

Printing Stuff

- [JikoXpress Thermal Printer Documentation](#)

JikoXpress Thermal Printer Documentation

“ ESC/POS Templates, Print Flow & Integration Reference
Version 1.2 | March 2026 | QBIT SPARK CO LIMITED

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1. Overview

JikoXpress uses a thermal printer (MHT-P80A, 80mm, USB/LAN) for all customer and kitchen print operations. The printer speaks **ESC/POS** — a byte-level command language. No special driver is needed on Linux; CUPS handles the connection and raw bytes are sent directly to the printer.

Printer specs:

- Model: MHT-P80A
- Interface: USB (primary), LAN (future/Ethernet)
- Paper width: 80mm
- Characters per line: 48 (normal font)
- CUPS printer name: `MHT-P80H-Printer`

Document Types

#	Document	Printed	Digital	Channel	Recipient
1	Receipt	<input type="checkbox"/>	<input type="checkbox"/>	Dine In, Pickup	Customer
2	Kitchen Receipt	<input type="checkbox"/>	<input type="checkbox"/>	Delivery — inside package	Customer
3	Full Payment Receipt	<input type="checkbox"/>	<input type="checkbox"/>	Delivery — WhatsApp/SMS	Customer
4	Customer Bill	<input type="checkbox"/>	<input type="checkbox"/>	Dine In	Customer
5	Kitchen Ticket — Dine In	<input type="checkbox"/>	<input type="checkbox"/>	Dine In	Chef
6	Kitchen Ticket — Pack	<input type="checkbox"/>	<input type="checkbox"/>	Pickup, Delivery	Chef
7	Order / Round Cancelled	<input type="checkbox"/>	<input type="checkbox"/>	All	Chef
8	Payment Slip	<input type="checkbox"/>	<input type="checkbox"/>	Kiosk cash	Customer

Border Style Quick Reference

Border	Document
<code>=====</code>	Dine In tickets
<code>*****</code>	Pack tickets
<code>= top/bottom + - - - middle</code>	Cancellations
<code>.</code>	Payment Slip

2. ESC/POS Quick Reference

ESC Code	Meaning
<code>\x1b\x40</code>	Initialize printer (reset all settings)

ESC Code	Meaning
\x1b\x61\x00	Align LEFT
\x1b\x61\x01	Align CENTER
\x1b\x61\x02	Align RIGHT
\x1b\x45\x01	Bold ON
\x1b\x45\x00	Bold OFF
\x1b\x21\x00	Normal font size
\x1b\x21\x10	Double height font (medium)
\x1b\x21\x30	Double width + height font (large)
\x0a	Line feed (new line)
\x1d\x56\x00	Full paper cut
\x1d\x68\x40	Barcode height — 64 dots
\x1d\x77\x02	Barcode width multiplier — x2
\x1d\x6b\x04 ... \x00	Print CODE39 barcode (text + null terminator)

“ △ Always reset font with `\x1b\x21\x00` and bold with `\x1b\x45\x00` after large/bold sections.

3. Discount & Calculation Rules

V1 Discount Types

JikoXpress V1 supports two discount types only. Item-level discounts are planned for V2.

Type	Applied By	Shows On
Order Discount	Waiter (manual, % or fixed amount)	Receipt, Bill
Coupon Code	Customer (at kiosk or ordering platform)	Receipt, Slip

Calculation Order

All totals follow this strict order:

Subtotal	= sum of all item prices (full prices)
Order Discount	= percentage or fixed amount off subtotal (if applied)
Coupon Discount	= coupon value off remaining amount (if applied)
<hr/>	
Discounted Total	= Subtotal - Order Discount - Coupon Discount
VAT (18%)	= 18% of Discounted Total ← VAT always after discounts
<hr/>	
TOTAL	= Discounted Total + VAT

Coupon Validation

Coupons are validated **at the kiosk** before the slip is printed — not at the counter. This means:

- Customer sees the discounted price before going to counter
- Cashier just collects the amount on the slip — no manual calculation
- Coupon is consumed in the system at validation — no double use
- Slip shows coupon code so cashier can verify if needed

Paid & Change

Paid and Change lines appear **only on cash payment receipts**. For M-Pesa/card the exact amount is charged so no change line is needed.

