

Electrician Wiring Guide

Hot Spring® Highlife® Collection

East Texas Hot Tub Company

Tyler & Longview, Texas

(903) 561-7727 • easttexashottub.com

Models covered: Grandee, Envoy, Vanguard, Aria, Sovereign, Jetsetter LX • **Prodigy & Jetsetter** (when converted to 230V)

Important: All Highlife models (except Prodigy & Jetsetter at 115V) require a **permanently connected 230V, 50-amp** dedicated circuit. Hot Spring uses a unique **dual-GFCI-breaker subpanel** that is included with your spa. Do not discard or replace it.

1. Main Electrical Panel

Specification	Requirement
Voltage	230 VAC , single phase, 60 Hz
Main breaker	50 amp, 2-pole, NON-GFCI
Circuit type	Dedicated — no other loads on this circuit

2. Wire Sizes — Main Panel to Subpanel

For wire runs **under 100 feet**. Longer runs require larger gauge per NEC voltage drop tables (3% max drop).

Wire	Gauge (AWG)	Color
Line 1 (L1)	#8 AWG copper	Blue
Line 2 (L2)	#8 AWG copper	Red
Neutral	#8 AWG copper	White
Ground	#10 AWG copper	Green

ALL WIRING MUST BE COPPER. Aluminum wire is not permitted. Use THHN stranded copper conductors.

3. Subpanel Placement

Requirement	Detail
Minimum distance from spa	5 feet from water's edge (NEC 680-38 to 41-A-3)
Maximum distance from spa	50 feet
Line of sight	Must be visible from the spa — required by code
Weather protection	Subpanel is raintight when installed with door closed

4. Subpanel — Dual GFCI Breaker Configuration

The subpanel **included with your Highlife spa** contains **two separate GFCI breakers**. This is unique to Hot Spring — most other brands use a single breaker. **Do not substitute a standard single-breaker panel.**

Grandee, Envoy, Vanguard & Aria

Breaker	Wire	Gauge	Color	Connects to
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30A GFCI (Heater)	L1	#10 AWG	Blue	TB-1 Terminal 1
	L2	#10 AWG	Red	TB-1 Terminal 3
	Neutral	#10 AWG	White	Load neutral on 30A breaker
20A GFCI (Pump/Controls)	L1	#12 AWG	Blue	TB-1 Terminal 2
	L2	#12 AWG	Red	TB-1 Terminal 4
Ground	Ground	#10 AWG	Green	GRD terminal

Sovereign & Jetsetter LX (and Prodigy/Jetsetter converted to 230V)

Breaker	Wire	Gauge	Color	Connects to
30A GFCI (Heater)	L1	#10 AWG	Blue	TB-1 Terminal 1
	L2	#10 AWG	Red	TB-1 Terminal 3
20A GFCI (Pump/Controls)	L1	#12 AWG	Blue	TB-1 Terminal 2
	L2	#12 AWG	Red	TB-1 Terminal 4
	Neutral	#12 AWG	White	Load neutral on 20A breaker
Ground	Ground	#10 AWG	Green	GRD terminal

⚠ CRITICAL WARNINGS

- The **white neutral wire** MUST connect to the **load neutral terminal on the GFCI breaker** — NOT the neutral bus bar in the subpanel.
- **Connecting a hot wire to the neutral terminal will cause IRREVERSIBLE DAMAGE** to the IQ 2020 control box. Terminal positions vary by GFCI breaker manufacturer — verify before connecting.
- Do not remove or bypass GFCI breakers — doing so **voids the warranty** and creates an unsafe installation.
- **Fill the spa with water BEFORE turning on power.** Running pumps dry will damage equipment.

5. Control Box (IQ 2020) Connections

The IQ 2020 control box is inside the spa's equipment compartment. Access via the **3/4" threaded opening** on the right or left side of the spa. Use **3/4" liquid-tight flex conduit** to connect supply conduit to the control box.

Terminal Block (TB-1) — Lower Left Corner of Control Box

Terminals use **cage-clamp style connectors** — push screwdriver to open, insert wire, release. Strip insulation back **1/2 inch**. Entire stripped end must be inside the terminal.

Terminal	Connection	From
1	#10 AWG Blue (L1)	30A GFCI breaker
2	#12 AWG Blue (L1)	20A GFCI breaker
3	#10 AWG Red (L2)	30A GFCI breaker
4	#12 AWG Red (L2)	20A GFCI breaker
5	#10 or #12 AWG White (Neutral)*	GFCI breaker load neutral
GRD	#10 AWG Green	System ground

*Grandee/Envoy/Vanguard/Aria: #10 AWG neutral from 30A breaker. Sovereign/Jetsetter LX/Prodigy/Jetsetter: #12 AWG neutral from 20A breaker.

6. Bonding Requirements (NEC Article 680)

- A minimum **#8 AWG solid copper bonding conductor** must connect the spa's bonding terminal to all metal within 5 feet of the spa (metal ladders, water pipes, metal equipment, metal conduit, reinforced concrete rebar).
- The bonding terminal (pressure wire connector) is located on the outside of the IQ 2020 control box.
- No electrical appliances (lights, TVs, radios) within 5 feet of the spa.
- A **120V receptacle** is required within 10–20 feet of the spa (but not closer than 5 feet).
- Overhead electrical lines must maintain **22.5 feet minimum clearance** above the water.

7. Prodigy & Jetsetter — 115V Option

These two models ship as 115V plug-in. If the customer chooses to keep 115V operation:

Specification	Requirement
Circuit	Dedicated 20 amp, 115V, GFCI-protected
Wire	#12 AWG copper (including ground)
Outlet	20 amp single receptacle with outdoor-rated weatherproof cover
Outlet distance	5–10 feet from spa water's edge (NEC 680-6a(1))
Power cord	~15 feet included (UL maximum) — never use an extension cord
Limitation	Heater (1,500W) and jet pump cannot run simultaneously

To convert Prodigy/Jetsetter to 230V, a **subpanel with dual GFCI breakers** must be purchased from East Texas Hot Tub. Conversion requires an authorized Hot Spring service tech AND a licensed electrician.

8. GFCI Testing Procedure

1. Press the **TEST** button on each GFCI breaker — observe it click to OFF.
2. Wait **30 seconds**.
3. Push the breaker switch fully to the **OFF** position.
4. Push the breaker switch to **ON**.
5. If the spa's power indicator blinks after reset, repeat the test (the 30-second wait is essential).

9. NEC Code References

Code	Applies To
NEC Article 680	Swimming pools, spas, and similar installations (general)
NEC 680-38 to 41-A-3	Subpanel/disconnect distance from spa (min 5 feet)
NEC 680-6a(1)	Receptacle placement for 115V models
NEC 680-41a	Receptacle distance requirements
NEC 250-122	Ground conductor sizing table (for long runs)

10. Permit & Inspection

Most Texas cities and counties require an electrical permit for a new 230V dedicated circuit. Check with your local building department. The installation must comply with the National Electrical Code and all applicable local codes.

Questions? Call East Texas Hot Tub at **(903) 561-7727** or email tuckerg@ilovemyspa.com. We can recommend licensed electricians in the Tyler and Longview area.

This guide is provided as a reference for licensed electricians. Always refer to the spa's owner's manual and the National Electrical Code for complete requirements.

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