FIBER OPTIC FIELD GUIDE

Fiber Count Chart Builder

A step-by-step walk-through of the browser-based chart builder. Pick a color standard, enter or paste cable counts from a job sheet, scan a sheet with your phone, and order a printable PDF. Written by a working tech, for working techs.

Johnstone Technical Services · https://johnstonetechs.com/guides/chart-builder

What it does

Stop doing the count math by hand.

If you've ever spent an evening on a whiteboard assigning fiber counts to a ringcut, or longer chasing down an arithmetic error after the splice was already made, that's the work the Fiber Count Chart Builder takes off your plate. Drop in your job sheet — printed or handwritten, snap a phone photo of it if you want — and the chart fills in with every cable count assigned to the right fiber, in seconds. Three standards (TIA-598-D, IEC 60304, VDE 0888), cables from 6 to 6,912 fibers, free in the browser; $2.50 for a printable PDF emailed to you instantly, or $20 for a 10-pack if you build these often.

You'll usually reach for it when you're building a splice diagram for a new route, sanity-checking a contractor's count list against the cable they actually pulled, or putting a labeled color chart in a tech's hand before they head out.

Pick a standard

The Standard dropdown at the top right offers three:

- TIA-598-D — North America and most global deployments. Starts at Blue.
- IEC 60304 — Asia and parts of Europe. Starts at Red.
- VDE 0888 — Germany and the wider DACH region. Starts at Red, but the order of positions 2–4 differs from IEC.

The color sequence, the order shown on the chart, and the legend all update to match. If you don't know which standard the cable was built to, TIA-598-D is the safe default for US work.

Set the cable size and group structure

Two more controls on the right side configure the cable construction:

- Fiber count — total fibers in the cable. The dropdown covers every catalog size from 6 to 6912. The first line of a paste (see below) can auto-set this for you.
- Fibers per group — how many fibers ride in each buffer tube, binder, or ribbon. Standard loose tube is 12; high-density ribbon is 24 or 36.

The chart redraws as you change either control.

Three ways to enter cable counts

"Cable counts" are the customer-assigned identifiers riding on top of the color sequence — entries like XD,1-11 or F6Z,24. Depending on who you work for they go by other names too (cable stack, complements, count list, fiber assignments). All three input methods produce the same result on the chart.

Click any fiber swatch directly on the chart. The bottom half of the cell turns into a small text input. Type the count (e.g. F037 or XD, 1) and press Enter. A dialog asks for the ending count of that range; type it, click Fill range, and the values in between auto-fill. Click another fiber to start a separate range.

2. Paste a block of counts

Most efficient if you have a count list already typed up. The "Enter or paste cable counts" textarea on the left of the controls panel accepts one entry per line:

The first line is a cable size header. It accepts CO144, CABLE144, or just 144 on its own. The rest of the lines are count entries in one of two forms:

- LABEL,N — a single fiber.
- LABEL,N-M — a range of fibers.

Whitespace around the comma is optional. Hit Apply and the chart fills in. If you click Apply with the textarea empty, the builder loads a worked example for you to play with.

Tracked separately on the chart: every range you enter shows up with a blue outline around its start and end fibers (the anchors). That makes it easy to see at a glance where one count run hands off to the next.

3. Scan a job sheet with your phone

On a phone, tap Ø=Ü÷ Scan. The native camera opens. Take a photo of the count list on the job sheet you'd otherwise be retyping. The image is compressed locally and sent to Anthropic's Claude vision API for OCR; the recognized text drops straight into the textarea ready for you to review and Apply.

Works on printed labels and reasonable handwriting. If you'd rather keep photos local, use iOS Live Text or Google Lens to OCR the sheet natively, then paste the result.

XD, D, and other labels

XD (or just D) marks dead or unused fibers. Both are treated as absolute positions: XD, 109 always lands on actual fiber 109, regardless of what was placed before it.

Every other label (IF, OF, LR, F6Z, B37, etc.) is placed cumulatively from the next available position. So a paste like:

fills fibers 1–24 with IF06, 1 through IF06, 24, then 25–40 with IF09, 1 through IF09, 16, then 41–109 with OF99, 22 through OF99, 90. Fibers 110–119 stay blank (the gap between active counts and the dead-fiber range). Fibers 120–288 get XD, 120 through XD, 288 at their literal positions.

Labels are capped at four characters — if a label longer than that ends up in the paste, the builder truncates to the first four. Real-world labels (XD, D, F6Z, OF99, C121) all fit comfortably under that limit.

Look up a specific fiber

The Look up fiber # input on the right takes a number from 1 to your cable size and tells you exactly which group, position in the group, and (if you've entered counts) which cable count that fiber carries. The matching cell on the chart highlights with a blue outline so you can see it in context.

Useful when a tech radios in "I'm on fiber 437" and you need to tell them what color to expect and which count they're looking at.

Order the printable PDF

The Ø=ÜÄ Order PDF — $2.50 button at the bottom of the page generates a printable PDF of your chart, with your counts baked in. If you build these often, the adjacent Ø=Üæ 10-pack — $20 button buys 10 charts up front (saves $5) and credits apply automatically at future checkouts while you're signed in. The dialog lets you pick a page size:

- 11 17 (tabloid) — paginates at 432 fibers per page, so any cable size produces a multi-page reference you can carry. 432F is one page, 864F is two, 1728F is four, 6912F is sixteen.
- 24 36 (wall) — paginates at 1728 fibers per page. 1728F is one page; the larger cables (up to 6912F) split across multiple pages on this size too.

Every fiber number and every count value renders at the same size across the whole chart, so a long count like T56, 432 doesn't shrink the cell next to a short one like XD, 01.

Pay with Stripe Checkout. The instant the payment confirms you get a download in the browser and a copy emailed to the address on the order. Digital download, all sales final.

If you want a printed-and-shipped copy of one of the standard catalog charts instead, the Ø=Ý¨þ Order printed copy button takes you straight to the chart shop where you can pick a size and check out.

One more thing: your chart is saved automatically

The builder writes your chart state (standard, fiber count, fibers per group, all the counts you've entered) to your browser's sessionStorage on every change. A refresh, a trip through Stripe Checkout, or a "back" navigation doesn't lose your work. It clears when you close the tab. Nothing is sent to our servers unless you order a PDF or use the camera scan.

Build a chart, paste your counts, see it print-ready.

Free in the browser. The worked example loads with one click if you want to see the output before you commit your own data.