Config. report) and press the green key.
- Select (Modem & Network) then press the green key.
- The terminal displays the current host communication parameters (scrolling with F2 key might be necessary; see [Appendix A](#) for details).

- **Check the communication mode to the Point-of-sale System**
 - On the idle screen, if «MENU» is not displayed above the F1 key, press the yellow key followed by the “0” key to unlock the terminal menus.
 - Press F1, the terminal displays (Main menu) screen.
 - Select (Configuration) then press the green key, the terminal displays (Configuration) screen.
 - Using F2 or F3 to navigate, select (Config. report) and press the green key.
 - Select (POS Comm.) then press the green key.
 - The terminal displays the current settings for communication to the Point-of-sale System (scrolling with F2 key might be necessary in order to see the pertinent information; see [Appendix A](#) for details).

2. Initializing the PIN pad

Initializing the PIN pad associates it with its configuration at the Desjardins host. Transactions cannot be performed by the PIN pad until it has been initialized. Initialization involves three steps: keys initialization, terminal initialization and public keys initialization.

IMPORTANT: The terminal must be activated at the Desjardins host before you can proceed with initialization. To have the terminal activated:

- ☞ Call 514-281-2880 (toll-free 1-800-363-3514), select 9 for English, than option 1 and option 4.

Once the terminal has been activated at the Desjardins host:

- On the idle screen, if «MENU» is not displayed above the F1 key, press the yellow key followed by the “0” key to unlock the terminal menus.
- Press F1, the terminal displays (Main menu) screen.
- Select (Configuration) then press the green key, the terminal enters (Configuration) screen.
- Using F2 or F3 to navigate, select (Initialize) and press the green key.
- Select (Initialize POS) then press the green key.
- The terminal displays (Please wait). The three required initialization types will launch automatically:
 - Keys initialization
 - Terminal initialization
 - Public keys initialisation
- During the entire initialization process the terminal displays (Please wait).

- Depending on the result, the PIN pad will display either (Completed), or an error message.

3. Download

Downloading during installation is essential so that the terminal identifies itself to the download system in order to subsequently allow a mass deployment of application patches or new versions.

- On the idle screen, if «MENU» is not displayed above the F1 key, press the yellow key followed by the “0” key to unlock the terminal menus.
- Press F1, the terminal displays (Main menu) screen.
- Select (Configuration) then press the green key, the terminal displays (Configuration) screen.
- Using F2 or F3 to navigate, select (Initialize) and press the green key.
- Select (Download) then press the green key.

The terminal will connect to Desjardins download server and if required will start downloading the application. Please note that the terminal will restart following completion of the download process.

4. Registering the Point-of-sale System’s IP address³

The registration of the Point-of-sale System’s IP address associates it with the Payment Terminal. This step ensures that a FLEX PIN pad will respond only to requests received from a specific Point-of-sale System. Any transactional request received from an IP address other than the one registered will be ignored by the terminal.

Please note that it is recommended for the Point-of-sale System to use a static IP address, to prevent a possible automatic change of address – which would cause a loss of communication with the FLEX PIN pad.

- On the idle screen, if «MENU» is not displayed above the F1 key, press the yellow key followed by the “0” key to unlock the terminal menus.

³ Required only for IP communication between the Payment Terminal and the Point-of-sale System.

- Press F1, the terminal displays (Main menu) screen.
- Select (Configuration) then press the green key, the terminal displays (Configuration) screen.
- Using F2 or F3 to navigate, select (Term config) and press the green key.
- Select (POS comm) and press the green key.
- Select (Registration) and press the green key.
- The terminal displays (Waiting for POS communication).
- ***From the Point-of-sale System that you wish to be associated with the Payment Terminal***, initiate a service request while the terminal is displaying (Waiting for POS communication). Upon receipt of the request, the terminal will display the IP address of the Point-of-sale System that sent the request, along with the message (Accept?).
- Press F4 to accept the association or F1 to clear the current association and return the terminal to wait mode.

IV. Training

This section summarizes the minimum set of topics to be covered during merchant training.

