VEVOR

Affordable. Reliable. Home Improvement.

MULTIPROCESS WELDERS

MODEL: CT-520

VEVOR Support Center

VEVOR Support Center	CT-520 (EU)	CT-520 (AU)	CT-520 (US)

VEVOR
Affordable. Reliable. Home Improvement.

MULTIPROCESS WELDERS

MODEL:CT-520



Note:The product picture is for reference, the actual details shall prevail

This is the original instruction, please read all manual instructions carefully before operating. VEVOR reserves a clear interpretation of our user manual. The appearance of the product shall be subject to the product you received. Please forgive us that we won't inform you again if there are any technology or software updates on our product.

	Warning-To reduce the risk of injury, user must read instructions manual carefully.
	**CORRECT DISPOSAL for Display** This product is subject to the provision of european Directive 2012/19/EU. The symbol showing a wheelie bin crossed through

	indicates that the product requires separate refuse collection in the European Union. This applies to the product and all accessories marked with this symbol. Products marked as such may not be discarded with normal domestic waste, but must be taken to acollection point for recycling electrical and electronic devices.
CE	Compliance is a EC security certification.

SAFETY INSTRUCTIONS

WARNING:

Read this material before using this product. Failure to do so can result in serious injury.

The CT-520 provides a convenient method of performing “stick" welding carbon steel. Inverter technology provides the capability of welding thin or heavy gauge steel with precision and ease. When adding the optional lift TIG torch (not included), gas regulator, and a cylinder of shielding gas, the CT-520becomes a TIG welder.

SPECIFICATIONS

Output Current Range:	Input Current	Input Voltage	Rated Duty Cycle	Rod Diameter	Rod Material
20~200A	I1 max 45A (115V) I1 eff 34.8A (115V) I1 max 34A (230V) I1 eff 26.3A (230V)	110V or 220V	20%@ 200A	1/16~6/31 1.6~5.0mm	E6010 E6011 E6013 E7014 E7018S tainless Stee

DUTY CYCLE

The rated duty cycle refers to the amount of welding that can be done within an amount of time.The CT-520 has a duty cycle of 60% at 195A. it is easiest to look at your welding time in blocks of 10minutes and the duty cycle being a percentage of that 10 minutes. lf welding at 195A with a 60% duty cycle, within a 10 minute block of time you can weld for 6 minutes with 4 minutes of cooling for the welder. lf the duty cycle is exceeded, the welder will automatically shut off, however the fan will continue running to cool the overheated components. When a safe temperature has been reached, the welder will automatically switch the welder output back on. To increase the duty cycle you can turn down the amperage output control.

READ AND UNDERSTAND ALL INSTRUCTIONS AND PRECAUTIONS BEFORE PROCEEDING.

This unit emits a powerful high voltage and extreme heat which can cause severe burns, dismemberment.electrical shock and death. VEVOR shall not be held liable for consequences due to deliberate or uninten-tional misuse of this product.

SAFETYINFORMATION

The following explanations are displayed in this manual, on the labeling, and on all other information provided with this product:

DANGER indicates a hazardous situation which, if not avoided, will result in death or serious injury.

WARNING indicates a hazardous situation which, if not avoided, could result in death or serious injury.

CAUTION used with the safety alert symbol, indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

NOTICE is used to address practices not related to personal injury.



READ INSTRUCTIONS

Thoroughly read and understand this manual before using the welder. Save for future reference.



ELECTRIC SHOCK CAN KILL!

- Improper use of an electric welder can cause electric shock, injury and death! Read all precau-tions described in the Welder Manual to reduce the possibility of electric shock.
- Disconnect welder from power supply before assembly, disassembly or maintenance of the torch, contact tip and when installing or removing nozzles.
- Always wear dry, protective clothing and leather welding gloves and insulated footwear. Use suitable clothing made from durableflame-resistant material to protect your skin.
- If other persons or pets are in the area of welding, use welding screens to protect bystanders from sparks.
- Always operate the welder in a clean, dry, well ventilated area. Do not operate the welder in hu-mid, wet, rainy or poorly ventilatedareas.
- The electrode and work (or ground) circuits are electrically “hot” when the welder is on. Do not allow these “hot” parts to come in contact with your bare skin or wet clothing.
- Separate yourself from the welding circuit by using insulating mats to prevent contact from the work surface.
- Be sure that the work piece is properly supported and grounded prior to beginning an electric welding operation.
- Always attach the ground clamp to the piece to be welded and as close to the weld area aspossible. This will give the least resistance and best weld.



