CopicodeIP Configuration Guide

Overview:

The Copicode terminal is a flexible Ethernet networked terminal designed to report and charge for use of photocopiers and printers.

It features a full alpha numeric keypad which provides maximum flexibility where users may wish to authenticate against their network log in, user name and password, or by an ID or access card carrying a unique identification. The choice of card technology is wide, ranging from magnetic swipe, to contactless Mifare and HID proximity cards, or any other technology currently available.

The alpha numeric keypad allows users copying across multiple cost codes to enter their ID and then select a departmental cost code or client billing code against which the copying job is billed. This allows copying to be billed to different departments by a single user or charged to client codes for subsequent chargeback to a third-party. Print release at an MFD can also be by either keypad entry or by the card technology of choice.

The Copicode terminal is supplied with a built in network switch which simplifies the connection of the terminal to the network. A single network port will support both the Copicode terminal and the network connection of the MFD.

The terminal has two spare RS232 ports which allow maximum flexibility when connecting any serial device such as a magnetic swipe card reader or any other card reader.

Benefits

Cost Recovery
- Control or charge for copying and/or printing in one easy to use unit.

Waste Reduction
- Minimizes waste by recording all copy and print transactions that are reported in a central database and can be reported immediately.

Full Alpha Numeric Keyboard

- Allows users to authenticate their user name and password so cards are no longer required.
- Facilitates departmental billing across multiple cost codes or cost centers by their name or alpha numeric code rather than simply numeric input.

Connectivity
- Connects to most popular makes of copier of MFD/MFP devices whether color or black and white and controls walk up copying and printing from the same device.

Print Release
- Can be used as a print release station in place of a PC release station in instances where printing only is to be controlled and charged.

Ethernet Networked Terminal
- Complete with built in network switch, the unit typically requires no seperate network point when connected to a networked copy or print device.

Technical Data

- JAVA virtual machine and the JAVA run-time device
- RAM of 1 Mbytes with battery back up
- Clock running with battery
- TCP/IP over Ethernet 10/100 Mhz
- A built-in 2 ports 10/100 Mhz Ethernet switch
- Two RS232 ports. These ports can be used to connect card reader to support magnetic stripe, MIFARE card or other smart cards.
- One output relay
- Three opto insulated input lines
- A clear LCD display of 2 rows of 16 characters
- A numerical and alphabetical keyboard with 48 keys
- A compact packaging (18cm x 10cm) suited to operate with office equipment.
- Power supply can either come from the photocopier 24VDC or from an external 24VDC power supply pack.

The CopicodeIp is designed to make a networking connection to the GoPrint application. It requires:

1. A valid IP address configured at the terminal software, for the terminal itself, and the IP address of the GoPrint GTX server.

2. Additionally, each terminal must be configured with an individual Terminal ID (the ID numbering system can be determined by the client). Once the device is programmed, The Terminal IP and Terminal ID must be configured in the GoPrint application.

CopicodeIP rear view

*Serial mag swipe reader connects to the RS232 port via RJ15 adapter cable .

Copicode-IP back side view
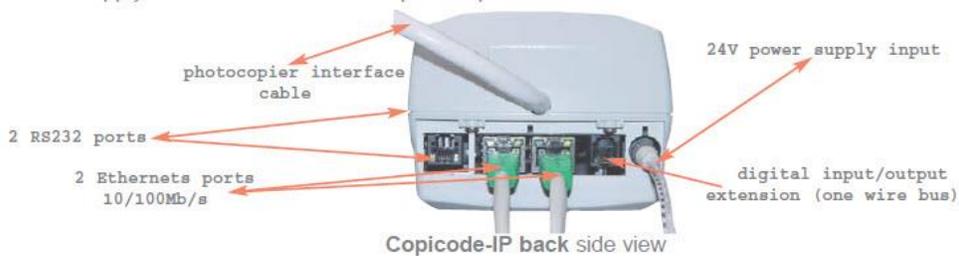
Note: the following configuration steps cover ONLY the required settings to successfully connect to and conduct successful copy transactions to the GoPrint application. All other settings not mentioned must remain at their default levels. For additional features, please see your CopicodeIp manual or contact GoPrint Hardware Support.

Programming your CopicodeIP

In order to get to the configuration menu on the CopicodeIP (GSX1000) you need to unplug and then plug in the power. Then when you see "Ready", press: 2,3,4,6,8 E

Step 1 - The first menu is the IP Address. Press C to change it.