Payment: Cash	
Paid:	TZS 10000
Change:	TZS 848

Display Rules

- Show discount lines **only if a discount was applied** — never show empty discount lines
- Show coupon line **only if a coupon was used**
- Show Paid/Change **only for cash payments**
- VAT is always calculated on the discounted amount

4. Receipt — Dine In

When printed: After dine-in customer completes payment. Official proof of purchase.

Contains: Restaurant header, date/time, waiter, table number, items, subtotal, discounts (if any), VAT, total, payment info, ready by time, order number, barcode, thank you, Powered by JikoXpress.

Preview — Cash with Order Discount

JIKOPRESS

Mbeya, Tanzania

Tel: +255 700 000 000

Date: 28/03/2026 Time: 19:30

Waiter: Amina Table: 05

Item	Qty	Price
Chips Mwituu	1	500
Kuku Choma	2	6000
Soda Baridi	2	1000
Maji ya Madafu	1	500

Subtotal: TZS 8000

Discount (10%): -TZS 800

VAT (18%): TZS 1296

TOTAL: TZS 8496

Payment: Cash

Paid: TZS 10000

Change: TZS 1504

Ready By: 19:45

Order: JKX-00123

[===== BARCODE =====]

Asante kwa kununua!

Karibu tena JikoXpress

Powered by JikoXpress

Preview — M-Pesa, No Discount

JIKOXPRESS
Mbeya, Tanzania
Tel: +255 700 000 000

Date: 28/03/2026 Time: 19:30
Waiter: Amina Table: 05

Item	Qty	Price
Chips Mwitu	1	500
Kuku Choma	2	6000
Soda Baridi	2	1000
Maji ya Madafu	1	500

Subtotal: TZS 8000
VAT (18%): TZS 1440

TOTAL: TZS 9440

Payment: M-Pesa
Ref: MP2026XXXX
Ready By: 19:45

Order: JKX-00123
[===== BARCODE =====]

Asante kwa kununua!
Karibu tena JikoXpress

Powered by JikoXpress

ESC/POS Command — Cash with Discount

```

printf '\x1b\x61\x01\x1b\x21\x30JIKOXPRESS\x1b\x21\x00\n\x1b\x61\x01Mbeya, Tanzania\nTel: +255
700 000 000\n=====
Time: 19:30\nWaiter: Amina          Table:
05\n=====
Qty          Price\x1b\x45\x00\n-----\nChips
Mwitu          1          500\nKuku Choma          2          6000\nSoda
Baridi          2          1000\nMaji ya Madafu          1
500\n=====
TZS 8000\x1b\x45\x00\nDiscount (10%%):          -TZS
800\n=====
1296\n=====
TZS
8496\x1b\x21\x00\x1b\x45\x00\n=====
Cash\nPaid:          TZS 10000\nChange:          TZS
1504\nReady By: 19:45\n=====
JKX-00123\n\x1d\x68\x40\x1d\x77\x02\x1d\x6b\x04JKX00123\x00\n\nAsante kwa kununua!\nKaribu
tena JikoXpress\n=====
JikoXpress\n\n\x1d\x56\x00' | lp -d MHT-P80H-Printer

```

5. Receipt — Pickup

When printed: After pickup customer completes payment.

Contains: Same as Dine In receipt but with customer full name instead of table number.

Preview — Cash with Coupon

```

=====
                JIKOXPRESS
                Mbeya, Tanzania
                Tel: +255 700 000 000
=====
Date: 28/03/2026      Time: 19:30
Waiter: Amina
Customer: John Mwangi
=====
Item                  Qty          Price

```

```

-----
Chips Mwitu          1          500
Kuku Choma          2          6000
Soda Baridi         2          1000
=====
Subtotal:              TZS 7500
Coupon (SAVE20):      -TZS 1500
=====
VAT (18%):            TZS 1080
=====
TOTAL:                 TZS 7080
=====

Payment: Cash
Paid:                 TZS 8000
Change:              TZS 920
Ready By: 19:50
=====

                Order: JKX-00124
                [===== BARCODE =====]

                Asante kwa kununua!
                Karibu tena JikoXpress
=====

                Powered by JikoXpress
=====

