

**POWER WAVE® 455/STT® AND POWER FEED™ 10 DUAL**



**Inverter Welding System**

**NEW!**

**LINCOLN®**  
**ELECTRIC**

# POWER WAVE 455/STT AND POWER FEED 10 DUAL



## THE POWER WAVE 455/STT® TAKES MIG (GMAW) WELDING TO A NEW LEVEL!

This revolutionary inverter based welding system is designed for the ultimate in welding performance. The unique capabilities of Surface Tension Transfer™ and Power Wave® are combined into one easy-to-operate system resulting in superior welding performance for all GMAW modes.

Now with one system, operators can weld a pipe root with the superior STT process and quickly change over to pulsed spray MIG or flux-cored wire for the hot, fill and cap passes. Any application with poor fit-up or

gaps can be welded easily by having this tremendous open root filling capability. In addition, applications with both thin and thick materials can be welded more efficiently with this ultimate control of the GMAW process.

The Power Feed™ 10 Dual wire feeder features easy to understand controls and the Lincoln 10 series, four driven roll feed head. This wire feeder has the strength and speed for the most demanding feeding applications, whether it's for high speed or for large diameter wires. Power Feed 10 and Power Feed 11 wire feeders are also available for use with the Power Wave 455/STT (see E5.160 and E5.165 literature).

## ADVANTAGE LINCOLN

### HIGHEST PERFORMANCE SYSTEM

- Superior STT, pulsed GMAW and FCAW welding performance for controlled heat input, minimal smoke and spatter and wide wire feed range.
- Synergic control for STT, pulsed GMAW and FCAW for easy procedure settings. Set wire feed speed and weld.
- Multi-process capability to handle a variety of applications including stick, MIG, pulse MIG, FCAW and STT.
- Set-up flexibility with one control cable that connects any combination of pieces. Multiple wire feeders are possible.
- Control cables can be connected like extension cords for lengths up to 200 feet (60m).
- Can be easily upgraded from basic to extended capabilities.
- Flexible platform can be easily changed from bench to boom mounting utilizing Linc-Net receptacles (K1548-1).

### EASY TO USE CONTROLS

- All controls are located on the control box to eliminate confusion.
- Control box is removable for bench, boom or remote mounting.
- Two large displays and knobs that fit gloved hands.

- Presettable wire feed speed or amps, and voltage or trim. Actual values are displayed while welding, and for 5 seconds after welding has stopped.
- Procedures may be electronically locked into any specific user range.
- English or metric display.
- Control upgrades in less than 5 minutes with only a screw driver.

### SUPERIOR WIRE DRIVE SYSTEM

- Four driven rolls in a heavy duty drive system. No tools needed for wire size change over.