WELDING SPARKS CAN CAUSE FIRE OR EXPLOSION!

- Electric welding produces sparks which can be discharged considerable distances at high ve-locity igniting flammable or exploding vapors and materials.
- Do not operate electric arc welder in areas where flammable or explosive vapors are present.
- Do not use near combustible surfaces. Remove all flammable items within 35 feet of the weld-ing area.
- Always keep a fire extinguisher nearby while welding.

- Use welding blankets to protect painted and or flammable surfaces; rubber weather-stripping.dash boards, engines, etc.
- Ensure power supply has properly rated wiring to handle power usage.



ELECTROMAGNETIC FIELDS CAN BE A HEALTH HAZARD!

- The electromagnetic field that is generated during arc welding may interfere with various electrical and electronic devices such as cardiac pacemakers. Anyone using such devices should consult with their physician prior to performing any electric welding operations.
- Exposure to electromagnetic fields while welding may have other health effects which are not known.



ARC RAYS CAN BURN!

- Arc rays produce intense ultraviolet radiation which can burn exposed skin and cause eye damage. Use a shield with the proper filter (a minimum of #11) to protect your eyes from sparks and the rays of the arc when welding or when observing open arc welding (see ANSIZ49.1 and Z87.1 for safety standards).
- Use suitable clothing made from durable flame-resistant material to protect your skin.
- If other persons or pets are in the area of welding, use welding screens to protect bystanders from sparks and arc rays.



FUMES AND WELDING GASES CAN BE A HEALTH HAZARD!

- Fumes and gasses released during welding are hazardous. Do not breathe fumes that are pro-duced by the welding operation. Wear an OSHA-approved respirator when welding.
- Always work in a properly ventilated area.
- Never weld coated materials including but not limited to: cadmium plated, galvanized, lead based paints.



HOT METAL AND TOOLS WILL BURN!

- Electric welding heats metal and tools to temperatures that will cause severe burns!.
- Use protective, heat resistant gloves and clothing when using Eastwood or any other welding equipment. Never touch welded work surface, torch tip or nozzle until they have completely cooled.



FLYING METAL CHIPS CAN CAUSE INJURY!

- Grinding and sanding will eject metal chips, dust, debris and sparks at high velocity. To pre-vent eye injury wear approved safety glasses.
- Wear an OSHA-approved respirator when grinding or sanding.
- Read all manuals included with specific grinders, sanders or other power tools used before and after the welding process. Be aware of all power tool safety warnings.

REQUIRED ITEMS

Before you begin using the CT-520 STICK WELDER, make sure you have the following:

- A properly grounded 1Phase 110/220 Volt AC, 50/60Hz, 200A circuit breaker.
- NOTE: Unit must be grounded to work properly and safely!
- A clean, safe, well-lit, dry and well-ventilated work area.
- A non-flammable, long sleeve shirt or WELDING Jacket
- Heavy Duty Welding Gloves
- Auto-Darkening Welding Helmet to provide eye protection during welding operations. Note: MUST be a#11 lens or darker.
- Dedicated stainless steel wire welding brushes for each material to be welded.

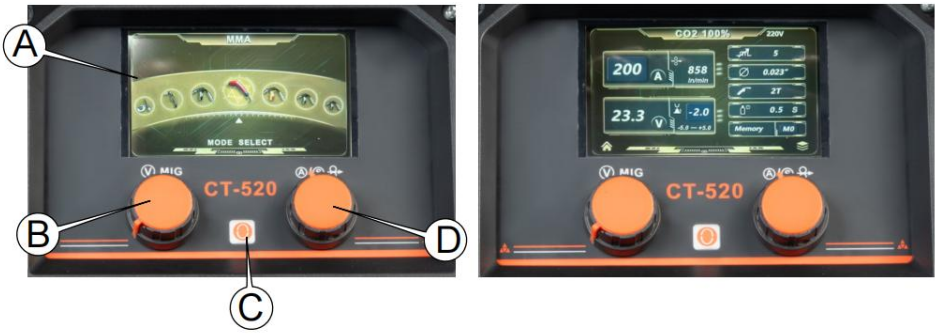
CONTENTS

Remove all items from the box. Compare with list below to make sure unit is complete.