```

ESC/POS Command

```

printf '\x1b\x61\x01\x1b\x21\x30JIKOXPRESS\x1b\x21\x00\n\x1b\x61\x01Mbeya, Tanzania\nTel: +255
700 000 000\n=====\\n\x1b\x61\x00Date: 28/03/2026
Time: 19:30\nWaiter: Amina\nCustomer: John
Mwangi\n=====\\n\x1b\x45\x01Item
Qty      Price\x1b\x45\x00\n-----\\nChips
Mwitu      1      500\nKuku Choma      2      6000\nSoda
Baridi      2
1000\n=====\\n\x1b\x45\x01Subtotal:
                TZS 7500\x1b\x45\x00\nCoupon (SAVE20):              -TZS
1500\n=====\\nVAT (18%):                                          TZS
1080\n=====\\n\x1b\x45\x01\x1b\x21\x10TOTAL:

```

TZS

7080\x1b\x21\x00\x1b\x45\x00\n=====\nPayment:
Cash\nPaid: TZS 8000\nChange: TZS
920\nReady By: 19:50\n=====\n\x1b\x61\x01Order:
JKX-00124\n\x1d\x68\x40\x1d\x77\x02\x1d\x6b\x04JKX00124\x00\n\nAsante kwa kununua!\nKaribu
tena JikoXpress\n=====\nPowered by
JikoXpress\n\n\n\x1d\x56\x00' | lp -d MHT-P80H-Printer

6. Kitchen Receipt — Delivery

When printed: Printed and placed inside the delivery package.

Contains: Food items + prices, subtotal, discounts (if any), VAT, total, order number, customer first name, courier name, ready by time.

Does NOT contain: Delivery fee, full address, zone, payment method — those are in the Full Payment Receipt sent digitally.

“☐ The **Full Payment Receipt** (with delivery fee, full address, payment ref) is sent digitally via WhatsApp/SMS. It is not printed.

Preview

=====
JIKOPRESS
Mbeya, Tanzania
Tel: +255 700 000 000
=====

Date: 28/03/2026 Time: 19:32
Customer: Sarah
Courier: James Oduya
=====

Item	Qty	Price
Kuku Choma	1	3000
Maji ya Madafu	2	1000

=====
=====

Subtotal: TZS 4000

VAT (18%): TZS 720

=====

TOTAL: TZS 4720

=====

Ready By: 19:55

=====

Order: JKX-00125

[===== BARCODE =====]

Asante kwa kununua!
Karibu tena JikoXpress

=====

Powered by JikoXpress

=====

ESC/POS Command

```
printf '\x1b\x61\x01\x1b\x21\x30JIKOXPRESS\x1b\x21\x00\n\x1b\x61\x01Mbeya, Tanzania\nTel: +255
700 000 000\n=====Date: 28/03/2026
Time: 19:32\nCustomer: Sarah\nCourier: James
Oduya\n=====Item
Qty      Price\x1b\x45\x00\n-----\nKuku
Choma          1          3000\nMaji ya Madafu          2
1000\n=====Subtotal:
          TZS 4000\x1b\x45\x00\nVAT (18%):          TZS
720\n=====TOTAL:
          TZS
4720\x1b\x21\x00\x1b\x45\x00\n=====Ready By:
19:55\n=====order: JKX-
00125\n\x1d\x68\x40\x1d\x77\x02\x1d\x6b\x04JKX00125\x00\n\nAsante kwa kununua!\nKaribu tena
JikoXpress\n=====Powered by
JikoXpress\n\n\n\x1d\x56\x00' | lp -d MHT-P80H-Printer
```

7. Customer Bill

When printed: When dine-in customer requests the bill before payment.

Contains: All rounds accumulated, subtotal, order discount (if applied by waiter), VAT, total due. Explicitly states "This is not a receipt".

Note: Coupon discounts do not apply to dine-in bills — coupons are for kiosk/online orders only.