Chip cards

- Show how to differentiate between magnetic stripe cards and chip cards.
- Information on chip cards:
 - Chip is a micro-computer
 - More secure than the magnetic stripe because it requires keys to access the chip
 - Requires a PIN for both credit and debit
 - The PIN is stored on the chip and is validated locally at the terminal
 - Can support more than one payment method on the same card
 - Except in the case of certain specific technical problems, the magnetic stripe cannot be used to perform transactions on a terminal that supports the chip.
- You may refer the merchant to the User Guide for additional details.

The terminal

- Show the locations of the chip card reader, the magnetic stripe reader and Contactless reader
 - Emphasize that the chip card must remain in the reader until the terminal asks for it to be removed

Configuration and troubleshooting mode

- This procedure could be requested by technical support when troubleshooting a problem.
- To unlock the Payment Terminal's configuration and troubleshooting menus, the user must press the Yellow key followed by the "0" key.
- The FLEX PIN pad will automatically return to locked FLEX mode when a service request is received from the merchant's Point-of-sale System. The user must repeat the unlock procedure as needed to come back to the configuration and troubleshooting mode.

- Show how to navigate the menus (once the configuration/troubleshooting mode is unlocked)
 - F2 to move the cursor down
 - F3 to move the cursor up
 - F1 / F2 / F3 / F4 to select the option displayed above the corresponding F-key
 - Green key to select / accept the entry
 - Red key to cancel/return to the previous menu
 - Yellow key to correct a data entry

Procedures to be used in the event of a failure

- Advise the merchant to carefully read sections 3 and 4 of the User Guide, because it describes merchant responsibilities in detail.
- Summary of the procedure to be followed in the event of a failure:
 - Credit failure
 - Call the authorization centre to obtain an authorization number
 - If the Point-of-sale System and the FLEX terminal are operational, perform the transaction offline using the authorization number obtained (the cardholder may be asked to sign the receipt)
 - Otherwise, complete a manual credit slip and enter the transactions offline when the terminal is operational again.
 - The manual slip must be signed by the cardholder.
 - Debit failure
 - Ask the customer to use another payment method

Problem closing a batch

- Advise the merchant that, if unable to obtain the batch closing report due to a technical problem, the TPV100 report can be requested from Business Customer Services.

V. Completing the installation

- Perform a test transaction to ensure that the terminal is working correctly.
- Verify the business name and address on the merchant's transaction receipt.
- Leave the documentation and test cards with the merchant.
 - User Guide
 - Debit and credit chip test cards
 - Debit and credit magnetic stripe test cards
- Provide the merchant with the telephone numbers for technical and customer support services.

Web site

www.desjardins.com/merchants

Business Customer Service

Montreal: 514 397-4450 Toll free: 1-888-285-0015

Accord D Desjardins Financing Service

Montreal: 514 397-4737 Toll free: 1-888-378-8472

Technical support for payment terminals

Montreal: 514 281-2880 Toll free: 1-800-363-3514

Authorization centre

Montreal: 514 875-8750 Toll free: 1-800-361-8120

Appendix A – Config. report

The different screens grouped under the (Config report) menu allow you to consult the current terminal settings: merchant related parameters, permitted cards, functions and services, communication mode parameters, among others.

To access the report:

- On the idle screen, if «MENU» is not displayed above the F1 key, press the yellow key followed by the “0” key to unlock the terminal menus.
- Press F1, the terminal displays (Main menu) screen.
- Select (Configuration) then press the green key, the terminal displays (Configuration) screen.
- Using F2 or F3 to navigate, select (Config. report) and press the green key.
- Select the appropriate submenu for the desired information:
 - Select (Merchant Info) submenu and press the green key to show the merchant-related parameters.

