Boondock Echo "Remote Radio Reporting"	PART: **Boondock With Sidekick**	REV: *A*	TITLE: *Boondock With Sidekick*

CHANGE HISTORY

DATE	REV	DESCRIPTION OF CHANGE
12/28/2023	A.01	Initial Release
01/04/2024	A.02	Updates to assembly documentation
01/08/2024	A.03	Updates to assembly documentation, remove audio cable to separate document
05/02/2024	A.04	Updated to sidekick v3 (BOM), updated assembly instructions, updated 3D print files
03/03/2025	A.05	Changed back to full assembly

FILES ASSOCIATED WITH THIS DRAWING

FILE NAME	CONTENTS
PCBA, Sidekick v3	Assembled PCB Zip File
Boondock With Sidekick BOM	Excel BOM
Boondock Echo Printed Files	STLs for printing

ASSEMBLY SECTION REVISION HISTORY LIST

Assembly	BOM	Assembly Instructions
A.01	A.01	A.01
A.02	A.01	A.02
A.03	A.02	A.03
A.04	A.03	A.04
A.05	A.04	A.05

Electrical Assembly

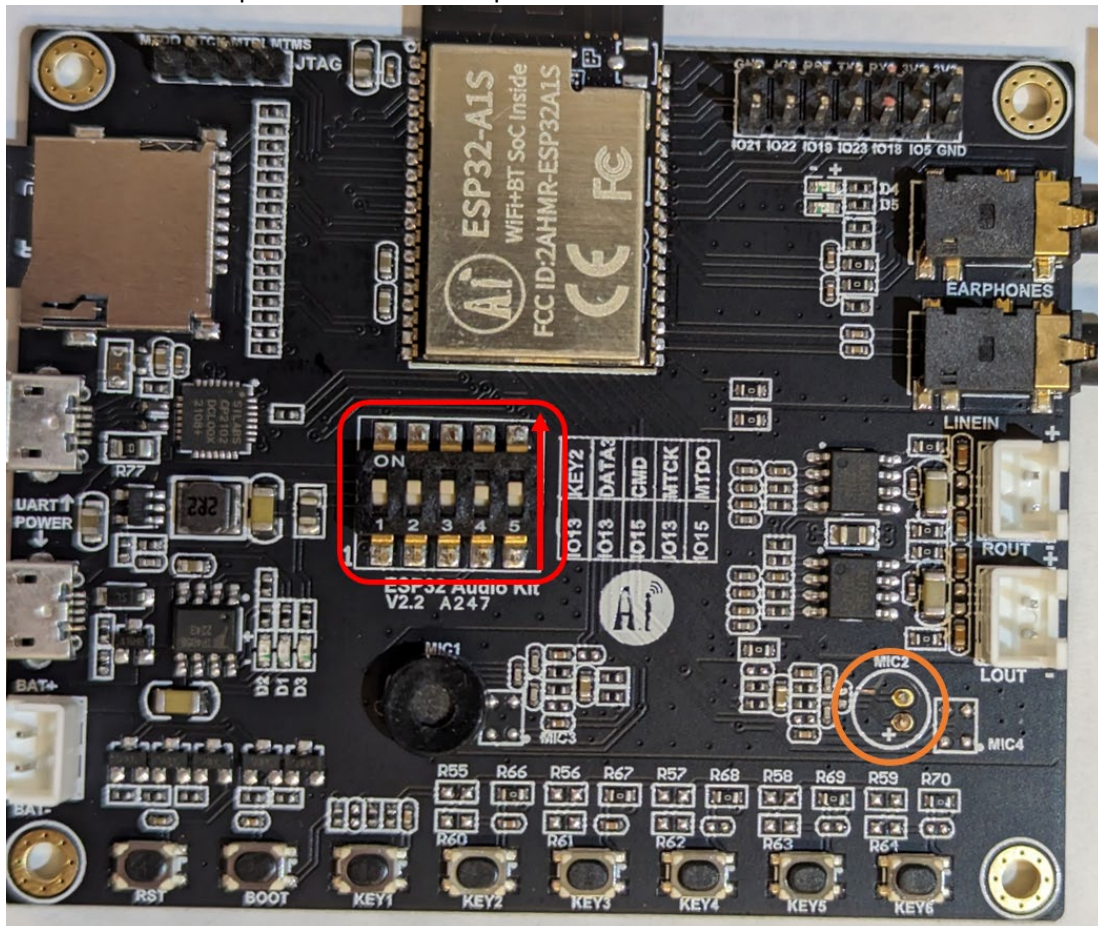| Item	Description	QTY	Notes	Link1	Link2	Subs Allowed?
1	PCBA, Sidekick v3	1	Per customer gerber zip	NA	NA	No
2	Audio Kit	1	Please use Jessinie store	https://www.amazon.com/JESSINIE-Bluetooth-ESP32-A1S-Development-Dual-core/dp/B0B5XKG5NK	https://www.aliexpress.us/item/3256801407357108.html	No
3	3W 4 Ohm Speaker	1		https://www.amazon.com/dp/B08JCHK7GR	https://www.aliexpress.us/item/3256804834669523.html?	Yes if mech fit
4	Ribbon Cable, 14 position 1.27mm pitch	72mm	14 Position 1.27mm pitch for 2.54mm pitch IDC	https://www.digikey.com/en/products/detail/3m/C3365-14-100/1107870		Yes
5	Ribbon Connector, IDC 2x7 2.54 pitch	2	IDC Header 2x7 (14pos), 2.54mm pitch	https://www.digikey.com/en/products/detail/on-shore-technology-inc/101-146/2794213		Yes

