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	☐	☐	Dine In, Pickup	Customer
2	Kitchen Receipt	☐	☐	Delivery — inside package	Customer
3	Full Payment Receipt	☐	☐	Delivery — WhatsApp/SMS	Customer
4	Customer Bill	☐	☐	Dine In	Customer
5	Kitchen Ticket — Dine In	☐	☐	Dine In	Chef
6	Kitchen Ticket — Pack	☐	☐	Pickup, Delivery	Chef
7	Order / Round Cancelled	☐	☐	All	Chef
8	Payment Slip	☐	☐	Kiosk cash	Customer

Border Style Quick Reference

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

---

2. ESC/POS Quick Reference

ESC Code	Meaning
`\x1b\x40`	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)
                  ──────────────────────────────────────
Discounted Total  = Subtotal - Order Discount - Coupon Discount
VAT (18%)         = 18% of Discounted Total   ← VAT always after discounts
                  ──────────────────────────────────────
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

```
================================================
            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
 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================================================\n\x1b\x61\x00Date: 28/03/2026
Time: 19:30\nWaiter: Amina           Table:
05\n================================================\n\x1b\x45\x01Item
Qty        Price\x1b\x45\x00\n------------------------------------------------\nChips
Mwitu              1            500\nKuku Choma               2           6000\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\x45\x01\x1b\x21\x10TOTAL:
                TZS
8496\x1b\x21\x00\x1b\x45\x00\n================================================\nPayment:
Cash\nPaid:                              TZS 10000\nChange:                           TZS
1504\nReady By: 19:45\n================================================\n\x1b\x61\x01Order:
JKX-00123\n\x1d\x68\x40\x1d\x77\x02\x1d\x6b\x04JKX00123\x00\n\nAsante kwa kununua!\nKaribu
tena JikoXpress\n================================================\nPowered by
JikoXpress\n\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

```
================================================
            JIKOXPRESS
         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================================================\n\x1b\x61\x00Date: 28/03/2026
Time: 19:32\nCustomer: Sarah\nCourier: James
Oduya\n================================================\n\x1b\x45\x01Item
Qty        Price\x1b\x45\x00\n------------------------------------------------\nKuku
Choma               1           3000\nMaji ya Madafu           2
1000\n================================================\n\x1b\x45\x01Subtotal:
         TZS 4000\x1b\x45\x00\nVAT (18%%):                       TZS
720\n================================================\n\x1b\x45\x01\x1b\x21\x10TOTAL:
               TZS
4720\x1b\x21\x00\x1b\x45\x00\n================================================\nReady By:
19:55\n================================================\n\x1b\x61\x01Order: JKX-
00125\n\x1d\x68\x40\x1d\x77\x02\x1d\x6b\x04JKX00125\x00\n\nAsante kwa kununua!\nKaribu tena
JikoXpress\n================================================\nPowered 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 Mwitu              1            500
 Kuku Choma               2           6000
================================================
 ROUND 2 - 19:55
------------------------------------------------
 Soda Baridi              2           1000
 Maji ya Madafu           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==============================================\n\x1b\x61\x01\x1b\x
21\x30\x1b\x45\x01TABLE 05        ROUND
1\x1b\x45\x00\x1b\x21\x00\n==============================================\n\x1b\x61\x00\x1b\
x21\x30\x1b\x45\x01# JKX-00123\x1b\x45\x00\x1b\x21\x00\n28/03/2026
19:30\n==============================================\n\x1b\x45\x01Item
            Qty\x1b\x45\x00\n----------------------------------------------\nChips
Mwitu                           1\nKuku Choma
2\n==============================================\n\x1b\x45\x01NOTES:\x1b\x45\x00\n\x1b\x21\
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==============================================\n\x1b\x61\x
01\x1b\x21\x10\x1b\x45\x01READY BY:
19:45\x1b\x45\x00\x1b\x21\x00\n==============================================\n\n\n\x1d\x56\
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\
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\
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 Mwitu                   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                        .
.                                           .
. . . . . . . . . . . . . . . . . . . . . . .
```

ESC/POS Command — With Coupon

```
printf '. . . . . .
.\n\x1b\x61\x01\x1b\x21\x10\x1b\x45\x01PAYMENT SLIP\x1b\x45\x00\x1b\x21\x00\n. . . . . .
. . . . . .\n.\n\x1b\x61\x01\x1b\x21\x30\x1b\x45\x01SLIP-
0045\x1b\x45\x00\x1b\x21\x00\n\x1d\x68\x50\x1d\x77\x02\x1d\x6b\x04SLIP0045\x00\n.\n. . . . .
. . . . . .\n\x1b\x61\x00\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 8000\x1b\x45\x00\nCoupon (SAVE20):                 -TZS 1600\nVAT
(18%%):                        TZS
1152\n.....\n\x1b\x45\x01TOTAL
DUE:                         TZS 6552\x1b\x45\x00\n. . . . . .
. .\n.\n\x1b\x61\x01\x1b\x21\x10\x1b\x45\x01TAKE THIS TO COUNTER
BEFORE:\x1b\x45\x00\x1b\x21\x00\n.\n\x1b\x21\x30\x1b\x45\x0119:45\x1b\x45\x00\x1b\x21\x00\n.\n
. . . . . .\n\n\n\x1d\x56\x00' | lp -d MHT-P80H-Printer
```

---

12. Full Print Flow

Dine In Flow

```
Customer sits → Waiter opens order, assigns table
       ↓
Waiter takes order
       ↓
Print: Kitchen Ticket (DINE IN, ROUND 1) → Chef cooks
       ↓
Customer orders more?
       ↓
Print: Kitchen Ticket (DINE IN, ROUND 2) → new items only
       ↓
Repeat for additional rounds...
       ↓
Customer asks for bill
```

```
       ↓
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	Table number only	Full name	Full name + Courier full name
Kitchen Receipt	—	—	First name + Courier first name
Bill	Table number only	—	—
Kitchen Ticket	No name	First name only	First name + Courier first name
Payment Slip			

> **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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Revision #2
Created 29 March 2026 07:26:28 by Admin Qbit
Updated 29 March 2026 07:27:30 by Admin Qbit