Preview — With Order Discount

```
=====
                        BILL
                    TABLE 05
=====

# JKX-00123
28/03/2026      Waiter: Amina
=====

ROUND 1 - 19:30
-----
Chips Mwituu           1           500
Kuku Chomuu            2          6000
=====

ROUND 2 - 19:55
-----
Soda Bariduu           2          1000
Maji ya Madafuu        1           500
=====

Subtotal:                TZS 8000
Discount (10%):          -TZS  800
=====

VAT (18%):                TZS 1296
=====

TOTAL DUE:                TZS 8496
=====

This is not a receipt
Please proceed to pay
=====

Powered by JikoXpress
=====
```

ESC/POS Command

```

printf '\x1b\x61\x01\x1b\x21\x30BILL\x1b\x21\x00\n\x1b\x21\x10\x1b\x45\x01TABLE
05\x1b\x45\x00\x1b\x21\x00\n===== \n\x1b\x61\x00\x1b
\x21\x10\x1b\x45\x01# JKX-00123\x1b\x45\x00\x1b\x21\x00\n28/03/2026 Waiter:
Amina\n===== \n\x1b\x45\x01ROUND 1 -
19:30\x1b\x45\x00\n----- \nChips Mwitu
1          500\nKuku Choma          2
6000\n===== \n\x1b\x45\x01ROUND 2 -
19:55\x1b\x45\x00\n----- \nSoda Baridi
2          1000\nMaji ya Madafu      1
500\n===== \n\x1b\x45\x01Subtotal:
          TZS 8000\x1b\x45\x00\nDiscount (10%%):          -TZS
800\n===== \nVAT (18%%):          TZS
1296\n===== \n\x1b\x21\x10\x1b\x45\x01TOTAL
DUE:          TZS
8496\x1b\x45\x00\x1b\x21\x00\n===== \n\x1b\x61\x01Th
is is not a receipt\nPlease proceed to
pay\n===== \nPowered by
JikoXpress\n\n\n\x1d\x56\x00' | lp -d MHT-P80H-Printer

```

8. Kitchen Ticket — Dine In

When printed: Every time a dine-in order is placed or a new round is added. Chef receives one ticket per round.

Border style: — calm, signals food will be plated and served at the table.

Does NOT contain: Prices, discounts, customer name, payment info.

Preview — Round 1

```

=====
-- DINE IN --
=====
TABLE 05          ROUND 1
=====
# JKX-00123
28/03/2026  19:30
=====

```

Item	Qty
------	-----

Chips Mwitu	1
Kuku Choma	2
Soda Baridi	2
Maji ya Madafu	1

NOTES:

! ONGEZA CHUMVI KWA CHIPS

! KUKU BILA PILIPILI

READY BY: 19:45

Preview — Round 2 (new items only)

-- DINE IN --

TABLE 05 ROUND 2

JKX-00123

28/03/2026 19:55

Item	Qty
------	-----

Soda Baridi	2
Maji ya Madafu	1

NOTES:

! ONGEZA SUKARI KWA MADAFU

READY BY: 20:10

ESC/POS Command

printf

'=====\\n\\x1b\\x61\\x01\\x1b\\x21\\x30\\x1b\\x45\\x01-- DINE

```

IN --
\x1b\x45\x00\x1b\x21\x00\n=====
21\x30\x1b\x45\x01TABLE 05          ROUND
1\x1b\x45\x00\x1b\x21\x00\n=====
21\x30\x1b\x45\x01# JKX-00123\x1b\x45\x00\x1b\x21\x00\n28/03/2026
19:30\n=====
          Qty\x1b\x45\x00\n-----\nChips
Mwitu          1\nKuku Choma
2\n=====
\x10\x1b\x45\x01! ONGEZA CHUMVI KWA CHIPS\x1b\x45\x00\x1b\x21\x00\n\x1b\x21\x10\x1b\x45\x01!
KUKU BILA
PILIPILI\x1b\x45\x00\x1b\x21\x00\n=====
01\x1b\x21\x10\x1b\x45\x01READY BY:
19:45\x1b\x45\x00\x1b\x21\x00\n=====
x00' | lp -d MHT-P80H-Printer

```

9. Kitchen Ticket — Pack

When printed: When a pickup or delivery order is placed.