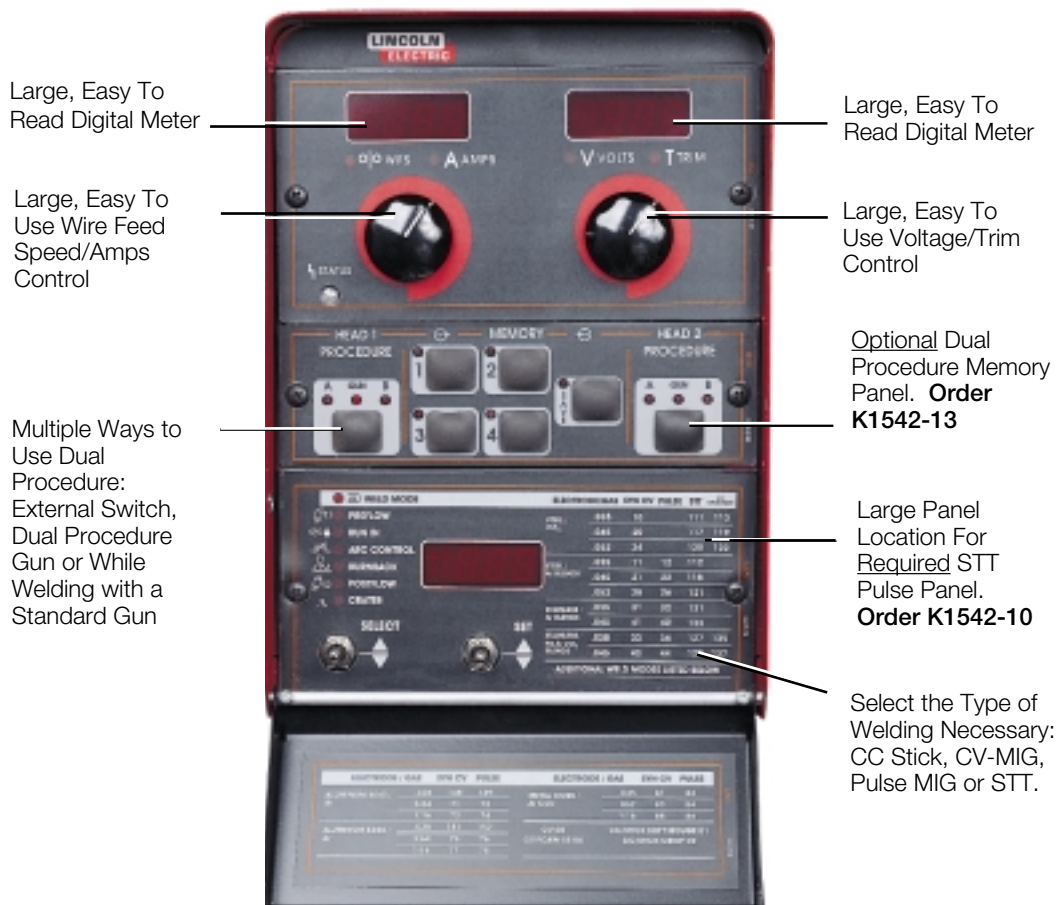
- Split wire guide for trouble-free loading and feeding. Perfect wire alignment and support.
- Simple drive system with easy gear changes for high torque for large wire and high speed for fine wire.
- Wire feed head rotates to eliminate gun kinking.
- Tachometer feedback for precise wire feeding.
- Wire reel stand holds 10-60 lbs. (4.5kg -27.2kg) wire packages on a 2" spindle. No adapters are needed for different spool sizes.

### FLEXIBLE POWER SOURCE

- Capable of running from basic CC and CV to high performance pulse and STT® programs.
- Spacious inverter design for easy service.
- Two output studs. All processes up to 325 amps available on the STT output stud. All processes, except STT, up to 570 amps available on the Power Wave® output stud.
- 3 year warranty on parts and labor.
- Manufactured under a quality system certified to ISO 9002 requirements.

## A CLOSER LOOK

Power Feed™ 10 Dual Control Box



# TECHNICAL SPECIFICATIONS

## Power Feed™ 10 Dual Wire Feeder

Power Feed 10 Dual	Ordering Info.	Wire Speed Range IPM (m/min)	Wire Size Range inches/mm		Net Wt.	HxWxD
			Solid	Cored		
BENCH MODEL (1)	K1686-1	Low Speed Gear 50-800 ipm	.023-3/32 (0.6-2.4)	.035-1/8 (0.9-3.0)	106 lbs. (48 kg.)	20 x 23 x 34 in. (1) (508 x 584 x 864 mm.)
BOOM READY MODELS: 16-18 Ft. Generic Boom Pkg. (2)	K1683-1	High Speed Gear 75-1200 ipm	.023-1/16 (0.6-1.6)	.035-5/64 (0.9-2.0)		
12 Ft. Zipline Ready Pkg.(4)	K1683-2	(Both gears included)				
16 Ft. Zipline Ready Pkg.(4)	K1683-3					
Wire Drive Only (3)	K1685-1				54 lbs. (24.5 kg.)	8.8 x 10 x 16.5 in. (222 x 254 x 419 mm.)
STT and Pulse Panel	K1542-10				1 lb. (0.5 mm.)	4 x 8 x 1 in. (102 x 203 x 25 mm.)

(1) Includes wire drive, control box, 8 ft. Linc-Net™ control and weld cable, and wire reel stand.

(2) Includes wire drive, control box, 8 ft. and 25 ft. Linc-Net control cables.

(3) Requires wire drive to control box Linc-Net cable:

For 8-9 ft. boom: K1543-16

For 10-18 ft. boom: K1543-25

(4) Boom ready wire feeder for installation on a Zipline boom. See bulletin E 8.201.

