PRISM

BLUETOOTH - AIRPLAY - TOUCHSCREEN

Elevate Your Music

Wave a hand to pause, skip, or turn it up. A hand-built wooden boombox with a touchscreen and gesture tracking



110 Db	8.8 hrs	2 x 3"
MAX VOLUME	**BATTERY LIFE**	**SPEAKERS**
measured at 1m with Decibel X	at normal volume, 4 hrs at max	20W per channel amp

BELLS & WHISTLES

- Interactive lyrics, synced with the song, album, art, on a 7-inch touchscreen
- Hand gestures to control song playback
- Bluetooth for any phone, AirPlay 2 for iPhone and Mac
- Five screen themes, switch any time in Settings
- Rechargeable battery with an on/off switch
- Laser-cut wood case with hand-fitted finger joints

SOUND

- Two 3-inch full-range drivers, each in its own sealed 2.2-liter chamber, powered by a 20 W per channel class-D amp.
- Vocals and guitars come through clear. Because each speaker sits in its own sealed box, the bass is punchy and stays clean at room-filling volume.

Made For: students and music lovers who want a speaker for their room or desk that takes hand signals, shows the lyrics, and doesn't look like anyone else's.

Built By Jack Pickett

$239.99

PRISM: the numbers

PARTS AND MATERIALS

Part	I paid	Bulk
Raspberry Pi 4 Model B	$55.00	$27.50
7-inch touchscreen	$40.00	$20.00
Logitech C920s webcam	$70.00	$35.00
Adafruit MAX9744 amplifier	$19.95	$9.98
2 speakers (3-inch, 4 Ω, 20 W)	$22.00	$11.00
2 × 12 V 2600 mAh battery packs	$40.00	$20.00
12 V to 5 V converter	$2.00	$1.00
microSD card	$10.00	$5.00
1/4-inch plywood	$15.00	$7.50
Switch, jack, wire, fuse, screws, glue	$5.00	$2.50
Total	**$278.95**	**$139.48**

COST TO BUILD ONE, AND PRICE

Parts @ bulk price	$139.48
Labor: 0.5 h x 22.00/h	$11.00
Shipping	$10.00
Tariffs	$0.00
Cost to build one	**$160.48**
Profit	$79.51
Price	**$239.99**

HOW IT COMPARES

Product	Price	Battery	Bluetooth/ Airplay	Screen	Gestures	Max Loudness
PRISM	**$239**	**8.8h**	**BT+ AirPlay**	**Yes**	**Yes**	**110 dB**
JBL Boombox 3	$499	24h	BT	No	No	97.7 dB
Bose SoundLink Max	$399	20h	BT	No	No	95.7 dB
Sonos Move 2	$449	24h	BT + AirPlay	No	No	93.9 dB

BATTERY: THE MATH

Battery capacity	2 × 2600 mAh = 5.2 Ah
Energy	5.2 Ah × 12 V = 62.4 Wh
Usable (85%)	4.42 Ah
Needed for 8 h	0.5 A × 8 h = 4 Ah
Normal volume	4.42 Ah ÷ 0.5 A = 8.8 h
Max volume	4.42 Ah ÷ 1.1 A = 4 h
Switched off	0 A: the switch disconnects it
Plays for	**8.8 hours at normal volume**

BATTERY: MY MEASUREMENTS

State	Volts	Amps	Watts
On, not playing	12.6	0.4	5.04
Playing, normal volume	12.6	0.5	6.3
Playing, max volume	12.6	1.1	13.86
Switched off`	12.6	0	0