<pre> Merchant Info ↓ TELECOM TPV TEST 1 CARR A GRAHAM VERDUN QC </pre>	<p>→ ↓ indicates that more info is available on other screen(s)</p> <p>→ merchant name</p> <p>→ merchant address</p>
<pre> Merchant Info ↑ POS84000723 RETLR24372586 </pre>	<p>→ press F2 / F3 to navigate between screens</p> <p>→ terminal number</p>

- « Transactions » submenu: shows the supported transaction types
- « Services » submenu: shows the activated services
- « Cards and AID » submenu: shows supported cards and permitted reading method for each (chip or magnetic stripe)
- « Modem & Network » submenu: shows configuration parameters for authorization host communication.


```

-----
Modem & Network↓
Modem
Active      NO
Network
Active      YES
    
```

→ IP mode activated

```

-----
Modem & Network↕
Physical Address
0003-81E4-DA07
DHCP        NO
IP Address
    
```

→ press F2 / F3 to navigate between screens

→ physical (MAC) address of FLEX PIN pad

→ dynamic IP configuration activated or not

```

-----
Modem & Network↕
192.168.12.166
Subnet Mask
255.255.255.0
Gateway
    
```

→ IP address of FLEX PIN pad

→ subnet mask used

```

-----
Modem & Network↑
192.168.12.1
DNS1
8.8.8.8
DNS2
    
```

→ gateway used

→ primary DNS server used

```

-----
Modem & Network↑
8.8.4.4
    
```

→ secondary DNS server used

- « POS Comm. » submenu: shows configuration parameters for communication with the Point-of-sale System.

Serial connection:

```

-----
POS COMM
Active      YES
Comm. modeSerial
BaudRate 9600BPS
Settings 8,N,1
    
```

→ comm. with Point-of-sale System activated or not

→ communication mode with Point-of-sale System

→ serial port speed

→ serial port settings

IP connection:

POS COMM		↓
Active	YES	
Comm. mode	IP	
Port	2200	
POS IP address		

POS COMM		↑
192.168.12.24		

- comm. with Point-of-sale System activated or not
 - communication mode with Point-of-sale System
 - TCP port used for Point-of-sale System communication.
-
- IP address of associated Point-of-sale System

Appendix B – Configuration

Although the terminal is normally preconfigured before shipping, a situation may occur that causes its configuration to be incorrect.

To assist you in correcting such a situation, this appendix describes the steps required to customize the FLEX IPP320 PIN pad configuration. It contains the detailed procedure to configure the required communication information – both with the host and with the Point-of-sale System – and to assign the terminal number to the device.

1. Host communication mode configuration

o IP communication mode configuration

- On the idle screen, if «MENU» is not displayed above the F1 key, press the yellow key followed by the “0” key to unlock the terminal menus.
- Press F1, the terminal displays (Main menu) screen.
- Select (Configuration) then press the green key, the terminal displays (Configuration) screen.
- Using F2 or F3 to navigate, select (Term config) and press the green key.
- Select (Communications) then press the green key.
- Select (IP) then press the green key.
- Select (Configuration) then press the green key, terminal will display (DHCP= XXXX).
 - For a dynamically assigned IP address:
 1. Press F4. The terminal displays (Please wait) then reboots to activate the setting.

Important: If the current communication with the Point-of-sale System is IP, choosing dynamically assigned IP address deactivates FLEX mode, the PIN pad will display (POS communication deactivated). Only a **manually** assigned IP address is permitted when communication with the Point-of-sale System is IP.

- For a manually assigned IP address (**recommended**):
 1. Press F1, the terminal displays its current IP address
 2. On the (IP Address) screen, press the yellow key to clear the IP address from memory, enter the IP address of the terminal then press the green key.
 - ☞ To enter “. ”, press the “ .,#* ” key (just to the right of the “0” key).
 3. On the (Subnet mask) screen, enter the network mask and press the green key.

4. On the (Gateway) screen, enter the terminal IP gateway and press the green key.
5. On the (DNS server 1) screen, enter the primary DNS server IP address and press the green key.
6. On the (DNS server 2) screen, enter the secondary DNS server IP address and press the green key.