Border style: * — high attention, signals food must be packaged.

Two variants:

- **Pickup** — no customer name, no courier
- **Delivery** — customer first name + courier name

Preview — Pickup

```

*****
*
          *** PACK ***
*
*****
# JKX-00124
28/03/2026 19:32
*****
Item          Qty

```

```
-----
Chips Mwitu                2
Kuku Choma                  1
```

NOTES:

! CHIPS BILA CHUMVI

READY BY: 19:47

Preview — Delivery

* * *

*** PACK ***

* * *

JKX-00125

28/03/2026 19:35

Customer: Sarah

Courier: James

```
Item                        Qty
-----
```

Kuku Choma 1

Maji ya Madafu 2

NOTES:

! ONGEZA MCHUZI

READY BY: 19:50

ESC/POS Command — Pickup

printf

'*****\n'

*\n\x1b\x61\x01\x1b\x21\x30\x1b\x45\x01*** PACK

```

***\x1b\x45\x00\x1b\x21\x00\n*
*\n*****\n\x1b\x61\x00\x1b\x21\x30\x1b\x45\x01#
JKX-00124\x1b\x45\x00\x1b\x21\x00\n28/03/2026
19:32\n*****\n\x1b\x45\x01Item
      Qty\x1b\x45\x00\n-----\nChips
Mwitu                2\nKuku Choma
1\n*****\n\x1b\x45\x01NOTES:\x1b\x45\x00\n\x1b\x21\x
x10\x1b\x45\x01! CHIPS BILA
CHUMVI\x1b\x45\x00\x1b\x21\x00\n*****\n\x1b\x61\x01
\x1b\x21\x10\x1b\x45\x01READY BY:
19:47\x1b\x45\x00\x1b\x21\x00\n*****\n\n\n\x1d\x56\
x00' | lp -d MHT-P80H-Printer

```

ESC/POS Command — Delivery

```

printf
'*****\n*
  *\n\x1b\x61\x01\x1b\x21\x30\x1b\x45\x01*** PACK
***\x1b\x45\x00\x1b\x21\x00\n*
*\n*****\n\x1b\x61\x00\x1b\x21\x30\x1b\x45\x01#
JKX-00125\x1b\x45\x00\x1b\x21\x00\n28/03/2026  19:35\nCustomer: Sarah\nCourier:
James\n*****\n\x1b\x45\x01Item
      Qty\x1b\x45\x00\n-----\nKuku
Choma                1\nMaji ya Madafu
2\n*****\n\x1b\x45\x01NOTES:\x1b\x45\x00\n\x1b\x21\x
x10\x1b\x45\x01! ONGEZA
MCHUZI\x1b\x45\x00\x1b\x21\x00\n*****\n\x1b\x61\x01
\x1b\x21\x10\x1b\x45\x01READY BY:
19:50\x1b\x45\x00\x1b\x21\x00\n*****\n\n\n\x1d\x56\
x00' | lp -d MHT-P80H-Printer

```

10. Order / Round Cancelled

When printed: When a full order or specific round is cancelled after kitchen ticket has been sent.

Border style: Mix of (top/bottom) and (middle) — unmistakable.

Preview — Full Order Cancelled

```
=====
- - - - -
ORDER CANCELLED
#JKX-00123      TABLE 05
28/03/2026  19:30
- - - - -
STOP PREPARING THIS ORDER
- - - - -
=====
```

Preview — Round Cancelled

```
=====
- - - - -
ROUND CANCELLED
#JKX-00123      ROUND 2
TABLE 05  28/03/2026  19:55
- - - - -
STOP ROUND 2 ITEMS ONLY
- - - - -
=====
```

