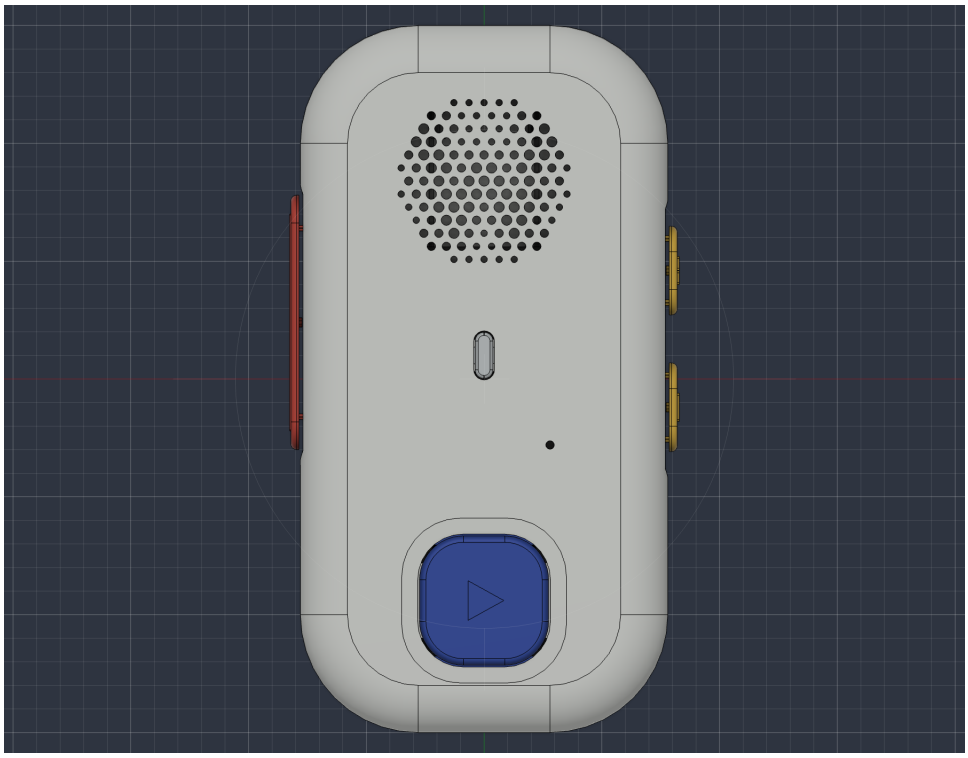
Printable halftone W. A slimmer no-stack body.

Supplier handoff · 9 September 2026



Enclosure body	Overall with controls	Print set
78 × 150 × 24 mm	82.72 × 150 × 24.55 mm	8 device parts + 1 coupon

Current source: the supplied v12.3 NoStack package. The battery and PCB use separate plan regions. The revised W grille uses 121 holes in three diameters, with a 1.0 mm minimum web.

Build scope: prototype print and first-article evaluation. Source audit reports and independent file checks accompany this handoff. Physical fit, acoustic, electrical and process qualification remain open. Earlier E1 and v11.4 files are historical references.

Nine exports. Eight installed pieces.

Part / quantity	Colour / role
Front shell / 1	Warm light grey
Back shell / 1	Warm light grey
Front action cap / 1	Bauhaus blue
PTT cap / 1	Bauhaus red
Volume up cap / 1	Bauhaus yellow
Volume down cap / 1	Bauhaus yellow
Status lens / 1	Neutral frosted
Front-switch clamp / 1	Internal / supplier to confirm
Process / tolerance coupon / 1	Same process as tested part

Print the tolerance coupon first

Use the intended machine, material, orientation and compensation. Confirm the three grille hole sizes, 1.0 mm web, moving guides, lens fit and flex ribs before printing the device. The coupon is not part of the assembly.

Process selection

The supplied shop notes propose FDM for fit/ergonomic prototypes after coupon success, tough SLA/DLP resin for presentation detail, or MJF/SLS PA12 for functional prototypes. These are source recommendations; confirm the supplier’s actual process and material.

Shell finish is warm light grey, satin and lightly textured; PTT red, volume yellow, action blue, lens neutral frosted. Approve physical colour samples. STL colour is not authoritative.

Locate parts, route leads, close straight.

The complete 15-step source guide is preserved as 05_Source_Audits/ASSEMBLY_GUIDE_v12_3.md.

Order	Assembly task
1	Validate coupon. Print, clean and deburr eight device parts. Check the grille before fitting the speaker.
2	Fit the lens and all four control caps from outside. Verify retention and free return.
3	Fit speaker gasket and speaker, microphone seal and breakout, then LED guide and hooks.
4	Fit B3F-4000 in its pocket and secure the separate clamp at two M2 locations. Fit three B3F-3150 switches into split cages.
5	Seat the PCB in its channels and ledges. Route leads in the open 5.30 mm channel beneath all six tabs.
6	Fit the rear antenna and route coax. Install nonabrasive battery pads and battery with its lead in the relief.
7	Lower the back shell straight on. The integral USB bridge descends behind the connector; stop if closure resists.
8	Fit four enclosure screws alternately. Inspect the seam, component retention, buttons and full USB plug seating.