7. The terminal then reboots to activate the settings.

- As needed, press the red key to return to the idle screen.
- On the idle screen, if «MENU» is not displayed above the F1 key, press the yellow key followed by the “0” key to unlock the terminal menus.
- Press F1, the terminal displays (Main menu) screen.
- Select (Configuration) then press the green key, the terminal displays (Configuration) screen.
- Using F2 or F3 to navigate, select (Initialize) and press the green key.
- Select (RMI host) then press the green key.
- Select (IP) then press the green key.
- The terminal displays the IP address of the Desjardins host that it has in memory.
- If the address differs from **142.195.251.53**,
 - Press the yellow key to clear the IP address from memory and enter the IP address of the Desjardins host (142.195.251.53).
- Press the green key to confirm the entry.
- Press the red key until the terminal returns to the (Initialize) screen.
- Select (Download host) then press the green key.
- Select (IP) then press the green key.
- The terminal displays the IP address of the Desjardins download centre that it has in memory.
- If the address differs from **142.195.251.54**,
 - Press the yellow key to clear the IP address from memory and enter the IP address of the Desjardins download centre (142.195.251.54).
- Press the green key to confirm the entry.

It is then recommended to validate communication with the host using the IP Status:

- On the idle screen, if «MENU» is not displayed above the F1 key, press the yellow key followed by the “0” key to unlock the terminal menus.
- Press F1, the terminal displays (Main menu) screen.
- Select (Configuration) then press the green key, the terminal displays (Configuration) screen.
- Using F2 or F3 to navigate, select (Diagnostic) and press the green key.
- Select (IP Status) then press the green key.
- Select (DESJARDINS) then press the green key.
- Select (Status) then press the green key.

- The terminal conducts a test of its IP connectivity and displays the result on the screen (see [Appendix C](#) for details).

2. Configuration of communication mode to Point-of-sale System

○ Configuration of serial communication mode

- On the idle screen, if «MENU» is not displayed above the F1 key, press the yellow key followed by the “0” key to unlock the terminal menus.
- Press F1, the terminal displays (Main menu) screen.
- Select (Configuration) then press the green key, the terminal displays (Configuration) screen.
- Using F2 or F3 to navigate, select (Term config) and press the green key.
- Select (POS comm) then press the green key.
- Select (Configuration) then press the green key.
- Select (RS232) then press the green key.
- Select required baud rate (9600 Bps recommended) then press the green key.
- The terminal displays (RS232 activated).

○ Configuration of IP communication mode

- On the idle screen, if «MENU» is not displayed above the F1 key, press the yellow key followed by the “0” key to unlock the terminal menus.
- Press F1, the terminal displays (Main menu) screen.
- Select (Configuration) then press the green key, the terminal displays (Configuration) screen.
- Using F2 or F3 to navigate, select (Term config) and press the green key.
- Select (POS comm) then press the green key.
- Select (Configuration) then press the green key.
- Select (IP) then press the green key.
- The terminal displays (IP activated).

Next, the IP address of the Point-of-sale System from which transactions will be sent must be registered on the FLEX terminal

- On the idle screen, if «MENU» is not displayed above the F1 key, press the yellow key followed by the “0” key to unlock the terminal menus.
- Press F1, the terminal displays (Main menu) screen.
- Select (Configuration) then press the green key, the terminal displays (Configuration) screen.
- Using F2 or F3 to navigate, select (Term config) and press the green key.
- Select (POS comm) then press the green key.
- Select (Registration) and press the green key.
- The terminal displays (Waiting for POS communication).
- From the Point-of-sale System that you wish to associate with the Payment Terminal, initiate a service request while the terminal is displaying (Waiting for POS communication).
- Upon receipt of the request, the terminal will display the IP address of the Point-of-sale System that sent the request, along with the message (Accept?).
- Press F4 to accept the association or F1 to clear the current association and press the green key to put the terminal back in waiting mode.

3. Terminal number configuration

IMPORTANT: The terminal number will be given to you by Desjardins Installation Support.

