

## DC TIG Setup

Steel Alloys  
Stainless Steels  
Nickel Alloys  
Copper Alloys  
Titanium

Feature Selection	Recommended Setting	Notes
<b>POLARITY</b>	DC	Automatically sets output to DCEN
<b>PROCESS</b>	TIG HF Impulse	Standard setup for high-frequency (HF) starts
<b>OUTPUT</b>	RMT STD	Standard setting for remote foot control
<b>PULSER*</b>	OFF	Advanced control — see <i>Pulsed TIG</i> section
<b>SEQUENCER*</b>	N/A	Not used in RMT STD. Select RMT 2T Hold output to enable internal weld sequence control.
<b>GAS/DIG</b>	PREFLOW** : 0.2 sec	Provides gas shielding before the arc start
	POSTFLOW: AUTO	Automatically adjusts postflow time for maximum weld amps
<b>AC WAVESHAPE</b>	DIG: N/A	STICK welding function — NOT used for TIG
	N/A	AC TIG function — NOT used in DC

### Tungsten Selection

See *Tungsten Selection and Prep* section.

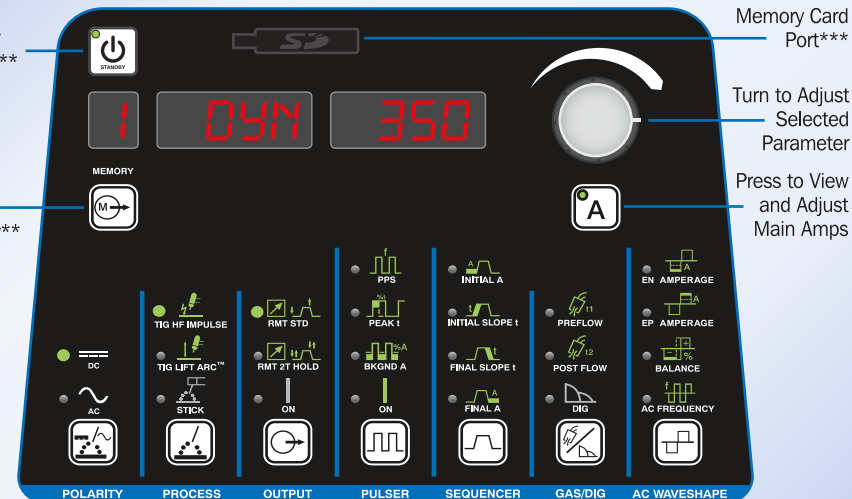


**PURE TUNGSTEN (green) is NOT recommended!**  
For best results use a sharpened cerium or lanthanum electrode when welding these alloys.

Tip: Select memory (if desired), then set up weld parameters from left to right.

Standby Button\*\*\*

Press to Select Memory\*\*



Memory Card Port\*\*\*

Turn to Adjust Selected Parameter

Press to View and Adjust Main Amps

LEDs indicate Polarity, Process and Output. | Select parameter above to view and adjust set value.

## AC TIG Setup

Aluminum  
Magnesium

Feature Selection	Recommended Setting	Notes
<b>POLARITY</b>	AC	Automatically sets output to AC
<b>PROCESS</b>	TIG HF Impulse	Standard setup for high-frequency (HF) starts
<b>OUTPUT</b>	RMT STD	Standard setting for remote foot control
<b>PULSER*</b>	OFF	Advanced control — see <i>Pulsed TIG</i> section
<b>SEQUENCER*</b>	N/A	Not used in RMT STD. Select RMT 2T Hold output to enable internal weld sequence control.
<b>GAS/DIG</b>	PREFLOW** : 0.2 sec	Provides gas shielding before the arc start
	POSTFLOW: AUTO	Automatically adjusts postflow time for maximum weld amps
<b>AC WAVESHAPE</b>	DIG: N/A	STICK welding function — NOT used for TIG
	EN/EP Amps** AC Balance AC Frequency	1:1 Ratio 70–75% EN 120 Hz } See AC Waveshape section for complete descriptions.

### Tungsten Selection

See *Tungsten Selection and Prep* section.

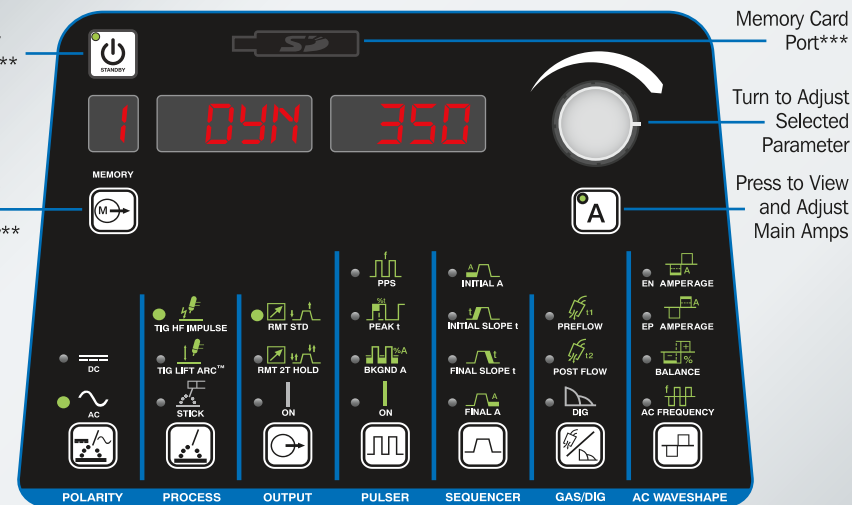


**PURE TUNGSTEN (green) is NOT recommended!**  
For best results use a sharpened cerium or lanthanum electrode when welding these alloys.