Interfaces to preserve

Nominal wall 2.20 mm; source structural-rail target 1.20 mm. USB reaction bridge: 0.20 mm clearance behind connector shell and 0.25 mm above signal-pin envelope. Lens: nominal Ø5.4 / Ø5.3 mm retention press fit. These dimensions require first-article confirmation.

Fasteners, gasket materials and harness details are not fully specified by the source. Confirm exact hardware before assembly; do not infer screw lengths from reference images.

What passes on files. What needs a build.

Evidence	Result / limitation
Independent checks	Nine watertight, consistently wound STLs; zero degenerate triangles. Nine 3MF containers pass CRC checks. Source checksum list verified.
Supplied Fusion audit	Reports zero unintended overlaps, 1.29 mm battery-to-PCB plan separation and four passing modeled button motions. These solid/motion tests were not rerun for this publication.
Lens retention	One intentional 0.592018 mm³ overlap in supplied audit. Validate the press fit with the chosen material and printer.
Grille	Source: 121 holes; Ø1.4 / 1.8 / 2.2 mm; 3.2 mm pitch; 1.0 mm minimum web; 27.1% geometric open area. Acoustic performance is unqualified.

Required qualification

Before device printing: Print coupon in intended process; confirm 1.4 / 1.8 / 2.2 mm holes, 1.0 mm web, lens fit, guides and flex ribs.

Before assembly: Confirm four enclosure screws and two M2 clamp locations: thread, length, retention method, engagement and tightening torque.

First article: Verify all four buttons return, actuate before hard stops and retain switches under repeated loading.

First article: Check actual USB-C cable overmould, full seating, insertion force and repeated cycles against the 0.20 mm bridge clearance.

First article: Route real flexible leads and coax through the channel and six tabs; check closure, seam clearance and nonabrasive battery support.

Before functional sign-off: Qualify speaker output, frequency response, buzz, microphone seals, LED optics and antenna performance.

Before release: Qualify material, finish, battery integration, tolerance stack and structural performance on physical samples.

APPENDIX A / FILE AUTHORITY

Use the right file for the job.

Folder	Contents / authority
00_Documents	This handoff, print schedule, hardware references, open items, fit checks and inventories.
01_CAD	Unchanged editable Fusion F3D and neutral STEP assembly from the supplied v12.3 ZIP.
02_Print_Parts	Nine STL / 3MF pairs. Eight installed device parts and one process coupon; millimetres.
03_Component_References	Eight unchanged supplied hardware files. Reference geometry, not a complete procurement BOM or print kit.
04_Artwork	Original supplied brand files retained for provenance. The current grille is defined by v12.3 CAD, not the older orb SVG.
05_Source_Audits	Original README, shop notes, assembly guide, numeric grille audit, Fusion audit and build log.
06_Views	Source audit images plus current v12.3 rendered rotation and exploded views. Exploded offsets are illustrative.
07_Verification	Independent STL checks, source-package integrity and publication verification.
08_Editable_Source	Scripts used to render, package and synchronize the website; input ZIP is supplied separately unchanged.

Original source archive

Walkie_Talkie_NoStack_v12_3_Printable_Halftone_W_Shop_Package.zip

SHA-256: 9013900e9cdf75894223f1e5ef19728d170c84c49065cd07093d9730c0f5b5de

Geometry bytes are preserved. Web meshes are display derivatives with a rigid axis rotation and uniform scale. The source STL front is at negative Z; web previews use positive Z toward the viewer. Do not use web GLB files for manufacturing.

The grille and the source meshes.

Part	Facets	Closed mesh
Back Shell	29036	Yes
Front Action Button	2520	Yes
Front Shell	41908	Yes
Front Switch Clamp	2344	Yes
PTT Button	3404	Yes
Prototype Tolerance Coupon	1964	Yes
Status Lens	2378	Yes
Volume Down Button	3532	Yes
Volume Up Button	3708	Yes

Front-shell cavity boundaries

The front shell has one positive-volume boundary and two small negative-volume closed boundaries (approximately -1.355 mm³ each). They are internal cavity boundaries, not two additional print pieces. Preserve winding and compare any slicer repair against the original CAD.

Grille specification from the supplied numeric audit

32 × Ø1.4 mm + 48 × Ø1.8 mm + 41 × Ø2.2 mm = 121 circular perforations in a 39.2 mm field. The nearest-neighbour pitch is 3.2 mm. Minimum hole-to-hole web is 1.0 mm. Reported open area is 327.26 mm², or 27.1% of the field. The W is formed by size variation; no circular exterior indentation is specified.

Source references

README_v12_3.md; PRINT_SHOP_NOTES_v12_3.md; ASSEMBLY_GUIDE_v12_3.md; USB_C_SUPPORT_NOTE_v12_3.md; GRILLE_NUMERIC_AUDIT_v12_3.txt; FUSION_CAD_AUDIT_v12_3.txt; MESH_VALIDATION_v12_3.txt. All are included unedited in 05_Source_Audits. Numeric fit and motion claims are attributed to those supplied records.