To obtain the terminal number(s) associated with this merchant:

☞ Call (514) 281-7148 (or toll-free 1-866-333-1210)

- On the idle screen, if «MENU» is not displayed above the F1 key, press the yellow key followed by the “0” key to unlock the terminal menus.
- Press F1, the terminal displays (Main menu) screen.
- Select (Configuration) then press the green key, the terminal displays (Configuration) screen.
- Using F2 or F3 to navigate, select (Technician) and press the green key, the terminal displays (Password) screen.
- Enter the password **CDTC** and press the green key, the terminal displays (Technician) screen.
 - To enter a letter, press the corresponding number then the F key until the desired letter is displayed.
- Select (Terminal ID) then press the green key.
- The terminal displays the terminal number that is currently in memory.
- Press the yellow key to clear the number from memory and enter the terminal number in MMMMMSS format, where:
 - MMMMMM = merchant number



- SS = terminal sequence number
- Press the green key to confirm the entry.

Appendix C – IP status

The IP status function is used to diagnose connection problems with the Desjardins authorization host for a Payment Terminal using IP communication mode. It allows for determination of the probable cause of the communication failure.

To access it:

- On the idle screen, if «MENU» is not displayed above the F1 key, press the yellow key followed by the “0” key to unlock the terminal menus.
- Press F1, the terminal displays (Main menu) screen.
- Select (Configuration) then press the green key, the terminal displays (Configuration) screen.
- Using F2 or F3 to navigate, select (Diagnostic) and press the green key.
- Select (IP Status) then press the green key.
- Select (DESJARDINS) then press the green key.
- Select (Status) then press the green key.
- The terminal conducts a test of its IP connectivity and displays the result on the screen.

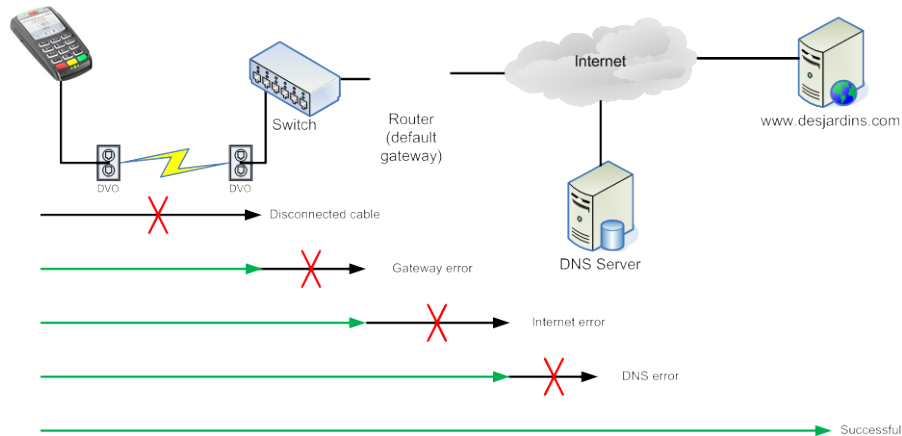
<pre> ----- Status ----- Physical link 00-Success SSL 00-Success ----- </pre>	→ ↓ indicates that more info is available on other screen(s) → type of test → result → type of test → result
→ press F2 / F3 to navigate between screens	
<pre> ----- Status ----- Connectivity 00-Success ----- </pre>	→ type of test → result

The result data is broken down as follows:

- The first section “Physical Link” provides information on network detection.

- The next section “SSL” checks the SSL encryption service on the Payment Terminal.
- The last section “Connectivity” conducts a basic diagnosis of the network by trying to reach the www.desjardins.com address.

Connectivity test and result interpretation:



The most frequently encountered status codes are:

Code	Message
IP parameters section	
00	Successful
01	Network not initialized
02	Cable disconnected
03	DHCP error
04	Other initialization error
SSL section	
00	Successful
20	Initialization error
21	Invalid CA certificate
22	Invalid POS certificate
Connectivity section	
00	Successful
40	DNS error
41	Gateway error

42	Internet error
43	Unconfigured DNS
44	Cable disconnected
Connection errors section	
60	Disconnected cable
61	Connection error
62	Revoked POS certificate
63	Invalid data centre certificate
64	Other SSL error

Appendix D - Troubleshooting

This section is intended as a guideline for diagnosing communication problems that may arise when using FLEX IPP320 PIN pad Terminals. These preliminary checks can be done before contacting **Technical support for payment terminals**. Note that the Technical Support agent might ask to check the same items to support their own troubleshooting.

