

# UTILITY TAPE

## Overview

The Utility Tape allows the P190 to:

- Print ladder listings.
- Examine memory locations.
- Start — Controller starts solving logic and updating I/O.
- Stop — Controller stops solving logic and updating I/O.
- Clear memory — Clears user logic (networks and ASCII messages) from memory. Configuration and traffic cop remain intact.

A ladder listing may be made whether the memory protect key is on or off.

## Reset Level

This is the highest level of the Utility Package. The system will be placed at this level after initially loading the Utility Tape or whenever the Reset key is depressed. At this level, the following is displayed.

### 584 CONFIGURATION (16/24 BIT LOGIC WORD)

TOTAL LOGIC WORDS: XXXXX                      TOTAL MESSAGE WORDS: XXXXX  
 TOTAL MESSAGES:        XXXX                      HIGHEST MESSAGES USED: XXXX

OUTPUTS:        XXXXX                      DISCRETE INPUTS: XXXXX  
 INPUT REGS: XXXXX                      HOLDING REGS:        XXXXX

SEG**	USED*	NETWORKS***	SEG	USED	NETWORKS
1	XXXXX	XXXXX-YYYYY	2	XXXXX	XXXXX-YYYYY
3	XXXXX	XXXXX-YYYYY	4	XXXXX	XXXXX-YYYYY
5	XXXXX	NONE	6	XXXXX	XXXXX-YYYYY
7	XXXXX	XXXXX-YYYYY	8	XXXXX	XXXXX-YYYYY
9	XXXXX	XXXXX-YYYYY	10	XXXXX	NONE
11	XXXXX	XXXXX-YYYYY	12	XXXXX	XXXXX-YYYYY
13	XXXXX	XXXXX-YYYYY	14	XXXXX	XXXXX-YYYYY
15	XXXXX	XXXXX-YYYYY	16	XXXXX	XXXXX-YYYYY

STOPPED 584 SYSTEM ERROR: XXXX XXXX  
 ERROR:YOUR MESSAGE HERE  
 NET: 00000 UNIT:XXX SEG:XX AVAIL:XXXXX USED:XXXXX DATE: XXXXXX AR: 00000

### (1) Power-Up (Program and Monitor)

PRINTER TYPE	SET DATE						ATTACH UNIT #
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### (2) Attached (Program and Monitor)

PRINTER TYPE	SET DATE						RELEASE 584
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- \* All words refer to words of Logic.
- \*\* If a segment does not exist, no reference will be made to it in this display.
- \*\*\* If a segment contains no networks, the word 'NONE' will be displayed.

This is the 'highest' level where major functions are selected. These functions are:

**Attach Unit # (Monitor and Program)**

This key will attach the P190 as either a programmer or a monitor (depending on the memory protect key switch) to the selected device with the UNIT NUMBER of the device taken from the AR. At this time, the P190 will determine the configuration of the 584 and display this information on the CRT. There will only be one programmer allowed on a 584 at a time. If another programmer is already attached, an error message will be displayed and the second programmer will remain unattached.

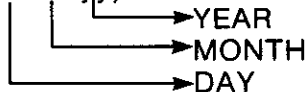
**Release 584 (Program and Monitor)**

This key will release the P190 from the 584 if it was attached and re-display reset level software label (1).

NOTE: Disconnecting the cable from the 584 or powering down the P190 will also release the P190 from the controller.

**Set Date (Monitor and Program)**

The software label key SET DATE clears the screen, displays the word DATE:, and moves the cursor to the location following the prompt DATE:. The operator can enter any 6 numbers in that location e.g. 121156 and the interpretation will be up to the reader of the listing. (i.e. mmddyy, ddmmyy).



**Printer Type (Monitor and Program)**

This key will set up the P190 to be used with a particular type of printer device. When PRINTER TYPE is selected, a new set of SL's will be presented.

NO FORM FEED	FORM FEED						
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**No Form Feed (Monitor and Program)**

This key will be used for a printer which supports NO FORM FEED. Null characters will be issued following each CRLF.

**Form Feed (Monitor and Program)**

This key will be used for a pointer which does support FORM FEED. Null characters will be issued following each CRLF.

**Exit Level**

If the P190 is 'ATTACHED' to a 584 the exit level can be entered by pressing the EXIT KEY. From the SL menu the various utility functions can be selected.

At the EXIT level the following SL's will be shown:

CONTROLLER OPERATIONS	LISTING OPERATIONS	EXAMINE MEMORY					
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### Controller Operations (Program)

This SL Key is *only* displayed at the level when the P190 is a programmer and attached. The following set of SL keys will be displayed, allowing the user to manipulate the controller.

STOP 584	START 584	CLEAR 584 MEMORY					PREVIOUS MENU
						PROCEED	CANCEL

### Stop 584 (Program)

This key will allow the user to stop the 584. The configuration information will be displayed when the 584 has stopped, else an error will be displayed. A confirmation will be required for this function. Two SL keys 'CANCEL' and 'PROCEED' allow the user to cancel the STOP command or allow the 584 to Proceed and STOP scanning.

