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Millennium Signatures
MARKING SYSTEMS

Model MS-550 Instruction Manual



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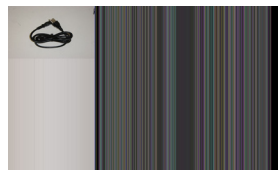
MS-550 Digital Programmable Power Unit Instructions

CABLES AND CONNECTIONS

Connect power (120 VAC) to the back of the MS-550 Power Unit with the computer-style power cord supplied with the unit. The “ON/OFF” rocker switch is located on the back of the MS-550 unit, just above the power connection. The power is off when the rocker switch is pressed towards the “O” symbol and on when pressed towards the “I” symbol. The MS-450 unit is protected by two fuses located in the fuse drawer at the power switch. NOTE: If there is no power to your MS-550 please check to make sure that these fuses are in good condition. Millennium Signatures recommends that you unplug and turn the switch to the “OFF” position MS-450 Digital Power-Unit before checking these fuses.



The foot switch is a keyed plug that must be connected to the MS-450 unit to start and stop the etching cycles. A marking cycle is started and stopped by pressing the foot switch. The Foot Switch is also used in ADMINISTRATION mode.



The Etching cord set is color coded and the matching connections can be found on the front of the MS-550 Power-Unit, hand markers, and Millennium Signatures Accessories.



GENERAL FUNCTION KEYS



ADMINISTRATOR MODE

As added program security Millennium Signatures has installed Administrator Mode. This mode enables your Administrator to set-up, program, and protect the stored files that reside in the internal memory of the MS-550.

To Enter Administration Mode Do the Following:

- 1) Press and hold the file key (about 5 seconds)
- 2) You will then hear an audible beep and the screen will read: Please Enter Password for Administration Mode or Load to cancel.
- 3) To enter the password Hold down the following buttons at the same time and release: Current On, Timers, and the Foot Switch.
- 4) Press any key and the audible beep will turn off.
- 5) You must now turn the key switch to the UNLOCK position.
- 6) If you were successful you will see the word ADMIN on your screen.

NOTE: If you do not see ADMIN on the screen make sure that you toggle the key switch between Lock and UN-Lock Position.



NOTE: File 1 and File 2 are factory presets and can not be changed.

ARROW KEYS

These keys are used to increment and decrement the selected function in the direction desired. They work with the following keys only: File, Marking Power, Current Off, Current On, Head Up, and Head Down. When file is selected, the “up” arrow key will increase the file number by one for every time pressed until the last file is reached. The “down” arrow key will decrease the file number by one for each time pressed until the first file is reached.

FILE

Select file by pressing the key and use the up or down arrow key to change the file number to be saved or loaded. The range for loading is 1 thru 20 and 3 thru 20 for file saving.

LOAD

Pressing this key will load the file number selected and all values it in to active memory, for use. The LCD screen will show the operation status and display it in the upper right hand corner of the display.

SAVE

Pressing this key will save the file number selected and all values from active memory to storage. The LCD screen will show the operation status and display it in the upper right hand corner of the display.

MARKING POWER

Select this choice by pressing the Power key and using the up or down arrow keys to select the power range. Power ranges are the marking voltages for AC and DC:

Low Range: 6V, 8V, 12V, 15V, 18V and 22V

High Range: 28V, 30V, 34V, 37V, 40V and 44V

TIMERS

This function is toggled on or off by pressing the timers key. A green LED will be turned on in the upper right hand corner of the switch when this function is selected and active. By selecting or not selecting this button you can control the accessory on and off time. This Timer can be set from .2 to 5.0 seconds with .2 second increments.

NOTE: Accessory off and on time is the amount of time that the Marking head is in the Up position (off) and in the down position (on). When the timers are enabled your marking cycle will always begin with an off cycle.

NOTE: When setting an etching cycle it is important to note that the current off cycle is the starting cycle. Therefore, if the head down time isn't selected long enough the unit will automatically cut the current on time down to fit the head down time.

AUTO MAN

This function is toggled on or off by pressing the Auto key. A green LED will be turned on in the upper left hand corner of the switch when this function is selected and active. This key determines if the machine will run in Automatic mode or Manual mode.

AUTOMATIC MODE- By pressing the foot switch this mode will start a continuous cycle that will not stop until the footswitch is pressed. These cycles are needed to complete a run of parts or when the system is

used with the Millennium Signatures AM10A or other Millennium Signatures semi-automated marking units. Upon completion of the marking cycle you will hear an audible beep.

MANUAL MODE- By pressing the foot switch the operator will get one complete cycle that is programmed in the MS-550 upon completion of this mark you will here an audible beep.

AC/DC

This is another on/off function that will display a green LED in the upper right corner of the switch. When the LED is turned on, DC marking current is selected. When the LED is turned off the unit is in AC for a contrasting mark.

CURRENT OFF

By selecting this key and using the up and down arrows the administrator is able to control the time range (from 0.2 seconds to 5.0 seconds) allowing the operator or automated marking system to seat the marking head to the part before the current is turned on.

CURRENT ON

By selecting this key and using the up and down arrows the administrator is able to control the duration (from .02 seconds to 5.0 seconds) that there is actual voltage going to the hand marker or marking head.