1. CT-520
2. Plasma Cutting Torch AG-60 (4m)
3. TIG Welding Torch WP-17 (3m)
4. MIG Welding Torch 15AK (3m)
5. Gas Hose (2.5m，Fit for Us, EU/AU no need)
6. Drive Rolls ×2 (W-type 0.8/0.9, U-type 0.9/1.2; V-type 0.8/0.9 included with machine)
7. Contact Tips ×2 (1.0 for aluminum
8. welding; 0.9 and 0.8 included with torch)
8. Instruction Manual ×1
9. Electrode Holder (2m)
10. Grounding Clamp (2m)
11. Air Pressure Regulator ×1
12. Hose Clamps ×6
13. Gas Hose (2.5m + 0.4m, essential for cutting machine)
14. Gas Hose (2m, standard for TIG function)
15. 15. Power Adapter Cord （Fit for Us,EU/AU no need）
16. Teflon Liner (essential for MIG aluminum welding function)
17. Brush
18. Welding Helmet
19. Gas Connectors ×2

CONTROL AND DISPLAY PANEL



A. Welding Mode Display (9 modes: SEPARATE, CO2 100%, AR 100%, MIX GAS, PULSE MIG, FLUX, PLASMA, HF TIG, MMA

B. Left Encoder

C. Button

D. Right Encoder

Operating Steps:

1. Rotate D (Right Encoder) to select a welding mode under A .
2. Press D (Right Encoder) to enter the main interface of the selected welding mode (e.g., CO2 100%).
3. In the main interface, press C (Button) to navigate through built-in functions.
4. After selecting a function, rotate D (Right Encoder) to adjust parameters.
5. Parameters are automatically saved after 3 seconds of inactivity.
6. B (Left Encoder) can adjust welding voltage within the range of -5V to +5V.In MIG mode, press the left encoder B to enter the jog wire feed mode.

Click the button to select the function to be steady onIn-screen alarm such as thermal protection

Welding Mode	Current(A)	
	110V	220V
MMA	20~140A	20~200A
HF TIG	20~140A	20~200A
MIG	40~140A	40~200A
CUT	20~40A	20~50A

Thermal protection LED illuminates when the unit has reached the maximum internal component temperature. This occurs when the duty cycle has been exceeded.The Welder will automatically shut off however the fan will continue running to cool the overheated components. When a safe temperature has been reached, the protective circuit will automatically switch the welder output back on.



A. Left Encoder
B. Display Screen
C. Right Encoder
D. Button
E. MIG Torch Connector
I. CUT Pilot Arc Connector
H. CUT Ground Clamp Interface
J. Output Positive (+)
K. Output Negative (-)
F. Spool Gun Cunnector
L. HF TIG and CUT Torch Connector
H. HF TIG and CUT Torch Switch Connector
M. Polarity Conversion Cable

1. Space pressure regulator fixing hole
2. Input power cable
3. Power switch
4. Cooling fan
5. MIG gas input Connector
6. TIG/CUT gas input Connector

MIG CONNECTION DIAGRAM



1. Plug the work clamp to the - negative sockets, attach the work clamp to the workpiece, and connect the polarity conversion connector to the + positive output terminal (in FLUX mode, the grounding clamp cable is connected to the + positive socket , and the polarity conversion connector is connected to the - negative output socket).
2. Connect the MIG welding gun to the gun connector of the machine, and connect the gun switch to control the two-pin socket. Insert the two-pin socket on the machine.
3. Connect the gas from back of the machine panel (please refer to the side panel welding parameter table).
4. Power on. Select the welding mode by rotating and pressing the right encoder, quickly feed the wire to the gun head about 10mm after pressing the gun switch. Align the gun head with the workpiece and enter the normal welding working state.

HIGH FREOUENCY HF TIGCONNECTION DIAGRAM

1. Plug the work clamp cable into the +positive socket ,attach the grounding clamp to the workpiece.
2. Connect the TIG welding gun to the gun connector of the machine and the gun switch to control the two-pin socket. Insert the two-pin socket of the machine into the two-pin socket of the rear panel.
3. Connect the AR 100% of the argon gas.
4. Turn on the machine and select the welding mode by rotating and pressing the right encoder. Press the gun switch to align the TIG gun head with the workpiece and enter the normal welding.



MMA MANUAL WELDING MODECONNECTION DIAGRAM

1. connect the work clamp cable to negative - socket of the machine and connect the grounding clamp to the workpiece.
2. Insert the holder cable into the + positive of the machine .
3. Turn on the machine and select the welding mode by rotating and pressing the right encoder. When the welding electrode touches the workpiece, it enters the normal welding state.