Housing Items

Item	Description	QTY	Notes	Link1	Link2	Subs Allowed?
1	Beveled_Top	1	BE_CASE_RC02_Beveled_Top-White Plastic Resin	NA	NA	No
2	Beveled_Bottom	1	BE_CASE_RC02_Beveled_Bottom-White Plastic Resin	NA	NA	No
3	ParametricButtons	1	BE_CASE_RC02_ParametricButtons-Black Plastic Resin	NA	NA	No
4	SlideSwitch	1	BE_CASE_RC02_SlideSwitch-Black Plastic Resin	NA	NA	No
5	Front Sticker	1	sfmd_Boondock labels_RC2-polyster label	NA	NA	No
7	M2.5x6 Self Tap Screws	6	Speaker and PCB			Yes
8	M3x12 Self Tap Screws	4	Lid			Yes

Boondock Echo With Sidekick BOM   A.04   3/3/2025

	PART: **Boondock With Sidekick**	REV: **A**	TITLE: *Boondock With Sidekick Assembly Instructions*

Boondock Echo
"Remote Radio Reporting"

CHANGE HISTORY

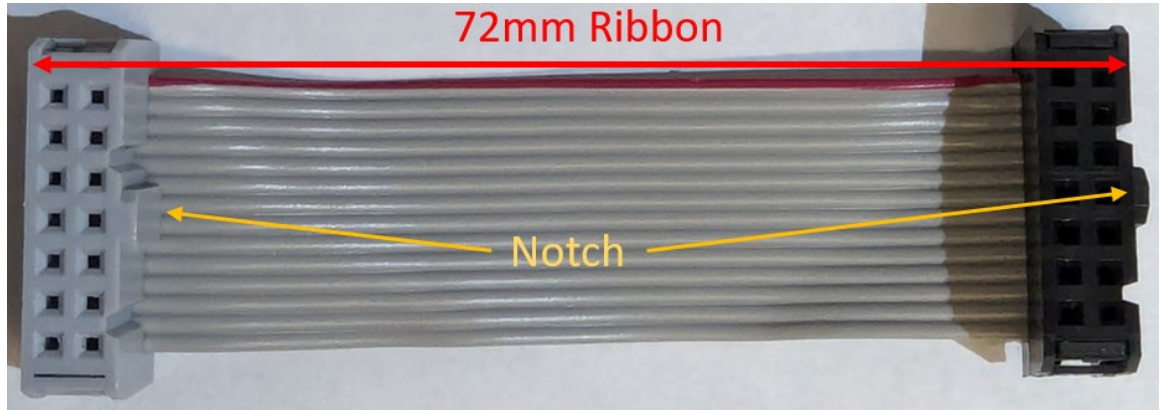| DATE	REV	DESCRIPTION OF CHANGE
12/28/23	A.01	Initial Release
01/04/24	A.02	Updated notes per meeting on 12/29
01/08/24	A.03	Removed TRRS audio cable, split into own doc, a few other wording fixes from meeting on 1/5
05/02/24	A.04	Update to sidekick v3, changed poweron test instructions
03/03/25	A.05	Updated for full assembly (not just sidekick)