ESC/POS Command — Full Order Cancelled

```
printf '=====\\n- - - - -
- - - - -\\n\\x1b\\x61\\x01\\x1b\\x21\\x30\\x1b\\x45\\x01ORDER
CANCELLED\\x1b\\x45\\x00\\x1b\\x21\\x00\\n\\x1b\\x21\\x30\\x1b\\x45\\x01#JKX-00123 TABLE
05\\x1b\\x45\\x00\\x1b\\x21\\x00\\n\\x1b\\x21\\x00\\x1b\\x45\\x0128/03/2026 19:30\\x1b\\x45\\x00\\n- - - - -
- - - - -\\n\\x1b\\x21\\x10\\x1b\\x45\\x01STOP PREPARING THIS
ORDER\\x1b\\x45\\x00\\x1b\\x21\\x00\\n- - - - -
\\n=====\\n\\n\\n\\x1d\\x56\\x00' | lp -d MHT-P80H-Printer
```

ESC/POS Command — Round Cancelled

```

printf '=====\n- - - - -
- - - - -\n\x1b\x61\x01\x1b\x21\x30\x1b\x45\x01ROUND
CANCELLED\x1b\x45\x00\x1b\x21\x00\n\x1b\x21\x30\x1b\x45\x01#JKX-00123 ROUND
2\x1b\x45\x00\x1b\x21\x00\n\x1b\x21\x00\x1b\x45\x01TABLE 05 28/03/2026
19:55\x1b\x45\x00\x1b\x21\x00\n- - - - -
\n\x1b\x21\x10\x1b\x45\x01STOP ROUND 2 ITEMS ONLY\x1b\x45\x00\x1b\x21\x00\n- - - - -
- - - - -
\n=====\n\n\n\x1d\x56\x00' | lp -d MHT-P80H-Printer

```

11. Payment Slip — Kiosk Cash

When printed: When a kiosk customer chooses to pay cash at the counter.

This is NOT an order yet. Only after cashier confirms payment does the system create a real order and send to kitchen.

Coupon: Validated at kiosk before slip prints. Discounted total already reflected on slip — cashier just collects the amount shown.

Expiry: Configurable by admin. Default: 15 minutes from slip creation.

Preview — With Coupon

```

. . . . .
      PAYMENT SLIP
. . . . .
.
      SLIP-0045
.
      [===== BARCODE =====]
.
.
. . . . .
Item                Qty      Price
. . . . .
Chips Mwitu         1         500
Kuku Choma          2        6000
Soda Baridi         2        1000
. . . . .
Subtotal:                TZS 8000

```

Coupon (SAVE20): -TZS 1600

VAT (18%): TZS 1152

.....
TOTAL DUE: TZS 6552

.....
TAKE THIS TO COUNTER BEFORE:

.....
19:45
.....

Preview — No Coupon

.....
PAYMENT SLIP

.....
SLIP-0045

.....
[===== BARCODE =====]
.....

.....
Item Qty Price

.....
Chips Mwituu 1 500

Kuku Choma 2 6000

Soda Baridi 2 1000

.....
Subtotal: TZS 8000

VAT (18%): TZS 1440

.....
TOTAL DUE: TZS 9440

.....
TAKE THIS TO COUNTER BEFORE:

.....
19:45
.....

↓

Waiter applies discount? (optional)

↓

Print: Bill (all rounds + discount if any, TOTAL DUE, not a receipt)

↓

Customer pays (cash or mobile money)

↓

Print: Receipt – Dine In (with discount if any, paid+change if cash)

Pickup Flow

Order placed (POS / App / WhatsApp)

Customer applies coupon? → validated instantly

↓

Print: Kitchen Ticket (PACK – no names) → Chef prepares & packages

↓

Customer arrives, pays

↓

Print: Receipt – Pickup (customer full name, coupon if used, paid+change if cash)

Delivery Flow

Order placed (App / WhatsApp)

Customer applies coupon? → validated instantly

↓

Digital Full Payment Receipt sent to customer (WhatsApp/SMS)

includes: delivery fee, address, payment ref, courier name, discounts

↓

Print: Kitchen Ticket (PACK – customer first name + courier name)

→ Chef prepares & packages

↓

Print: Kitchen Receipt → placed inside package

includes: food items, discounts, total, customer first name, courier name, ready by

↓

Courier collects and delivers

Kiosk Cash Flow

Customer orders on kiosk

Customer enters coupon code? → validated instantly at kiosk

↓

Print: Payment Slip (SLIP-0045, discounted total if coupon, expiry time)