## Power Wave® 455/STT

Description	Ordering Info.	Input AC Voltage	Rated DC Output Amps/Volts/Duty Cycle		Input Amps at Rated DC Output for Specified Voltage											Output Range	Net Wt.	HxWxD					
			STT Stud	Power Wave Stud	200	208	220	230	380	400	415	440	460	550	575								
POWER WAVE® 455/STT	K1518-1	60 Hz: 208/230/460 3 Phase	325A 28V 100%	60 Hz: 450/38/100%														STT Stud: 5-325A	258 lbs. (117 kg.)	26x20x3 3 in. (660x50 8x838 mm.)			
				570/43/60%																			
		50 Hz: 400/36/100%		64	58						32												
	500/40/60%	79		74						41													
	K1518-2	60 Hz: 460/575 3 Phase		60 Hz: 450/38/100%																		Power Wave Stud: 5-570A	265 lbs. (120 kg.)
				570/43/60%																			
K1518-3	50/60 Hz 380-415 3 Phase CE	50/60 Hz: 400/36/100%																	267 lbs. (121 kg.)				
		500/40/60%																					

# FEED PLATE GUN RECEIVER BUSHINGS

One of the following Gun Receiver Bushings is required for connecting gun and cable assemblies to the feed plate. The K1500-2 comes standard on the Power Feed 10 and Power Feed 10 Dual wire feeders.

K1500-1 Gun Receiver Bushing (Optional)	K1500-2 Gun Receiver Bushing <sup>(1)</sup> (Standard)	K1500-3 Gun Receiver Bushing (Optional)	K1500-4 Gun Receiver Bushing (Optional)	K489-7 Fast Mate Gun Receiver Bushing
<ul style="list-style-type: none"> <li>Magnum 200, 300 and 400 gun and cable assemblies with K466-1 connector kit.</li> <li>Lincoln Innershield® gun and cable assembly.</li> <li>Fast-Mate™ gun and cable assembly with K489-2 Fast-Mate Adapter Kit.</li> <li>Magnum 550 gun and cable assembly with K613-1.</li> </ul>	<ul style="list-style-type: none"> <li>Magnum 200 and 400 fully assembled guns (K497-2X and K471-2X). See below.</li> <li>Magnum 200, 300 and 400 gun and cable assemblies with K466-10 connector kit.</li> <li>Guns with Tweco® #2, #3 and #4 connectors.</li> </ul> <p><sup>(1)</sup> This gun receiver bushing comes standard with each feed head.</p>	<ul style="list-style-type: none"> <li>Magnum 550 gun and cable assembly with K613-7 connection.</li> <li>Guns with Tweco #5 connectors.</li> </ul>	<ul style="list-style-type: none"> <li>Magnum 200, 300 and 400 gun and cable assemblies with K466-3 connector kit.</li> <li>Guns with Miller® connectors (for new, longer connectors).</li> </ul>	<ul style="list-style-type: none"> <li>Magnum gun and cable assemblies with Fast Mate connectors.</li> <li>Handles both single and dual procedure guns.</li> </ul>

K1500-1



K1500-2



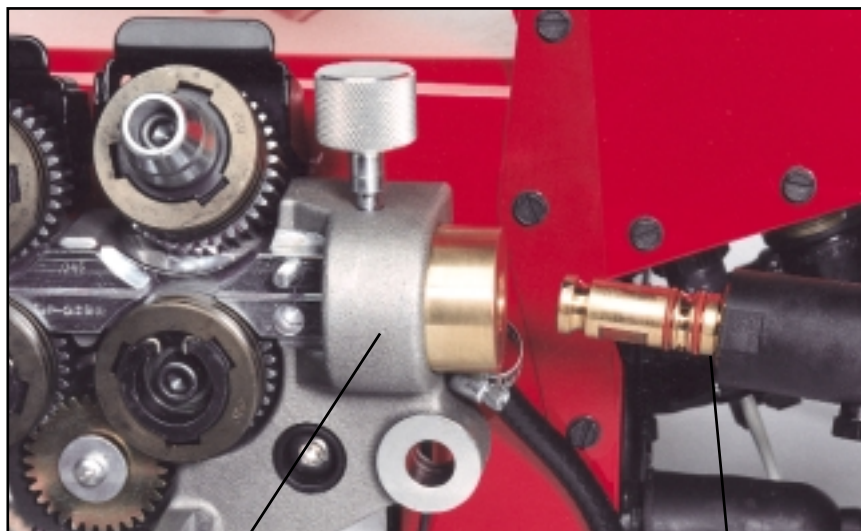
K1500-3



K1500-4



K489-7



Feed Plate Gun Receiver Bushing K1500-X.

K1500-2 comes standard with feed head (as shown).