CUT CONNECTION DIAGRAM

1. connect the grounding cable into the CUT output terminal of the machine and attach the grounding clamp to the workpiece.
2. Connect the cut gun of the machine and the gun switch to control the two-pin socket. Insert the two-pin socket on the machine.
3. Connect the the compressed air back panel of the machine . The normal cutting air range is 0.4 - 0.6 Mpa.
4. Turn on the machine and select the welding mode by rotating and pressing the right encoder. Press the gun switch to enter the normal cutting state.







Note: Installation for air filter regulator and gas hose.

PREPARING TO “STICK” WELDING

1. Plug the power cord into a properly grounded, 1Phase 110/220 Volt AC, 50/60Hz, 50A circuit breaker.
2. Make sure the electrode or “ Stick ” is not making contact with the grounded workpiece.
3. Switch the Power Switch to “ ON” .

DANGER
ELECTRIC SHOCK CAN CAUSE INJURY OR DEATH!

The electrode and work (or ground) circuits are electrically “ hot ” when the welder is on. Do not allow these “ hot” parts to come in contact with your bare skin or wet clothing. Always wear dry, protective clothing and leather welding gloves and insulated footwear.

WARNING
ARC RAYS CAN BURN!

Arc rays produce intense ultraviolet radiation which can burn exposed skin and cause eye damage. Use a shield with the proper filter (a minimum of #11) to protect vour eves from sparks and the ravs of the arc when welding or when observing open arc welding (see ANSl Z49.1 and Z87.1 for safety standards).

DANGER
WELDING SPARKS CAN CAUSE FIRE OR EXPLOSION!

Electric welding produces sparks which can be discharged considerable distances at high velocity igniting flammable or exploding vapors and materials. Remove all flammable items within 35 feet of the welding area. Always keep a fire extinguisher nearby while welding.

WARNING

FUMES AND WELDING GASES CAN BE A HEALTH HAZARD!

Fumes and gasses released during welding are hazardous. Do not breathe fumes that are produced by the welding operation. Wear an OSHA approved respirator when welding. Always work in a properly ventilated area.

DANGER

HOT METAL AND TOOLS WILL BURN!

Electric welding heats metal and tools to temperatures that will cause severe burns! Use protective, heat resistant gloves and clothing.

1. While wearing a properly functioning Auto Darkening Welding Helmet, lightly drag the tip of the Welding Rod along the workpiece surface to start an arc.
2. Feed the Welding Rod into the workpiece joint at a 15° angle.
3. Lift rod from workpiece when weld bead is completed.
4. Turn off Welder power switch.
5. Set the Electrode or “Stick" Holder on a safe, non-flammable, surface.