Assembly Instructions
1. Prepare Audiokit board
    a. Remove secondary Mic (MIC2)
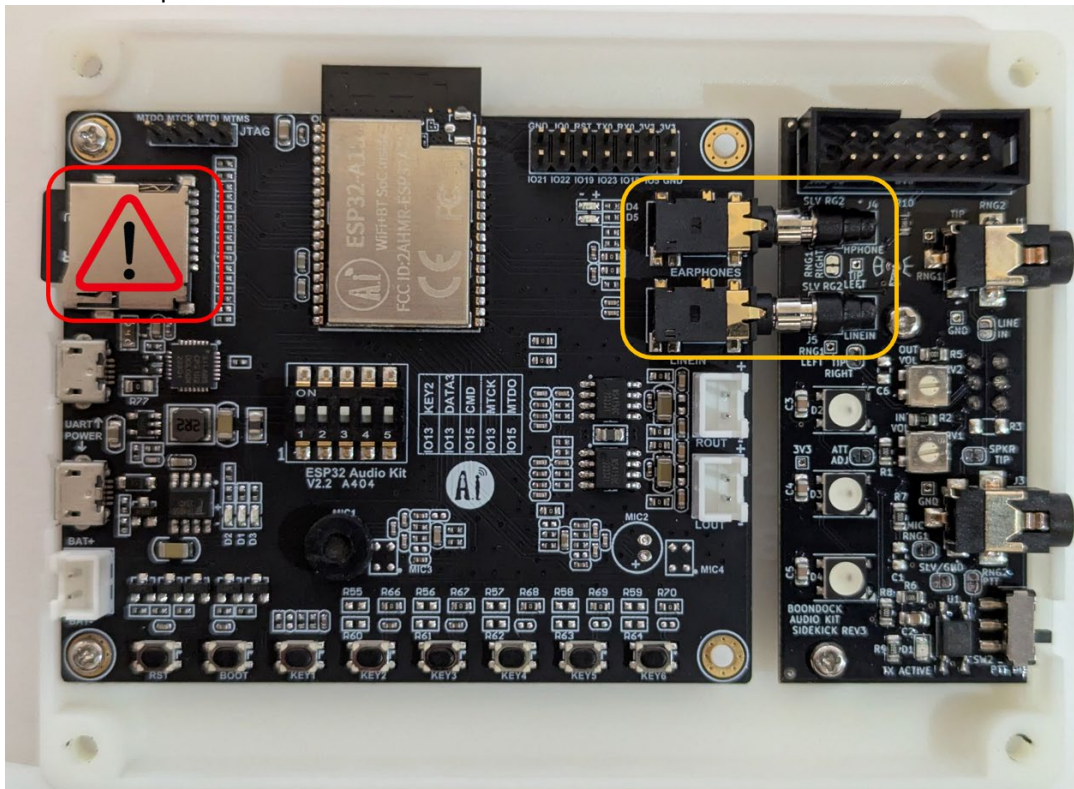   b. Set dip switches to the ON position

   c. Load test firmware via the micro USB header labelled UART and the serial loader program provided.

