

Concept 21.2

Camera Grip

R6 Astra | Rapid Product Solutions | Supplier brief

WIDTH (mm)	HEIGHT (mm)	DEPTH (mm)
90.4	152.4	28.8

Grip dimensions. Controls extend beyond the grip width shown. Maximum finished depth: 30 mm.

Inspiration photo



CAD assembly / R6 Astra



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

CAD front



CAD rear



CAD exploded



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Quote and materials

R6 Astra | Rapid Product Solutions | Soft separate grips, metal W grille and a two-switch long PTT paddle; electronics coverage is incomplete.

Please review manufacturability and quote a staged enclosure prototype for Walkie One, a handheld push-to-talk voice device. We need to evaluate grip, button operation, speaker/microphone openings, status light, charging access and serviceability.

What to quote first

One unpowered fit set and C01 PTT/USB, C02 J3 wall, C03 grille, C04 grip/bond, C05 rear marking and C06 insert samples. Use an inert cell surrogate until foam pressure/retention is resolved.

Materials and processes

Structure	SLS PA12 is the quote baseline. Rapid advertises SLS; MJF is not established by the reviewed pages. Confirm powder grade and secondary machining of critical seats.
Separate grips	1.20 mm cast elastomer skins. ReoFlex 50 PU is the current trial candidate; 55 Shore A is design intent with 45-60 A sample comparison. Ask Rapid for a suitable formulation/sample. Its published 40 +/-5 A PU is not an automatic match. Silicone requires separate bond qualification.
Grille and assembly	0.80 mm 304 stainless with 721 preserved holes. Fine laser and Cerakote H-146 are proposed, not confirmed Rapid services; ask for direct/partner routing. Nominal bond film 0.13 mm; real porous backing remains a coupon option.

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

Depth	Grip 90.4 x 152.4 x 28.8 mm; controls reach 93.2 mm width. Measure all finished depth extrema against 30.00 mm maximum. Calculated 29.54 mm allocation is not a measured result.
PTT	Measure both switch rest gaps independently: 0.05 +/-0.03 mm initial target. 0.60 +/-0.03 mm stop travel is not approved overtravel. Test top/center/bottom and edges; pad force/compression must establish reliable closure and release.
Grille and inserts	Finished grille reveal 0.22-0.60 mm all around; recess 0.05-0.64 mm. Audit all 14 inserts and qualify the vulnerable side floors using C06; no assumed heat-setting temperature or final torque.
Local strength and cell	C01/C02 must qualify USB/PTT web and J3 wall with real plugs. Foam compression in CAD does not establish safe cell pressure or expansion space. Close cover by hand before tightening.

Assembly order

1. Inspect reinforced chassis and install the 14 qualified inserts before hardware/skins. Fit caps, pads and EE-approved FR4 switch carriers. Log each PTT switch separately during calibration.
2. Install optics, speaker/gasket and verified mic. Fit a reconciled populated board and inert cell surrogate first; provide real connector/harness service loops before committing assembly.
3. After fit approval, bond each grip to its own half and fit the grille. Keep seam and screws accessible. Demonstrate supported rear opening, charging cable clearance and repeat end presses with cable fitted.

Keep separate

Assumed modem bodies, MJF, silicone grips and optional acoustic backing are not silently adopted. Confirm each change and recheck affected interfaces before using it.

Use the supplied artwork at its specified size and position. Approve physical color, texture and marking samples together; screen colors are visual intent. Keep finish and adhesive off guides, stops, acoustic openings, optical faces and service seams unless the drawing explicitly calls for them. Record any proposed substitution before using it.

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 powered assembly	Walkie One electrical	Board maker/part/revision, complete populated CAD including modem, both-face heights, mated plugs, pinouts and harness. The supplied assembly does not verify all installed electronics.
Before control/battery acceptance	Walkie One mechanical/electrical	Pad force curves and allowed switch loading; two-switch PTT OR behavior on verified firmware; cell pressure, expansion and foam load balance.
Before finish acceptance	Rapid proposes; Walkie One approves	Grip hardness/chemistry and bond samples, grille cutting/coating and insert process; optional acoustic backing needs controlled integration if selected.

Quote and return

Quote each concept separately: one unpowered fit set and the priority samples on page 2, followed by one finished appearance article after sample approval. This is a comparison basis, not an order for all concepts. Show any minimum quantity; confirm the selected concept, quantity, delivery date and ship-to with Walkie One before work starts.

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. The current per-part STEP, BOM and finished-interface drawings retain the technical requirements. Stop and return a marked question if they disagree. Millimetres throughout. Assembly STEP is a reference, not a single part to print. Purchased hardware, foam, cloth and adhesive solids are not rigid-print instructions.

BOM: docs/BOM_R6.csv

Records: docs/INSPECTION_RECORD.csv; docs/PTT_CALIBRATION_RECORD.csv; docs/Harness_Register.csv; docs/Rapid_Open_Items.csv.

Original detail pages 5-22 and D01-D05 contain electronics gaps, PTT setup, inserts, grip/markings, assembly and depth requirements.

Supplier capabilities checked 06 Sep 2026. Source links and confirmation limits: docs/Rapid_Capabilities.md.
<https://www.rapid-products.com/>