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Here is an **organized and detailed pinout description** for the **SA818S** embedded walkie-talkie module,

based on your provided table:

SA818S Pin Description (18 Pins)

Pin No.	Pin Name	Function	Detailed Description
1	Audio ON	Output	Controls external audio amplifier. Outputs low level when module is active (turns amplifier ON) and high level when idle (amplifier OFF).
2	NC	—	Not connected (internally unconnected).
3	AF_OUT	Output	Audio output pin. Connect to speaker or amplifier input.
4	NC	—	Not connected.
5	PTT	Input	Push-to-Talk control: <ul style="list-style-type: none">• 0 (Low) = Transmit mode (TX)• 1 (High) = Receive mode (RX)
6	PD	Input	Power Down control: <ul style="list-style-type: none">• 0 = Sleep mode• 1 = Normal operation
7	H/L	Input	High/Low output power control: <ul style="list-style-type: none">• Leave open = High Power (default)• Pull Low = Low Power (e.g., PMR446 legal 500 mW) <small>⚠ Do NOT connect to VDD or high logic levels.</small>
8	VBAT	Power Input	Connect to positive power supply (e.g., 3.7–4.2 V Li-ion battery).
9	GND	Ground	Connect to ground.
10	GND	Ground	Additional ground pin.
11	NC	—	Not connected.
12	ANT	RF I/O	Connect a 50-ohm antenna (e.g., whip, SMA). Critical for operation.
13, 14, 15	NC	—	Not connected.
16	RXD	Input	Serial receive pin (connect to external TX). Note: Before entering sleep mode, pull this LOW to avoid current leakage or wakeup issues.
17	TXD	Output	Serial transmit pin (connect to external RX).
18	MIC_IN	Input	Microphone or line-in input. Connect electret mic or audio source.

⚠ Important Usage Notes

- **PTT** (Pin 5): Controls transmit/receive state. Keep it LOW for TX, HIGH for RX. For fixed transmitter/receiver modules, tie this pin to GND (TX) or VCC (RX).
 - **H/L** (Pin 7): Pull LOW for **low-power** transmission (complies with PMR446 500 mW limit).
 - **PD** (Pin 6): Pull HIGH for normal use. Pull LOW to power down the module.
 - **RXD (Pin 16)**: Must be pulled LOW before sleep mode to avoid issues on wake-up.
 - **Audio ON (Pin 1)**: Use to switch an external audio amplifier depending on module activity.
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