1. Between the Payment Terminal and the Desjardins host

To facilitate troubleshooting of this type of communication error, explicit codes are displayed on the screen and/or printed on transaction receipts.

Codes are returned in “PxSxDx” format, where:

P = Primary IP link

S = Secondary IP link

D = “Dialup” (or “dial backup”) link

x = Corresponding error code. Please refer to the table below for error code explanations.

Code	Description	Protocol		Potential cause	Proposed action
		IP	Dialup		
1	No communication attempt on this link.	■	■	Communication mode associated with the type of link not activated.	No action required if state matches desired configuration. Otherwise activate appropriate link.
2	Communication failed for unknown reason.	■		Unknown.	
3	Failure during establishment of communication with the host.	■		Unknown.	Perform IP status test (see Appendix C).
4	Establishment of communication with the host failed.	■		-Invalid TCP port used. -Connection blocked by merchant’s firewall. -Problem at the Host.	Check merchant’s firewall rules. If problem persists call technical support to check if Host is responding normally.
5	Premature closing of communication.		■	-Error linked to communication protocol. -Unexpected “EOT” character received.	None.
6	Error during closing of connection.	■		Internal error.	None.
7	Connection could	■		-Network error.	Perform IP status test (see

Code	Description	Protocol		Potential cause	Proposed action
		IP	Dialup		
	not be established inside configured timeouts.			-Host unavailable.	Appendix C).
8	Failure to transmit data.	■		Internal error.	Reboot terminal if problem persists.
9	Data could not be sent inside configured timeouts.	■		Error related to communication protocol.	If problem persists call technical support to check if Host is responding normally.
A	Failed to receive data.	■		Internal error.	Reboot terminal if problem persists.
B	No data received inside configured timeouts.	■	■	Error related to communication protocol.	If problem persists call technical support to check if Host is responding normally.
C	Data could not be sent inside configured timeouts.	■		-Network cable disconnected. -Network not ready.	Check physical connections. Perform IP status test (see Appendix C).
D	Network error detected.	■		-Network cable disconnected. -Network not ready.	Check physical connections. Perform IP status test (see Appendix C).
E	DNS resolution failed.	■		-Network cable disconnected. -DNS failure. -Host's IP address unknown from DNS	Check physical connections. Make sure DNS server responds normally and knows Host's address.
F	No tone detected on line.		■	- Telephone cable disconnected -Defective outlet or line	Check physical connections.
G	No carrier tone detected on line.		■	Modem could not establish connection (line was not busy).	If problem persists call technical support to check if Host is responding normally.
H	"Busy" tone on line.		■	Telephone line is busy.	Make sure dialup line is available and working normally.
I	No answer from Host.		■	Host's modem did not answer.	If problem persists call technical support to check if Host is responding normally.
J	Error during closing of connection.	■	■	Internal error.	Reboot terminal if problem persists.
K	Connection establishment aborted by user.	■	■		None.
L	Host rejected request received from terminal.	■	■	Error related to communication protocol: unexpected "NAK" character received.	None.

Code	Description	Protocol		Potential cause	Proposed action
		IP	Dialup		
M	Host's response exceeds maximum size.	■	■	Error related to communication protocol.	If problem persists call technical support to check if Host is responding normally.
N	Terminal rejected Host's response.	■	■	Error during data integrity control.	If problem persists call technical support to check if Host is responding normally.
O	Host did not complete dialogue with terminal.		■	Host exceeded allowed number of transmission retries.	If problem persists call technical support to check if Host is responding normally.
P	No "ENQ" character received from Host.		■	Error related to communication protocol.	If problem persists call technical support to check if Host is responding normally.
Q	Establishment of communication to cellular network failed.		■	Unknown.	If problem persists check if cellular network is responding normally.

