

Concept 8.2

Fine-Grain Elastomer

Alpha | Rapid Product Solutions | Supplier brief

WIDTH (mm)	HEIGHT (mm)	DEPTH (mm)
88	136	30

Modeled size dimensions.

Inspiration photo



CAD assembly / Alpha



Appearance intent; CAD shows the current engineering proposal. Views are not to scale.

CAD front



CAD rear



CAD exploded



02 Quote and materials / 03 Build and inspect / 04 Inputs and delivery

Quote and materials

Alpha | Rapid Product Solutions | Earlier alpha fit-check only. Nominal electronics and missing USB position prevent a finished functional build.

Review manufacturability and quote an unpowered size, fit and access study for this earlier handheld push-to-talk enclosure.

What to quote first

Quote one unpowered fit set of the ten individual custom parts, with structural parts in SLS PA12 and the light pipe separately in clear/tinted SLA. This alpha is for size, fit and access review; do not quote production tooling or a powered demonstration as ready to build.

Materials and processes

First fit set	SLS PA12 for rigid parts; confirm the exact nylon and orientation. Clear/tinted SLA for the separate optical trial. The assembly contains reference hardware and keep-outs; print only the ten named custom parts.
Later appearance stage	Fine-texture soft-touch coating or a separate cast urethane skin needs a corrected design and physical sample first. A true TPE skin is a different process; it is not established by Rapid's urethane service.

Published capability is not acceptance of this specific geometry. Exact grades, fine tolerances, thin-section casting, specialty coatings/cutting and test services need Rapid confirmation. General website tolerances do not replace the finished drawing tolerances.

Build and inspect

Envelope	88 x 136 x 30 mm nominal body. Speaker and battery are assumptions, not approved purchased parts. Keep antenna zones clear during the fit study.
USB and screws	The supplied PCB has no USB-C receptacle position. Retain the removable service blank. The 1.9 mm screw pilots are prototype geometry; select screws and tune pilots before fastening.

Assembly order

1. Identify the ten individual exports; fit grille, controls, separate light pipe and speaker-cup geometry to the front. Use inert hardware surrogates where purchased parts are unconfirmed.
2. Trial the source PCB, battery pocket and service blank without powering. Record clashes, button retention, screw access and cover closure; return marked CAD/photos for the next engineering revision.

Keep separate

Keep this alpha separate from the seven current proposals. Cosmetic finish, flexible skin and connector-specific insert are later stages, not included alpha approvals.

Use inert hardware surrogates when actual parts are unconfirmed. Record fit issues before any powered or finished build.

Inputs and delivery

Rapid is asked to make, finish, inspect and optionally assemble agreed parts using Walkie One-supplied hardware. Walkie One owns electrical design, firmware, battery/charging, RF and acoustic validation. Rapid may quote specialist support separately; these services are not assumed from its website.

Before functional redesign	Walkie One electrical/mechanical	Actual board and USB datum, speaker/mics, battery/protection/lead limits, switches, harness and antenna installation.
Before any finished repeat units	Walkie One with Rapid	Formal BOM, approved process/material schedule, finished fits and retention details. These are not supplied by the alpha package.

Quote and return

Quote one unpowered fit set, preparation, separate optical sample, inspection and shipping. Confirm quantity/date before starting. Finished appearance work is a later option.

Please itemize parts, fixtures/coupons, tooling, finishing, assembly, inspection and shipping; state lead time from receipt of approved inputs. Identify partner-made work, exclusions and tolerances you cannot hold. Quote a feasible alternative with its effect on fit/appearance rather than silently changing the design.

Return identified parts/samples, the material and finish selections, measured critical dimensions, assembly photos and the completed applicable inspection record. List hand fitting, deviations and unresolved items. Leave unperformed tests blank or NOT TESTED. Walkie One approves samples and engineering changes before repeat finished units.

Use these files

This brief controls supplier scope and responsibilities. Individual STEP defines nominal geometry; exports/geometry_report.txt lists the original assumptions. Millimetres throughout. Report conflicts to Walkie One before making affected parts. Assembly STEP includes hardware/keep-outs and must not be printed as one part.

exports/geometry_report.txt and reference_detail/Original_README.md retain the original dimensional assumptions and CAD rebuild instructions.

docs/Rapid_Open_Items.csv records missing inputs. No formal BOM or final material schedule is supplied. Sources and capability limits: docs/Rapid_Capabilities.md; <https://www.rapid-products.com/> (reviewed 06 Sep 2026).

Build files: start here

Read the four-page supplier brief first. The remaining pages consolidate the required engineering detail and drawings; use the PDF bookmarks to jump to an appendix. Original engineering page numbers are retained inside those appendices.

The companion ZIP contains this same PDF. `Parts_and_Process.csv` maps every BOM entry to its exact delivered files. `File_Manifest.csv` maps original paths mentioned in retained drawings to their delivered locations.

01_Parts_to_Print: individual STEP and existing STL for the specified print process. 02_Other_Manufacturing: cast, machined, cut and artwork definitions. 03_Assembly_and_Drawings: assembly references and essential process / inspection records. 04_Required_Fit_Checks: staged coupon and fixture geometry.

STEP is the nominal geometry. STL is a mesh alternative for the same part, not an additional part or quantity. Millimetres throughout; import at 1:1. Quote quantities come from the brief and part schedule. Assembly, hardware, artwork and compliant installed envelopes are not rigid print instructions.

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The original engineering package, source code and historical alternatives remain available under Supporting engineering and archive on the concept page. The supplier brief controls scope; technical values remain unchanged. Resolve any conflict before the affected operation.

Required stages: Quote one unpowered fit set of the ten individual custom parts, with structural parts in SLS PA12 and the light pipe separately in clear/tinted SLA. This alpha is for size, fit and access review; do not quote production tooling or a powered demonstration as ready to build.

For exact tolerances, assembly order and inspection criteria, use the technical appendix and the corresponding records in 03_Assembly_and_Drawings.

Parts and processes

Fabrication parts with individual files are listed below. Parts_and_Process.csv also contains every purchased item, reference, consumable and complete source note. Quantities describe the source assembly; the quote quantity is agreed separately.

Part / quantity	Material / process	Delivered filenames
back_cover / 1	PA12 fit study SLS	back_cover.step back_cover.stl
front_action_button / 1	PA12 fit study SLS	front_action_button.step front_action_button.stl
front_shell / 1	PA12 fit study SLS	front_shell.step front_shell.stl
left_ptt_button / 1	PA12 fit study SLS	left_ptt_button.step left_ptt_button.stl
rgb_lightpipe / 1	Clear/tinted SLA optical sample SLA	rgb_lightpipe.step rgb_lightpipe.stl
right_aux_button / 1	PA12 fit study SLS	right_aux_button.step right_aux_button.stl
right_power_button / 1	PA12 fit study SLS	right_power_button.step right_power_button.stl
service_insert_blank / 1	PA12 fit study SLS	service_insert_blank.step service_insert_blank.stl
speaker_grille / 1	PA12 fit study SLS	speaker_grille.step speaker_grille.stl
speaker_rear_cup / 1	PA12 fit study SLS	speaker_rear_cup.step speaker_rear_cup.stl