Preview: Barcode Symbology Cheat Sheet

One-page reference appendix in *Barcode or Bleed*, also published as a standalone PDF lead-magnet on klovio.app.

FIELD REFERENCE · FROM BARCODE OR BLEED

EDITION 01

VER. 1.0 · 2026

The Barcode Symbology Cheat Sheet

Eight symbologies you will actually meet in the wild — what each one looks like, where it lives, and the gotcha that bites beginners.

Code 128

01 / 08

1D · LINEAR | ALPHANUMERIC | LOGISTICS



SKU-A1294-X

ENCODES Full ASCII (128 chars), variable length

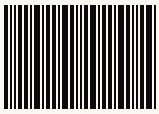
USE FOR **Shipping labels, inner packaging, asset tags, SKU labels.** The workhorse.

WATCH OUT
Has three sub-modes (A/B/C). Bad encoder + alphanumeric data = unscannable. Test on hardware, never just on the screen.

UPC-A

02 / 08

1D · LINEAR | NUMERIC · 12 | RETAIL NA



0 36000 29145 2

ENCODES Exactly 12 digits (incl. check digit)

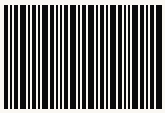
USE FOR **Retail products sold in the US/Canada.** Required at most major retailers.

WATCH OUT
You must *purchase* a GS1 company prefix — never invent your own UPC, even for "internal use." It will collide.

EAN-13

03 / 08

1D · LINEAR | NUMERIC · 13 | RETAIL INTL



5 901234 123457

ENCODES Exactly 13 digits (incl. check digit)

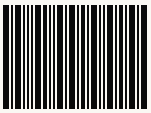
USE FOR **Retail products outside North America.** Books, EU/Asia/LatAm grocery, etc.

WATCH OUT
Different from UPC-A by one digit and country prefix — many systems treat them as the same, but mismatched data feeds break sync.

Code 39

04 / 08

1D · LINEAR | A–Z · 0–9 | LEGACY



ASSET-42

ENCODES Uppercase A–Z, 0–9, and 7 symbols

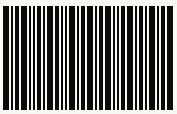
USE FOR **Defense, automotive, industrial asset tags.** Common where it's been "always been" — replacement projects.

WATCH OUT
Wider bars than Code 128 for the same data — eats label real estate. Prefer Code 128 on new projects unless a system demands 39.

GS1-128

05 / 08

1D · LINEAR | LOGISTICS | WITH AIS



(01)10614141999996(17)260101

ENCODES Code 128 + GS1 Application Identifiers (AIs)

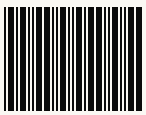
USE FOR **Pallet labels, shipping cartons, healthcare packaging.** When you need to encode *multiple structured fields* in one barcode.

WATCH OUT
Not a different symbology — it's Code 128 with a strict data format. The AIs (01), (17), (10) etc. matter to your trading partners.

ITF-14

06 / 08

1D · LINEAR | NUMERIC · 14 | CARTONS



1 0036000 291454

ENCODES Exactly 14 digits (incl. check digit)

USE FOR **Outer cartons / case codes** — the box that holds the boxes. Wide bars are scannable from a forklift.

WATCH OUT
Always print with the bearer bars (top/bottom border) — without them, scanners over-read partial codes and fail.

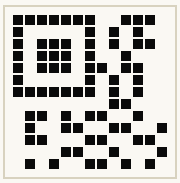
QR Code

07 / 08

Data Matrix

08 / 08

2D · MATRIX URLS · TEXT · BYTES PUBLIC

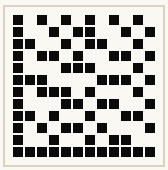


ENCODES ~4,000 chars · text, URLs, bytes

USE FOR **Mobile-scannable codes** — receiving check-in, marketing, GS1 Digital Link, asset tags scanned by phone.

WATCH OUT
Quiet zone (white margin around it) is non-negotiable. "It worked on my phone" ≠ it works on every scanner.

2D · MATRIX TINY FOOTPRINT DPM · PHARMA



ENCODES Up to ~2,300 chars · readable down to 2.5mm

USE FOR **Tiny items, healthcare unit-dose, electronics, DPM** (direct part marking on metal/plastic).

WATCH OUT
Often confused with QR — both are 2D, but Data Matrix has the L-shaped border (no corner squares). Different scanners, different use cases.

From *Barcode or Bleed* by Ricardo Escobar

Founder of Klovio · Deeper coverage in the companion reference, available 2027

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