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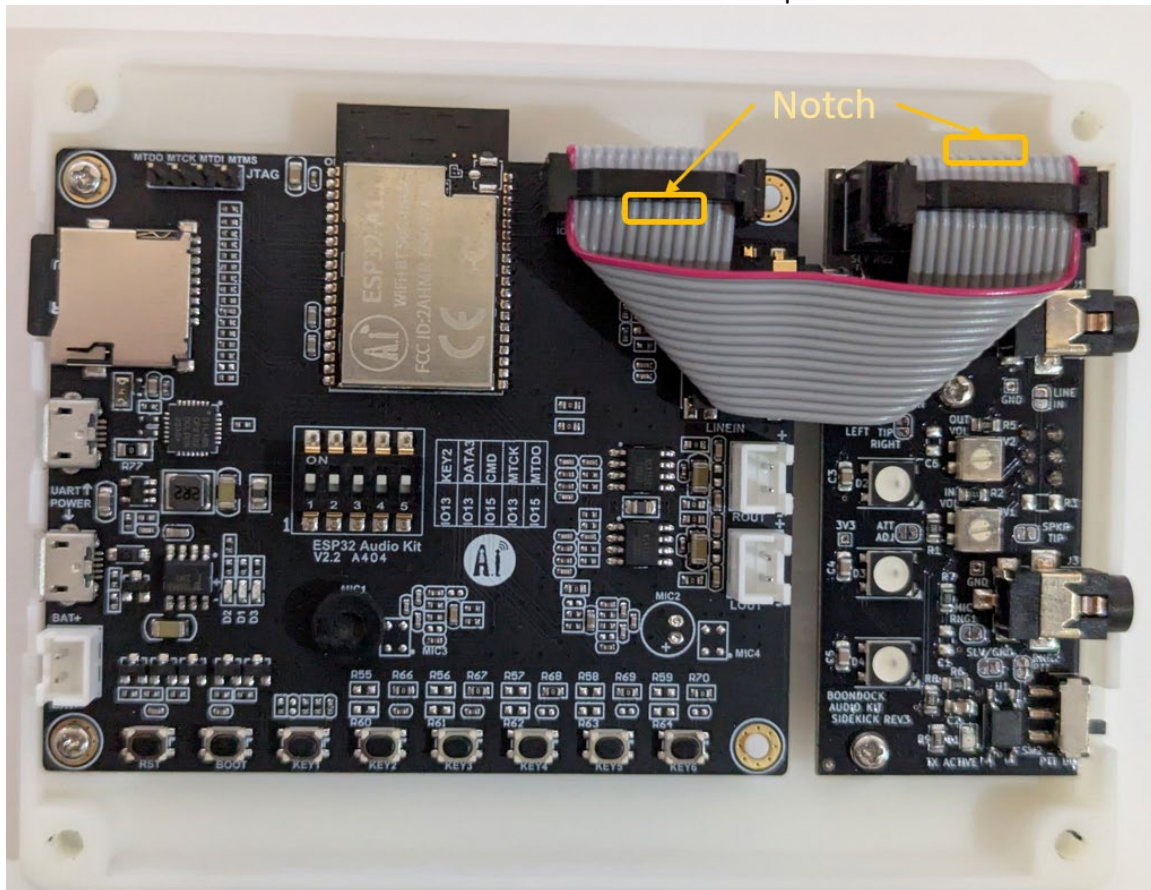
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2. Create the Audiokit to Sidekick ribbon cable which is a standard 7x2 2.54mm spaced IDC cable.
   a. Cut ribbon to 72mm length
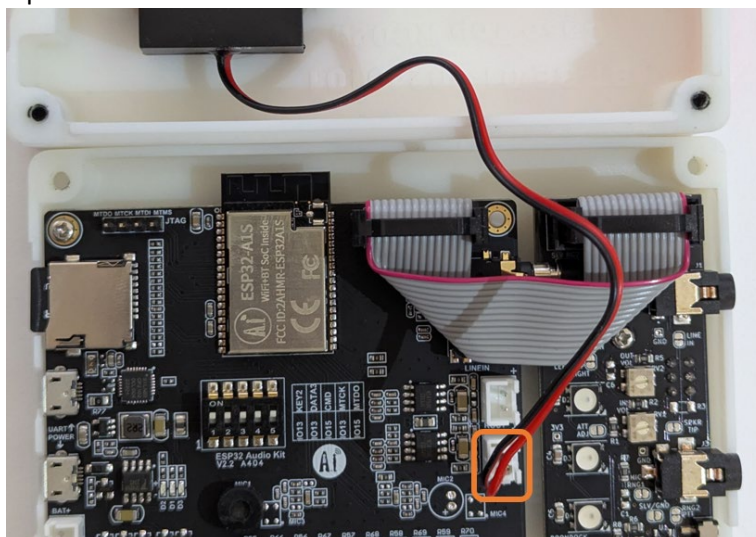   b. Crimp 7x2 IDC headers on both ends, note the notch location on the picture below