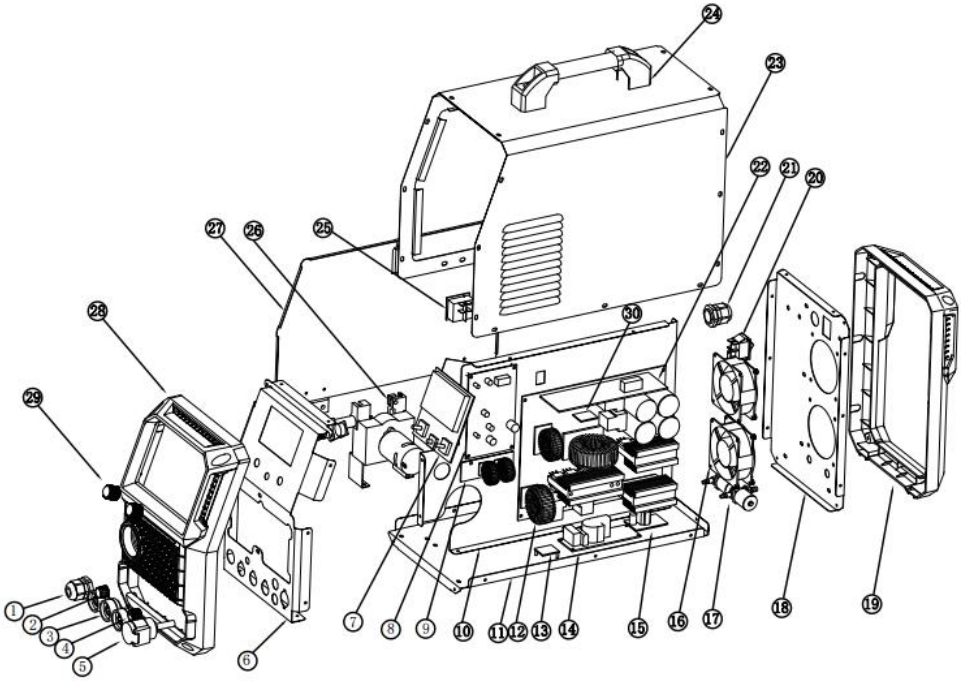
TROUBLESHOOTING

PROBLEM	CAUSE	CORRECTION
Contamination in weld bead	Contaminated Electrode Rod	Make sure that Electrodes are clean and dry before use.
	Contaminated Base Metal	Clean base metal of any oil, debris, coatings, or moisture. If basemetal is cold rolled steel make sure to remove any mill scale.
Poor Weld Appearance	Incorrect positioning	The angle of the electrode should be at 45° and drug away from the weld arc. Failing to do so may cause poor weld appearance.
Weld Bead is Cracking	Too much heat in material	Reduce heat & allow more time between passes.
	Base Metal is absorbing too much heat	Preheat base metal (consult welding codes for requirements)
	Incorrect Filler Wire	Use correct filler wire type & diameter for the joint being welded.

Material is Warping	Insufficient Clamping	Clamp work piece tightly & weld while clA are in place.
	Insufficient Tack Welds	Add more tack welds until rigidity and stiffness is developed.
	Too Much Heat in Material	To reduce heat it is best to spread the welding out around the area.This can be done by using stitch welding techniques, alternating sides, and/or taking your time and allowing the pieces to cool between passes.
Porosity in weld bead	Contaminated Electrode Rod	Make sure that Electrodes are clean and dry before use.
	Contaminated base metal	Clean base metal making sure to remove any oil, debris, coatings. or moisture.
Difficulty Starting Arc	Incomplete Circuit	Check Ground connection. Make sure that the ground is on a freshly cleaned surface and close to the welding area. It is suggested to weld toward the ground connection
	Amperage Too Low	Based on the material welding & size/ material of the electrode, pick an appropriate amperage to perform the desired weld.

	Contaminated Base Metal	Clean base metal of any oil, debris, coatings, or moisture. If base metal is cold rolled steel make sure to remove any mill scale.
Arc Wander	Electrode too far from welding surface	Move electrode so that it is contacting the weld puddle and feed rod into the puddle as needed.
Difficulty Holding Arc	Amperage Too Low	Based on the material welding and size/ material of the electrode. pick an appropriate amperage to perform the desired weld.
	Electrode too far from welding surface	Move electrode so that it is contacting the weld puddle and feed rodinto the puddle as needed.
	Incomplete Circuit	Check Ground connection. Make sure that the ground is on a freshly cleaned surface and close to the welding area. It is suggested to weld toward the ground connection.
	Contaminated Electrode Rod	Make sure that Electrodes are clean and dry before use.
	Contaminated Base Metal	Clean base metal of any oil, debris, coatings, or moisture.

WIRING DIAGRAM



NO.	Name
1	Waterproof Connector
2	Terminal Post
3	European Quick Connector
4	Aviation Socket
5	Integrated Gas-Electric Connector
6	Front Panel
7	Panel
8	Main Control Board
9	Filter Board
10	Partition Plate
11	Base Plate

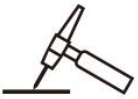
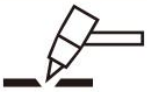
12	Main Board
13	Reed Switch
14	High-Frequency Board
15	24V Board
16	Fan
17	Solenoid Valve
18	Rear Panel
19	Plastic Rear Panel
20	Switch
21	Waterproof Connector + Power Cable
22	Control Board
23	Cover
24	Handle
25	Transfer Switch
26	Wire Feeder
27	Small Door
28	Plastic Front Panel
29	Knob
30	Switch Module Board

Wire Feeder Parameter Table

Welding Mode	Gas Requirements	Welding Wire Diameter	Wire Feed Rolle
Seperate	CO2 100%	0.8 0.9 1.0	V Wire Feed Roller0.8 0.9 1.0