Note: The current on/off times do not have to be equal or evenly divisible into the Head Up and Head Down. This will show up as your accessory On and Off on the LCD when the marking cycle is started.

HEAD UP

By selecting head up and using the up and down arrow keys you can control the duration that the marking head of a semi-automated system would be in the up position. This has little affect when an operator is manually marking parts as they control the up time.

HEAD DOWN

By selecting head down and using the up and down arrow keys the administrator can control the amount of time that a semi automated marking head would remain in the down position. This also sets the total cycle time for the etching unit.

Hi/Lo

Pressing the Hi/Lo key on the keypad will toggle the unit from High range to Low range. To see available voltage range go to the Marking Power section.

PROGRAM

Pressing the Program key on the keypad will toggle the deep etch cycle on and off. The deep etch cycle is a process that will run a DC etching cycle followed immediately by an AC etching cycle. When setting up the deep etch cycle it is important to note that the current off cycle is the starting cycle. Therefore, if the head down time isn't selected long enough the unit will automatically cut the current on time down to fit the head down time. It is also important to note that you can adjust the current time and head time individually for both AC and DC. To adjust the times for AC, check the LCD display to see which style the unit is currently set on. If on AC, simply adjust the time accordingly. (See "Current On", "Current Off", "Head up", and "Head down" for instructions on how to do so.) If the LCD Displays DC, simply press the AC/DC key on the keypad to change to AC. Then follow the above instructions, change the DC value in the same manner as AC.

NOTE: When changing a value in a menu item selection, the change takes place immediately on the next cycle.

SETTING UP A MARK

The first thing you must do is decide what type of marking is to be done. This example is an AC mark with Timers On in Manual mode.

- 1) Press the Current On key to select this function so that time times can be changed. The value is changed by pressing the up or down arrows to change the setting. Press keys for Current Off, Head Up and Head Down as needed. Change each one as necessary with the up or down arrow keys to get the mark as needed.
- 2) Press the Marking Power key to select the voltage range and use the arrow keys to change the value. The Marking Powers are shown in volts, AC or DC depending on the type selected.
- 3) Press the Auto Man key and select Manual marking. Remember the key LED will illuminate if in Auto.
- 4) Press the Timers key to select Timers On. The LED will be on if timers are enabled.
- 5) Press the AC/DC key to select the AC current. The LED will be off if AC is selected.

Now do a test mark by pressing the foot switch. The unit will show the status of the mark in real time and the LCD display tells you what operation is being performed. If all is satisfactory and you want to save the mark, press the File key then either of the arrow keys to set the file number then press the Save key to save the data. Remember files one and two are protected and cannot be saved over. Select a different file number. The MS-550 will beep and display the message that it is saving the file.

The operator will now be able to mark with the currently loaded file or by loading a new file number by pressing the up/down keys to index the file number to the one desired and pressing the load key. As soon as the conformation is displayed, the operator can press the foot switch and proceed to mark according to the new settings.

SEMI-AUTOMATIC SET-UP WITH AN AM10A OR AM30T MARKER

- A) Plug your power unit into a 110V AC power outlet
- B) Connect the four wire cord set to the corresponding jacks on the power unit and the marking machine, for example: black to black, yellow to yellow, and green to green.
The red lead is the ground. Be sure the ground lead is properly grounded to the part or fixture in semi-automatic marking operations. We recommend the fixture be made of a non-conductive material.
Please note: on applications using marking from the bottom up or simultaneous top and bottom marking, request set-up information from your sales representative.
- C) Place the appropriate pad on the marking head and attach the insert stencil, cap or flat stencil as needed.
- D) Place the long tube from the #152 electrolyte pump in the open bottle of electrolyte. Prime the pump by rotating quickly clockwise. The pump I s adjusted by the small set screw on the stop below the lever.
- E) Depress the footswitch to start the cycle.

AUTOMATIC MARKING WITH THE AM10-A OR AM30-T:

Set -up and control functions are the same as semi-automatic operations except the footswitch is not used to activate each marking cycle.

Set the head up time to the amount of time required between marking cycles, for example the amount of time an operator may need to load and unload the part fixture.

Push the auto/man button - green light lit, auto is on. Use the footswitch to start the automatic marking equipment.

HOUSEKEEPING

It is important to keep your unit free of oxidation and salt build-up. This will insure years of dependable, trouble free operation.

- A) Keep the cord ends, alligator plug, marking heads and grounds clean. If corrosion appears, use a light abrasive, such as an emery cloth to clean it off.
- B) To prevent corrosion build-up, separate the marking head from the pad at the end of each day. Following these simple steps will keep the two surfaces from fusing

together, insuring good electrical contact. This will allow quick change over for between runs.

C) Millennium Signatures stencils and pads are designed to be used over and over again. Simply rinse them under cold water and place them on some toweling to dry. They are ready for use whenever you are.

If you have any questions contact Millennium Signatures at:

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We appreciate your business. Thank You!

***PLEASE NOTE IT IS ALWAYS A GOOD IDEA TO WRITE
DOWN AND STORE YOUR SAVEDPROGRAM FILES IN A
SAFE AND CONVIENT SPOT***