3. Connect Sidekick to Audiokit
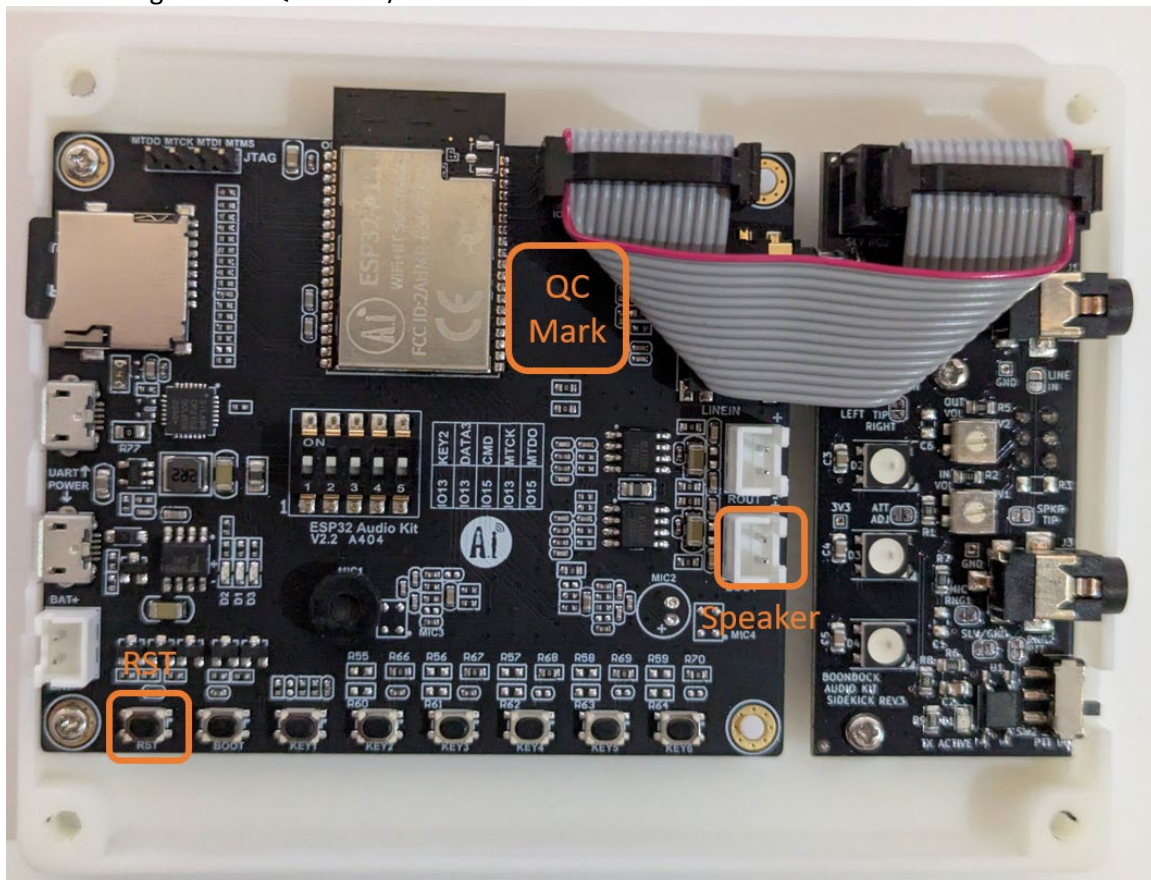   a. Carefully push in both audio connectors until they are seated, do not apply pressure to the micro SD card slot