Connector Kit for Magnum Guns (K466-10 or K613-7)

## MAGNUM™ GUNS

The following guns come pre-assembled with liner and gun connector that is compatible with the Tweco® #2-#4 gun receiver bushing (K1500-2). They connect directly to the standard Power Feed 10 and 10 Dual. Gun cables are 15 ft. length:

K471-21	Magnum 400	.035-.045
K471-22	Magnum 400	.052-1/16"
K471-23	Magnum 400	1/16-5/64"
K497-20	Magnum 200	.025-.030
K497-21	Magnum 200	.035-.045

# DRIVE ROLLS AND SPLIT WIRE GUIDE KITS

4 Drive Rolls and Split Wire Guide	
<b>Solid Steel Wire, Smooth V Groove<sup>(1)</sup></b> .023-.030 (0.6-0.8mm) Solid .035 (0.9mm) Solid .040-.045 (1.0-1.2mm) Solid .052 (1.4mm) Solid 1/16" (1.6mm) Solid	KP1505-030S KP1505-035S KP1505-045S KP1505-052S KP1505-1/16S
<b>Cored Steel Wire, Knurled V Groove</b> .030-.035 (0.8-0.9mm) Cored .040-.045 (1.0-1.2mm) Cored .052 (1.4mm) Cored 1/16" (1.6mm) Cored 7/64" (2.8mm) Hardfacing (Smooth U Groove)	KP1505-035C KP1505-045C KP1505-052C KP1505-1/16C KP1505-7/64H
<b>Cored or Solid Steel Wire, Knurled V Groove</b> .068-.072 (1.8mm) 5/64" (2.0mm) 3/32" (2.4mm) 7/64" (2.8mm) cored only .120-1/8" (3.2mm) cored only	KP1505-068 KP1505-5/64 KP1505-3/32 KP1505-7/64 KP1505-120
<b>Aluminum Wire, Smooth U Groove</b> .035 (0.9mm) .040 (1.0mm) 3/64" (1.2mm) 1/16" (1.6mm) 3/32" (2.4mm)	KP1507-035A KP1507-040A KP1507-3/64A KP1507-1/16A KP1507-3/32A

(1) STT® process not recommended for aluminum wires.

## For Solid and Cored Wires



KP1505-XX

## For Aluminum Wires



Not all kits have springs.

KP1507-XX

# LINC-NET™ CONTROL CABLES

These come standard with both bench and boom versions of the Power Feed 10 wire feeder. The Linc-Net control cable has several advantages over existing control cables:

- **Common cable for all parts** - The same cable can be used between the power source and wire feeder in a bench or boom system and between the control box and wire drive in a boom system.
- **Extension cord flexibility** - These control cables can be connected

end-to-end for length flexibility. A single, custom length cable is no longer needed.

- **Extended lengths** - These cables can be connected up to 200 ft. between any 2 components. This allows more flexibility in locating the power source, wire feeder and control box.

### Ordering Information:

**Linc-Net Receptacles** - Linc-Net receptacles facilitate the conversion of a Power Feed 10 bench model to a boom model. **Order K1548-1.**

### Control Cable Only

K1543-8	8 ft. cable length
K1543-16	16 ft. cable length
K1543-25	25 ft. cable length
K1543-50	50 ft. cable length
K1543-100	100 ft. cable length

### Control and Weld Cables

K1544-8	8 ft. cable length
K1544-16	16 ft. cable length
K1544-25	25 ft. cable length
K1544-50	50 ft. cable length

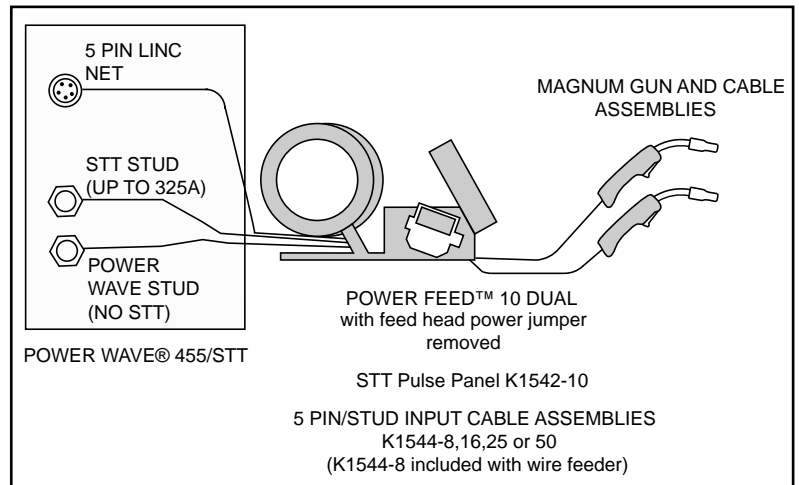
# SYSTEM SET-UP

## Our Most Popular MIG Welding System Set-up:

Power Wave 455/STT	K1518-x
Power Feed 10 Dual Wire Feeder <sup>(1)</sup>	K1668-1
STT Pulse Panel	K1542-10
.045 Drive Roll Kit	KP1505-045S <sup>(2)</sup>
Magnum 400 Gun & Cable Asbly	K471-21 <sup>(2)</sup>