2. *Between the PIN pad and the Point-of-sale System*

Two types of communication errors between the FLEX terminal and the Point-of-sale System are possible: pure communication errors and protocol errors.

- Communication errors

In the event of connection loss between the Point-of-sale System and the FLEX Entourage Payment Terminal, the following steps can help restoring the connection:

- Confirm that FLEX mode is activated.
- Check that communication mode with the Point-of-sale System is correct – IP or serial.
- Confirm that all cables are properly connected – disconnect then reconnect each end of each cable (ending with power cable).
- Serial mode:
 - Confirm that the Point-of-sale System and IPP320 PIN pad baud rates are identical.
 - Confirm that the Point-of-sale System serial port is set to: eight (8) data bits, one (1) stop bit, no parity.
- IP mode:
 - Confirm that the IP address registered in the terminal corresponds to the Point-of-sale System IP address.
 - Confirm that the Point-of-sale System permits communications on TCP port 2200.
- Disconnect then reconnect the terminal's power cord.

- Processing errors

The most common processing errors are:

- Desjardins host return code.

These codes are returned in numeric format and indicate the authorization host's response.

- FLEX return code.

These codes are returned in "Lxx" format and indicate the Entourage Payment Terminal's response to a service request received from the Point-of-sale System. Possible values are described in **Table 1 - List of FLEX Payment Terminal return codes**.

Table 1 - List of FLEX Payment Terminal return codes

SPSI_RESPONSE_CODE	Description
L20	Specified transaction has already been cancelled.
L21	An error occurred during batch transmission.
L22	Specified transaction does not exist in current batch.
L23	Batch is full.
L24	An error occurred during terminal initialization.
L26	Batch close mandatory.
L27	An error occurred during batch close.
L28	Empty batch.
L29	Manual entry required.
L30	Unauthorized use.
L31	Transaction cancelled by user or timed out during user entry.
L32	Call card issuer (referral).
L33	Card not supported.
L34	Communication error to the Host.
L35	Host not available.
L36	Transaction not authorized.
L37	Transaction not allowed.

SPSI_RESPONSE_CODE	Description
L38	Transaction not supported.
L39	Card declined.
L40	Different card.
L41	Card error.
L42	Specified transaction cannot be cancelled.
L43	Terminal does not have a printer.
L45	Preauthorization unknown. Terminal does not have information on original preauthorization.
L75	Internal problem during accumulator update.
L77	Card profile file cannot be authenticated.
L78	Card removed prematurely from chip reader.
L79	Card refused transaction.
L81	No service request in process. Returned on a continuation request while no processing is in progress.
L82	Message received from Point-of-sale System relates to a different service request than the one being processed by terminal.
L83	Inconsistent AccordD financing data. (Ex : grace period specified for EPF)
L84	Transaction rejected by terminal due to invalid security code.
L85	Transaction not processable.
L86	Transaction not completed.
L87	The authorization number format is invalid for this type of card.
L88	Read Card service not allowed, as no card profile is loaded.
L89	The card characteristics do not match to a card type defined in the card profile file.
L90	No new transaction processed in Partial Mobile mode.
L92	Invoice ID submitted by Point-of-sale System in FLEX service request does not match ID submitted by terminal in bill payment request.
L93	Version number of communication protocol not supported.
L94	Other error (general error).
L95	Processing of requested FLEX service not allowed in current context.
L96	Transaction not allowed.
L97	Terminal busy. Terminal cannot process new transaction at the moment.
L98	SPSI_SERVICE_REQ_NUM assigned to service request already used in previous request.

Appendix E – Quick start

This section is intended as a summary of the main steps to go through to get going with the FLEX IPP320 solution.

1. Validation of the terminal's configuration.
2. Initialization and download of the terminal
3. Registering of the Point-of-sale System⁴
4. Test transaction
5. Explanation of the terminal's basics to the merchant.

⁴ Required only for IP communication between the Payment Terminal and the Point-of-sale System