




## DINAH – BRIAN(SM) – SHARI Comparison Matrix

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FEATURE	DINAH	BRIAM(SM)	SHARI
<b>Photo</b>			
<b>Radio</b>	External VHF or UHF ham transceiver with 6 pin DIN interface. ( Note 1).	Circuit board from UHF Baofeng BF888S (newer half-size version). Uses RDA1846 single IC for radio	niceRF SA818 UHF radio module. Uses RDA1846 single IC for radio.
<b>Ham Band</b>	Depends on external transceiver	70 cm (UHF)	70 cm (UHF)
<b>Radio cost</b>	Not applicable	BF888S is \$10-13 from Amazon	Included with kit
<b>PC Board Technology</b>	Single PC board using single sided surface mount and through-hole parts.	Single PC board using single sided surface mount and through-hole parts.	Single PC board using single sided surface mount and through-hole parts.
<b>PC board assembly required</b>	PC board supplied with all surface mount parts installed. Kit builder installs 4 through-hole parts.	PC board supplied with all surface mount parts installed. Kit builder installs 8 through-hole parts. Kit builder also modifies, mounts and wires the BF888S board to the BRIAN motherboard.	PC board supplied with all surface mount parts (except radio module) installed. Kit builder installs 9 through-hole parts and the SA818 radio module (castellated holes soldered to very large pads on the PCB)
<b>PC board Mounting</b>	PC board slides into two slots in the enclosure.	PC board slides into two slots in the enclosure.	PC board slides into two slots in the enclosure.
<b>RF Power Output</b>	Depends on external transceiver	200-500 mW (Note 2).	200-400 mW
<b>Harmonic and spurious output levels</b>	Depends on external transceiver	As provided by Baofeng BF888S (greater than -43 dBc)	Low pass filter incorporated into SHARI design (greater than -43 dBc).
<b>Allstar USB audio interface</b>	CMedia CM119B	CMedia CM119B	CMedia CM119B
<b>Raspberry Pi Interface</b>	USB Type A male connector on DINAH plugs directly into USB Type A female on Raspberry Pi (2,3 or 4). A USB extension cable can be used if desired.	A short USB Type A male to Type B male cable (provided with the kit) is used to connect BRIAN to a Raspberry Pi (2,3 or 4).	2 USB Type A male connectors plug directly into 2 USB Type A female connectors on Raspberry Pi (2 or 3). A USB extension cable can be used if desired. A USB extension cable must be used with the Pi4 or WiFi must be used as the RJ45 network port is covered when plugged in directly to the Pi4

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<b>LED indicators</b>	Blinking green LED at USB end indicates USB connection status. Yellow and red LEDs at DIN connector end indicate SQUELCH and PTT status.	Blinking green LED indicates USB connection status. Two green LEDs show BRIAN and radio power status. Yellow and red LEDs indicate SQUELCH and PTT status.	Blinking green LED indicates USB connection status. Green LED shows BRIAN power status. Yellow and red LEDs indicate SQUELCH and PTT status.
<b>Input DC Power</b>	Supplied by the Raspberry Pi USB. Less than 100 mA	Supplied by the Raspberry Pi USB. Less than 500 mA	Supplied by the Raspberry Pi USB. Less than 500 mA
<b>Enclosure Type</b>	Two piece aluminum extrusion with 3D printed plastic end caps. Aluminum metal end caps also provided with kit for builder to modify if desired.	Two piece aluminum extrusion with 3D printed end caps. Aluminum metal end caps also provided with kit for builder to modify if desired.	Two piece aluminum extrusion with 3D printed plastic end caps. Aluminum metal end caps also provided with kit for the builder to modify if desired.
<b>Enclosure size</b>	50 x 25 x 25 mm (2" x 1" x 1")	100 x 76 x 35 mm (4" x 3" x 1 3/8")	80 x 50 x 20 mm (3.15" x 2" x 0.8")
<b>Frequency Selection</b>	As provided by external transceiver	16 position rotary switch (no audio feedback)	No external frequency selection. Single frequency programmed from Raspberry Pi
<b>Frequency programming</b>	As provided by external transceiver	16 channels programmed using Chirp program, PC and adapter cable. Enclosure must be opened to plug in Baofeng programming cable.	Single frequency programmed using "818-prog" running on the Raspberry Pi. The 2 <sup>nd</sup> USB port on SHARI is used for programming. Uses CH340G USB to serial converter.
<b>Construction difficulty</b>	Simple - Solder in 4 through-hole parts and screw on the end caps	Moderate – Solder in 8 through-hole parts. Disassemble Baofeng, remove and modify board/connect jumper wires. Mount Baofeng board to motherboard and connect 5 wires. Screw on the end caps	Simple – Solder in 9 through-hole parts and radio module. Screw on the end caps
<b>Cost (kit) + shipping via USPS Priority Mail</b>	\$35 + \$8 shipping	\$50 + \$8 Shipping (Baofeng BF888S <b>not</b> included)	\$55 + 8 shipping (includes SA818 radio module)

**Note 1** – DINAH will also work with radios that do not use a 6 pin DIN connector for the "Packet" interface. For instance:

- Yaesu FTM400/FTM100 with the CT-175 6 pin to 10 pin DIN adapter cable.
- Alinco DR135/DR/235/DR435 with a 6 pin DIN to DB-9 adapter cable.

**Note 2** – BF888S set to low power.