<sup>(1)</sup> Includes 8 ft. Control and Weld Cables.

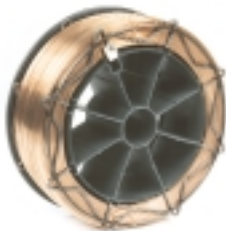
<sup>(2)</sup> Two required.



# RECOMMENDED OPTIONS

## READI-REEL ADAPTERS

**30 Lb. (14 kg) Readi-Reel Adapter**  
Adapts 22-30 lb. (10-14 kg) Lincoln Readi-Reel coils of electrode to 2" (51 mm) spindle. **Order K363P**



## COIL ADAPTER

**60 Lb. Coil Adapter**  
Adapts 50-60 lb. Lincoln coils of electrode to 2" (51 mm) spindle. **Order K1504-1**



## Water Connection Kit

Includes quick connect fittings on front and back of wire drive for use with water-cooled guns and Magnum Coolers. Kit provides for one gun. **Order K590-6**

## Plastic Wire Reel Covers

Protects wire from dirt and dust. For up to 44 lb. packages **Order K1634-1**  
For up to 60 lb. packages **Order K1634-2**



**60 Lb. (27.2 kg.) Adapter**  
Adapts 50-60 lb. (22.7-27.2 kg) Lincoln Readi-Reel coils of electrode to 2" (51 mm) spindle. **Order K438**



**Dual Procedure Switch**  
Allows the use of two welding procedures with one Lincoln Magnum gun. 15 ft. (7.6 m). **Order K683-3**



## Gas Guard Regulator

For CO<sub>2</sub> and Argon blend gases. Reduces surge caused by excess pressure in supply hose. Includes adjustable flow regulator with removable adjustor key. Kit provides for one gun. **Order K659-1**

## RECOMMENDED OPTIONS CONT.

### Insulated Lift Bail

Allows entire wire feeder not including power source to be hung from a crane or hook. **(Power Feed 10 only)**  
Order K1555-1



### Caster Kit - Light Duty

Mounts to the wire reel stand on the Power Feed 10 and Power Feed 10 Dual. Allows for easy movement of wire feeder. Order K1556-1



### Wire Straightener

Mounts to wire feed head or separately. Compatible with all Power Feed 10 wire feeder bushings. Order K1733-1



### Feed Plate Incoming Bushing

Connects directly to Magnum plastic conduit (not included), for use in boom systems, long distances, or large payoff packages.

For .025-1/16" wire

Order K1546-1

For 1/16-1/8" wire

Order K1546-2



### Undercarriage

Platform undercarriage for mounting two gas cylinders at rear of welder.

Order K1570-1



### Wave Designer Software

This software allows you to program your own waveforms. Custom parameters include peak and background current, frequency, pulse widths and others. See bulletin S2.20. Order K1705-1



### Wave Designer Pro Software

All the features of Wave Designer plus Arc Scope. This is the arc analysis tool for those who need to monitor more than voltage and current. See bulletin S2.20.

Order K1705-2

#### Customer Assistance Policy

The business of The Lincoln Electric Company is manufacturing and selling high quality welding equipment, consumables, and cutting equipment. Our challenge is to meet the needs of our customers and to exceed their expectations. On occasion, purchasers may ask Lincoln Electric for advice or information about their use of our products. We respond to our customers based on the best information in our possession at that time. Lincoln Electric is not in a position to warrant or guarantee such advice, and assumes no liability, with respect to such information of advice. We expressly disclaim any warranty of any kind, including any warranty of fitness for any customer's particular purpose, with respect to such information or advice. As a matter of practical consideration, we also cannot assume any responsibility for updating or correcting any such information or advice once it has been given, nor does the provision of information or advice create, expand or alter any warranty with respect to the sale of our products.

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E5.170 1/00**