Note: Last procedure recall function stores settings for AC and DC welding in each memory level.

Standby Button\*\*\*

Press to Select Memory\*\*



Memory Card Port\*\*\*

Turn to Adjust Selected Parameter

Press to View and Adjust Main Amps

LEDs indicate Polarity, Process and Output. | Select parameter above to view and adjust set value.

\* Feature only available on DX models.

\*\* Feature only available on 350 and 700 models.

\*\*\* Feature only available on 280 model.



Read and follow all labels and the Owner's Manual carefully before installing, operating, or servicing unit.

Read the safety information at the beginning of the manual and in each section.

Note: These settings are intended to be a starting point for control panel setup — this is not a welding procedure specification nor a substitute for procedure qualification.

## AC Waveshape Controls

Feature	Setting	Arc Effect	Weld Effect
<b>AC Balance Control</b> Controls arc cleaning action. Adjusting the % EN of the AC wave controls the width of the etching zone surrounding the weld.  <i>Note: Set the AC Balance control for adequate arc cleaning (etching) action at the sides and in front of the weld puddle. AC Balance should be fine-tuned according to the amount of etching desired.</i>	<b>75% EN</b> 	Reduces balling action and helps maintain point 	 Bead Minimum visible oxide removal (etching)
	<b>50% EN</b> 	Increases balling action of the electrode 	 Bead Visible oxide removal (etching)
<b>AC Frequency Control</b> Controls the width of the arc cone. Increasing the AC Frequency provides a more focused arc and increased directional control.  <i>Note: Decreasing the AC Frequency softens the arc and broadens the weld puddle for a wider weld.</i>	<b>60 Hz</b> 	Wider profile ideal for buildup work 	 Bead Visible oxide removal (etching)
	<b>120 Hz</b> 	Narrower profile for fillet welds and automated applications 	 Bead Visible oxide removal (etching)
<b>Independent AC Amperage Control</b> Allows the EN and EP amperage values to be set independently. Adjusts the ratio of EN to EP amperage to precisely control heat input to the work and the electrode. EN amperage controls the amount of heat directed to the work, while EP amperage dramatically affects the arc cleaning action (along with the AC Balance control). Increased EN amperage also provides deeper penetration and allows for increased travel speeds.	<b>100A EP / 200A EN</b> 	More current in EN than EP: Faster travel speeds and deeper penetration 	 Bead Minimum visible oxide removal (etching)
	<b>200A EP / 100A EN</b> 	More current in EP than EN: Shallow penetration, increased balling and etching 	 Bead Visible oxide removal (etching)

## AC Waveshape Options

Default: Soft Squarewave	AC Wave Options and Benefits: See Owner's Manual for instructions.	
  <i>Tip: Soft Squarewave is recommended for most applications. It provides good puddle control and arc stability.</i>		Advanced Squarewave: Travel faster
		Soft Squarewave: Max puddle control
		Sine Wave: Traditional arc
		Triangle Wave: Reduced heat input

## Tungsten Selection and Prep

Tungsten Type	Application Notes	Diameter	Amp Range
2% Cerium	Good all-around tungsten for both AC and DC welding.	0.020"	5–20
1.5–2% Lanthanum	Excellent low amp starts for AC and DC welding.	0.040"	10–80
		1/16"	10–150
		3/32"	60–250
		1/8"	100–400
2% Thorium	Commonly used for DC welding, not ideal for AC.	5/32"	160–500
		3/16"	190–750
		1/4"	325–1100
<b>PURE TUNGSTEN (green) is NOT recommended!</b> For best results in most applications use a sharpened cerium or lanthanum electrode for AC and DC welding.		<b>See Owner's Manual for more information.</b>	

**Tungsten Preparation:** Sharpen tungsten for AC and DC welding with the Dynasty.

<b>CORRECT</b> Ideal preparation—stable arc  Straight ground Stable arc  Blunt tip Grinding wheel	<b>INCORRECT</b> Wrong preparation—wandering arc  Radial ground Arc wander  Pointed tip Grinding wheel	<b>IDEAL GRIND ANGLE RANGE</b>  <b>AC EFFECT</b>  Slight meltback of electrode tip
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*Tip: Blunting the tip of the electrode is sometimes done to help maintain consistent geometry and resist tungsten erosion. This is especially helpful in AC when melt-back of the tungsten electrode is common.*

## Pulsed TIG Controls

The Pulsed TIG function switches the amperage from a high (peak) to a low (background) at a set rate (PPS). Pulsing can reduce heat input by lowering the average amperage, increasing control of the weld puddle, penetration and distortion. The following parameters can be adjusted for desired results:

Parameter	Control Panel Abbreviation	Adjustment
Pulses Per Second	PPS	Rate of pulsing between high and low
Peak Time	Peak t	% of pulse cycle at peak amps
Background Amps	BKGND A	% of peak amperage

Low-Speed Pulse	High-Speed Pulse
1 to 10 pulses per second (PPS) will produce a distinct ripple pattern in the weld bead. Can be used to time filler addition, reduce distortion and improve control.   Distinct ripple pattern	100 pulses per second (PPS) and higher helps to focus the arc for increased stability, penetration and travel speed. Increased puddle agitation improves weld microstructure.   Focused arc increases travel speed and penetration Narrow bead and HAZ
<i>Tip: Begin welding at factory default settings of 100 PPS, 40% peak and 25% background amps. Adjust the frequency (PPS) to change width and appearance, fine-tune with peak and background.</i>	