b. Fold and attach the ribbon cable as shown in the picture below

4. Connect Speaker to LOUT Channel on the Audiokit

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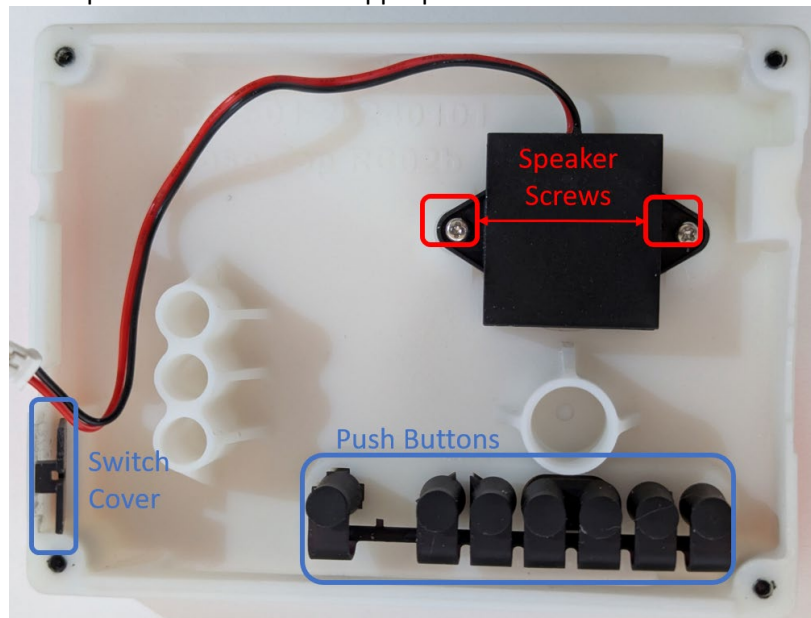|	PART: **Boondock With Sidekick**	REV: ***A***	TITLE: ***Boondock With Sidekick Assembly Instructions***

Boondock Echo
"Remote Radio Reporting"

5. Program and power on testing
   a. Connect device via USB on UART
   b. You will need to use the provided wireless router connected to ethernet for the device to connect to and update its firmware
   c. Load the First.BIN firmware using the provided tool
   d. Device will start flashing the LEDs red in sequence as it downloads the latest files
   e. Once downloading has finished and self tests are complete the bottom light will remain green (and middle light may flicker) and the device will say "The Boondock Echo Team wants to thank you for choosing Boondock Echo"
   f. Disconnect speaker so it can be mounted to the top shell
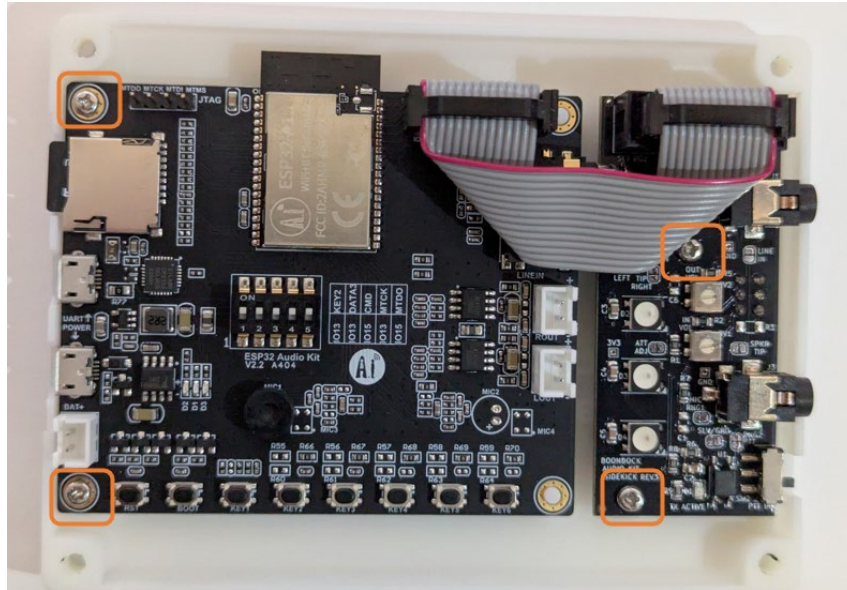   g. Place QC sticker/mark on the Audiokit board

6. Apply label to the top shell
   a. Use the label fixture provided to fit into the button holes
   b. Peel label and apply to top shell, folding over the edges
   c. Smooth out any large bubbles

7. Assemble electronics into housing
   a. Mount Speaker to Top shell with 2x M2.5x6mm self tap screws
   b. Add switch cover with the opening switch opening facing towards the bottom shell
   c. Add push buttons into the appropriate holes

   d. Mount electrical subassembly to bottom shell using 4x M2.5x6mm self tap screws

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e. Connect Speaker to LOUT Channel on the Audiokit
f. Carefully close both shell halves, making sure the buttons and switch cover are captured correctly
g. Add 4x M3x12mm self tap screws to secure the top and bottom shells
h. Using a screwdriver or small pick slide the Attenuation bypass switch to the down position

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