Enter the new IP and use "E" for the dot notation. When you are done, press "C"Press the down arrow to move to the next menu item.

Before using **Copicode IP**, the three following parameters must be defined:

- **IP address**,
- **sub-network mask**,
- the **IP address** of the **Gespage** server of your network.

Proceed as follows:

- switch on **Copicode IP** (check it is powered up),
- wait until the message "Ready" comes to display,
- enter the code 2 3 4 6 8 on Copicode IP alphanumerical keyboard and validate by pressing key Ⓔ,
- the **IP address** is the first parameter of **Copicode IP**. It can be modified by pressing key Ⓒ ,
- enter the new IP address by using key Ⓔ for typing a dot between values,
- validate with key Ⓒ. In case of mistake, use key Ⓒ. Press key ⬇ for moving to the next parameter,

Step 2 - Set the IP Address

1. Press "C" to edit.
2. Enter the IP address, press "E" to put a period between numbers.
3. Press enter to save.

Press the down arrow to move to the next setting.

Step 3 - Set the Subnet Mask

1. Press "C" to edit.
2. Enter the IP address, press "E" to put a period between numbers.
3. Press enter to save.

Press the down arrow to move to the next setting.

Step 4 - Set the Gateway IP

1. Press "C" to edit.
2. Enter the IP address, press "E" to put a period between numbers.
3. Press enter to save.

Press the down arrow to move to the next setting.

Step 5 - Set the Application Server IP (GoPrint Server IP)

1. Press "C" to edit.
2. Enter the IP address, press "E" to put a period between numbers.
3. Press enter to save.

Press the down arrow to move to the next setting.

Step 6 - Set the Primary DNS

1. Press "C" to edit.
2. Enter the IP address, press "E" to put a period between numbers.
3. Press enter to save.

Press the down arrow to move to the next setting.

Step 7 - Set the Secondary DNS

1. Press "C" to edit.
2. Enter the IP address, press "E" to put a period between numbers.
3. Press enter to save.

Press the down arrow to move to the next setting.

Step 8 - Set the hostname (use same name in the GoPrint Control Center)

1. Press "C" to edit.
2. Enter the IP address, press "E" to put a period between numbers.
3. Press enter to save.

Press the down arrow to move to the next setting.

Step 9 - Set the domain name

1. Press "C" to edit
2. Type in the domain name and press "E" to save

Configure the CopicicodeIP in the GoPrint Control Center

Step 1 – Create a PayPoint

1. PayPoint Name (EX: copicode1)
2. Select allow editing of email (optional)
3. Select allow password change (optional)
4. Select allow self-serve accounts (optional)
5. Select self serve user class (optional)
6. Click save to save the settings

Step 2 - Click Financial Tab

1. Put a checkmark on the allowed purses.
2. Click save

Step 3 – Create a CopicodeIP Devices

1. From the Home page, click "Add a CopicodeIP Device"
2. Enter "copicodeip1" in the ID field
3. Select copicodeip1 in the Paypoint dropdown box
4. Enter copicodeip1 in the Ref No. field
5. Enter the IP Address in the IP Address Field below Device Settings
6. Enter the welcome prompt text you would like displayed on the CopicodeIP LCD screen (ex: welcome)
7. Leave the session timeout to the default of 40 seconds
8. Leave card swipe Reg Ex as the default
9. Select the mode for authentication type (3 options):
    - Enter user ID + Password (default)
    - Swipe Card
    - Swipe card + enter password
10. Checkmark types of copies to allow (black & white, color)
11. Enter to copy prices in the four boxes listed 1,2,3,4.
12. Select Payment settings

1. Checkmark bypass authentication and send account ID from Cartadis device directly to payment connector.

   Use this option with purses linked to payment connectors (e.g. external systems) in order to send the account Id received from a Cartadis device directly to the payment connector, bypassing all authentication connectors.

   Note: This is not the same as card swipe authentication, and will result in all transactions being posted against the device's account rather than individual user accounts. Reporting of the transactions cannot be done at a user level if this option is enabled.

2. Select Userless Purse

3. Allow Credit
   - Checkmark Allow Use of Credit Limit on Quota/Allowance purses. (Copicode-IP devices support display of only one amount, so balance plus credit limit will display if this option is used.

     If you are using both normal balances and credit limits this can give the user the appearance of having more funds than they should.)

   - Click Save to save the settings.

4. Setup your Class Definitions:
   - Click "Add a Users Class to define purses and allowed pay methods for accounting"
   - Name the class (ex: student quota)
   - Checkmark the purses to allow (ex: Quota,Cardsmith).