CO2100%	CO2100%	0.8 0.9 1.0	V Wire Feed Roller0.8 0.9 1.0
AR100%	AR100%	0.9 1.0	V Wire Feed Roller0.9 1.0
Mix Gas	AR80%+CO2 20%	0.8 0.9 1.0	V Wire Feed Roller0.8 0.9 1.0
Pulse Mig	AR100%	0.9 1.0	V Wire Feed Roller0.9 1.0
Flux	Gasless	0.8 0.9 1.0	V Wire Feed Roller0.8 0.9 1.0

Welding Mode	Contact Tips	Welding Materials (Plate Requirements)	Welding Wire Materials	Plate Thickness
Seperate	0.8 0.9 1.0	Iron Plate	Solid Wire	1~7
CO2100%	0.8 0.9 1.0	Iron Plate	Solid Wire	1~7
AR100%	1.0 Al	Aluminum Plat	Aluminum Welding Wire	1~7
Mix Gas	0.8 0.9 1.0	Lron Plate/Stainless Stee Plate	Solid Core Welding Wire/Stainless Steel Welding Wire	1~7
Pulse Mig	1.0 Al	Aluminum Plat	Aluminum Welding Wire	1~7
Flux	0.8 0.9 1.0	Iron Plate	Flux Cored Wire	1~8

MODEL: CT-520				
1~ f1 f2 1~ 1~ ⎓		EN IEC 60974-1		
	⎓	U1= 220V-240V~		
		40A/16V~200A/24V		
		X	60%	100%
	U0=60V	I2	200A	154A
		U2	24V	21.7V
	⎓	U1=220V		
		20A/10.8V~200A/18V		
		X	60%	100%
	U0=60V	I2	200A	154A
		U2	18V	16.1V
	⎓	U1=220V		
		20A/20.8V~200A/28V		
		X	60%	100%
	U0=60V	I2	200A	154A
		U2	28V	26.1V
	⎓	U1=220V		
		20A/88V~50A/100V		
		X	60%	100%
	U0=280V	I2	50A	38A
		U2	100V	95.2V
 1~50Hz/60Hz	U1=220V	I1 max= 34A		I1 eff= 26.3A
Cooling Mode: Fan Cooling		Insulation Grade: F		IP21S

MODEL: CT-520							
		U_1=**110V~**			U_1=**220V~**		
		40A/16V~140A/21V			40A/16V~200A/24V		
		X	60%	100%	X	60%	100%
	U_0=60V	I_2	140A	108A	I_2	200A	154A
		U_2	21V	19.4V	U_2	24V	21.7V
		U_1=**110V~**			U_1= **220V~**		
		20A/20. 8V~140A/25.6V			20A/20.8V~200A/28V		
		X	60%	100%	X	60%	100%
	U_0=60V	I_2	140A	108A	I_2	200A	154A
		U_2	25. 6V	24. 3V	U_2	28V	26.1V
		U_1=**110V~**			U_1= **220V~**		
		20A/10. 8V~140A/15.6V			20A/10.8V~200A/18V		
		X	60%	100%	X	60%	100%
	U_0=60V	I_2	140A	108A	I_2	200A	154A
		U_2	15. 6V	14. 3V	U_2	18V	16.1V
		U_1=**110V~**			U_1= **220V~**		
		20A/88V~40A/96V			20A/88V~50A/100V		
		X	60%	100%	X	60%	100%
	U_0=280V	I_2	40A	30A	I_2	50A	38A
		U_2	96V	92V	U_2	100V	95.2V
1~50Hz/60Hz	U_1=110V	I_1 max=45A			I_1 eff=34.8A		
	U_1=220V	I_1 max=34A			I_1 eff=26.3A		
Cooling Mode: Fan Cooling		Insulation Grade: F			**IP21S**		

Manufacturer: Shanghaimuxinmuyeyouxiangongsi
Address: Shuangchenglu 803nong11hao1602A-1609shi, baoshanqu, shanghai 200000 CN.
Imported to AUS: SIHAO PTY LTD. 1 ROKEVA STREETEASTWOOD NSW 2122 Australia
Imported to USA: Sanven Technology Ltd. Suite 250, 9166 Anaheim Place, Rancho Cucamonga, CA 91730

UK	REP

YH CONSULTING LIMITED. C/O YH Consulting Limited Office 147, Centurion House, London Road, Staines-upon-Thames, Surrey, TW18 4AX

EC	REP

E-CrossStu GmbH
Mainzer Landstr.69,
60329 Frankfurt am Main.