↓

Customer walks to counter with slip

↓

Cashier scans barcode → confirms payment → collects exact amount on slip

↓

System converts slip → Order JKX-00123

↓

Print: Kitchen Ticket (PACK) → Chef cooks

↓

Print: Receipt → Customer gets proof of payment

Cancellation Flow

Order or round cancelled in JikoXpress system

↓

Print: Cancellation Ticket → immediately to kitchen printer

↓

Chef stops preparation, discards matching kitchen ticket

13. Name Display Rules

Document	Dine In	Pickup	Delivery
Receipt	<input type="checkbox"/> Table number only	<input type="checkbox"/> Full name	<input type="checkbox"/> Full name + Courier full name
Kitchen Receipt	—	—	<input type="checkbox"/> First name + Courier first name
Bill	<input type="checkbox"/> Table number only	—	—
Kitchen Ticket	<input type="checkbox"/> No name	<input type="checkbox"/> First name only	<input type="checkbox"/> First name + Courier first name
Payment Slip	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



Rule: Kitchen never sees full names or personal details. First name is enough for kitchen coordination. Full names only on official customer-facing documents.

14. Java / Spring Boot Integration

Printer Name

```
private static final String PRINTER_NAME = "MHT-P80H-Printer";
```

Print Method

```
public void print(String escposContent) throws Exception {
    ProcessBuilder pb = new ProcessBuilder("lp", "-d", PRINTER_NAME, "-o", "raw", "-");
    pb.redirectErrorStream(true);
    Process process = pb.start();
    process.getOutputStream().write(escposContent.getBytes(StandardCharsets.ISO_8859_1));
    process.getOutputStream().close();
    process.waitFor();
}
```

“ ⚠ Use `ISO_8859_1` encoding, not UTF-8.

Discount Calculation (Java)

```
public OrderTotals calculate(Order order) {
    BigDecimal subtotal = order.getItems().stream()
        .map(i -> i.getPrice().multiply(BigDecimal.valueOf(i.getQty())))
        .reduce(BigDecimal.ZERO, BigDecimal::add);

    BigDecimal orderDiscount = order.getOrderDiscount() != null
        ? subtotal.multiply(order.getOrderDiscount()).divide(BigDecimal.valueOf(100))
        : BigDecimal.ZERO;
}
```

```

BigDecimal couponDiscount = order.getCouponDiscount() != null
    ? order.getCouponDiscount()
    : BigDecimal.ZERO;

BigDecimal discountedTotal = subtotal
    .subtract(orderDiscount)
    .subtract(couponDiscount);

BigDecimal vat = discountedTotal
    .multiply(BigDecimal.valueOf(18))
    .divide(BigDecimal.valueOf(100), 0, RoundingMode.HALF_UP);

BigDecimal total = discountedTotal.add(vat);

return new OrderTotals(subtotal, orderDiscount, couponDiscount, vat, total);
}

```

Key Rules

1. Always reset font after large/bold: `\x1b\x21\x00` and `\x1b\x45\x00`
2. Notes must be uppercased: `note.toUpperCase()`
3. Ready By = order timestamp + admin-configured prep time
4. Barcode = order number without dashes e.g. `JKX00123`
5. Slip barcode = slip number without dashes e.g. `SLIP0045`
6. VAT always calculated after all discounts
7. Show discount lines only if discount was applied — never show empty lines
8. Show Paid/Change only for cash payments
9. Show coupon line only if coupon was used
10. Always end with `\n\n\n\x1d\x56\x00`
11. Delivery fee never on any printed document — digital only
12. Kitchen tickets never show prices or discounts

Ethernet Printing (Future — LAN)

```

public void printOverEthernet(String escposContent, String printerIp) throws Exception {
    try (Socket socket = new Socket(printerIp, 9100);
        OutputStream out = socket.getOutputStream()) {
        out.write(escposContent.getBytes(StandardCharsets.ISO_8859_1));
        out.flush();
    }
}

```

}

“ Set printer IP via DHCP reservation. Port 9100 is the standard raw print port for ESC/POS over network.

QBIT SPARK CO LIMITED | JikoXpress | March 2026

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