     You have successfully configured your CopicodeIp

To integrate your CopicodeIp clients with the GoPrint Quota system, please refer to the GoPrint Admin Pak or contact GoPrint Software support for assistance.

Troubleshooting:

Debugging the Copicode Firmware

[Copicodeip Debugging the Firmware](#)

It is possible to run the Copicode firmware in debug mode. This has been useful to identify bugs in the firmware in the past. The Copicode device must be online and you must know its IP address. Then, follow the steps below.

Telnet to the device. For example, my device is at IP address 10.0.2.240 so I would run the command telnet 10.0.2.240.

Login as root with password tini. While this is obviously a security concern, the Copicode vendor makes no statements on how and whether you should secure the devices down or not.

Now we need to check the process list and terminate the running firmware. To do this, type ps and press Enter to see the running processes.

Identify the process named gclient.tini and the number to the left of that line is the process ID. It should be 3.

Kill the process with the kill command. To kill process with ID of 3 you would run kill 3. The screen on the device may not change but it will be non-responsive now.

Now we can restart the firmware in debug mode. Run the command java gclient.tini debug &. The & character is not required but allows you to type other commands without killing the firmware if you needed to.

The firmware will start up again but now you will be able to see any output from the firmware in your telnet session.

GoPrint Troubleshooting

Edit the c:\gs4\goprint.cfg file and set the "verbose=false" string to "verbose=true". Then start the GTX and Agent in a console and try to login on the CopicodeIP. You will now see verbose output on the screen. Try and login using the CopicodeIP. Any errors will be displayed in the console.

Ports used:

When troubleshooting, please make sure that the Windows firewall on the GoPrint server has the following ports opened:

- TCP 9898,5114, 60043-60045

Sample code from Wireshark showing the communication from the CopicodeIP 10.10.2.120 to the server 10.10.2.119 on ports 60043-60045.

Filter:	ip.src==10.10.2.120		▼	Expression... Clear	Apply Save

Open the "Display Filter" dialog, to edit/apply filters

No.		Destination	Protocol	Length	Info
40891	344.557871 10.10.2.120	10.10.2.119	TCP	72	60043 > ev-services [PSH, ACK] Seq=1 Ack=
40903	344.754287 10.10.2.120	10.10.2.119	TCP	68	60043 > ev-services [PSH, ACK] Seq=19 Ack
40911	344.848566 10.10.2.120	10.10.2.119	TCP	60	60043 > ev-services [ACK] Seq=33 Ack=98 w
40931	344.957091 10.10.2.120	10.10.2.119	TCP	60	60043 > ev-services [ACK] Seq=33 Ack=99 w
40936	345.184504 10.10.2.120	10.10.2.119	TCP	60	60043 > ev-services [FIN, ACK] Seq=33 Ack
45515	395.699964 10.10.2.120	10.10.2.119	TCP	60	60044 > ev-services [SYN] Seq=0 win=4096
45517	395.702061 10.10.2.120	10.10.2.119	TCP	60	60044 > ev-services [ACK] Seq=1 Ack=1 win
45522	395.760933 10.10.2.120	10.10.2.119	TCP	116	60044 > ev-services [PSH, ACK] Seq=1 Ack=
45547	395.959609 10.10.2.120	10.10.2.119	TCP	60	60044 > ev-services [ACK] Seq=63 Ack=45 w
45552	396.065123 10.10.2.120	10.10.2.119	TCP	60	60044 > ev-services [ACK] Seq=63 Ack=46 w
45729	398.237702 10.10.2.120	10.10.2.119	TCP	60	60044 > ev-services [FIN, ACK] Seq=63 Ack
45864	398.817597 10.10.2.120	10.10.2.119	TCP	60	60045 > ev-services [SYN] Seq=0 win=4096
45866	398.819694 10.10.2.120	10.10.2.119	TCP	60	60045 > ev-services [ACK] Seq=1 Ack=1 win
45897	398.930699 10.10.2.120	10.10.2.119	TCP	65	60045 > ev-services [PSH, ACK] Seq=1 Ack=
45900	398.941508 10.10.2.120	10.10.2.119	TCP	60	60045 > ev-services [ACK] Seq=12 Ack=249
45935	399.050012 10.10.2.120	10.10.2.119	TCP	60	60045 > ev-services [ACK] Seq=12 Ack=250

⊞ Frame 45552: 60 bytes on wire (480 bits), 60 bytes captured (480 bits) on interface 0