### Start 584 (Program)

This SL key will start the 584 scan. The user will be notified that the 584 has been started with a display of the current status and configuration information, else an error will be displayed. It will be illegal to start a running 584. A confirmation (PROCEED, CANCEL) will be required for this function. The same SL keys as in STOP 584 will be used.

### Clear 584 Memory (Program)

This SL key will clear user logic memory. It also requires a confirmation (PROCEED, CANCEL) like the STOP and START 584 commands. The 584 must be stopped in order to clear it.

### Previous Menu

The PREVIOUS MENU SL key will re-display the exit level SL packet and return control to this level.

### Proceed

The PROCEED SL key is used to confirm the previous controller operations. Control returns to the controller operations SL packet.

### Cancel

The CANCEL SL key is used to cancel the previous controller operations. Control returns to the controller operations SL packet.

### Listing Operations Description (Monitor and Program)

This SL key is displayed at the EXIT level at all times. It will allow the user to generate a formatted listing of the controller logic database. The user will have the options of XREF/NO XREFS, XREF ALL/XREF SEG, FORMS/NO FORMS, LIST NETWORKS, LIST REFERENCES, LIST ASCII MESSAGES, or LIST ALL. The printer type is set in the RESET level. Partial listings will be possible. Baud rates as well as parity options for the P190 will be DIP switch selectable (see Chapter 10).

## Hardware Required

- P190 with 48K Ram
- 584 Programmable Controller
- Utility Support Software Cassette F — Modicon part number AS-T584-002.
- A printer/terminal that is RS-232C compatible and operates at one of the following baud rates:  
50, 75, 110, 134.5, 150, 300, 600, 1200, 1800, 2000, 2400, 3600, 4800, 7200, or 9600, 19200.
- W193 or W194 cable.

## Software Label Description

### Ladder Lister

When the software label key "LADDER LISTER" is depressed, the screen shows these fields:

```
TITLE:
CONTROLLER:
LIST: NONE          FROM: 00000      TO: 00000
ASCII:             FROM: 00000      TO: 00000
```

and the SL's change to:

COMMENCE	LIST REF NETWORKS	NO REF NETWORKS	LIST ASCII	NO ASCII	ENTER TITLE	ENTER CONTROL ID	PREVIOUS MENU
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### Commence

The COMMENCE SL key is defined as the GO command. When struck, the parameters are re-checked, and if valid, the printing operation is started.

### List Ref/Networks

The LIST REF/NETWORKS SL key tells the P190 that the user intends to specify a set of parameters to print Networks and/or References from the 584 logic data base. A second set of SL keys is displayed to allow the user to enter these parameters.

### No Ref/Networks

The NO REF/NETWORKS SL key tells the P190 that the user requests no networks or references to be printed as part of the Ladder Listing. Zeros are placed in the FROM, TO fields on the screen.

### No ASCII

The NO ASCII SL key tells the P190 that the user requests no ASCII messages to be printed as part of the Ladder Lister. Zeros are placed in the FROM, TO fields on the screen.

### List ASCII

The LIST ASCII SL key tells the P190 that the user intends to specify a set of parameters to print ASCII messages from the 584 ASCII data base. A second set of SL keys is displayed to allow the user to enter these parameters.

### Enter Title

When the SL key "ENTER TITLE" is pressed, the cursor moves to the location following the end of the title. A SL key "END TITLE" will be displayed. The title (maximum 60 characters) can be entered via the ASCII keyboard. BACKSPACE will delete the character just typed in and SHIFT/RUBOUT will delete the whole title and reposition the cursor at the beginning of the title. Any non-printing character will result in an error message and the cursor stays in the same location. Pressing "END TITLE" terminates the title message.

### Enter Control ID

When "ENTER CONTROL ID" is pressed, the cursor moves to the location following CONTROLLER: and the controller name can be entered in the same manner as the title (maximum 6 characters).

### Previous Menu

This SL key will be used to return the user to the previous set of SL keys (Exit Level).

### List Ref/Networks

When the SL key "LIST REF/NETWORKS" is depressed a second set of SL keys is displayed allowing the user to specify the conditions for printing the 584 Logic data base.

LIST NETWORK	LIST REFERENCE	LIST ALL	XREF NO XREFS	FORMAT NO FORM	XREF ALL XREF SEG	SET PARAMETERS	PREVIOUS MENU
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### List Network

This sets a bit in a flag to indicate that the 'FROM' and 'TO' are to be interpreted as network numbers.

### List Reference

This sets a bit in a flag to indicate that the "FROM" and "TO" are to be interpreted as reference numbers.

### List All

This sets the LIST REFERENCE bit and LIST NETWORK bit of a flag to indicate that "FROM" is to be interpreted as network number while "TO" is to be interpreted as reference number.

### XREF/NO XREFS

Cross references (XREFS) or no cross references (NO XREFS) may be chosen by toggling the key. Defaults to XREFS.

### Format/No Form

The Ladder Lister loads and initializes a new page at the onset of listing and each time one is required due to either no room on current page or when the listing of a series is done. When it is set to "NO FORM", it only lists lines, with neither forms nor control nor headers. This feature is useful for listing only one or a few lines at a time to eliminate wasteful use of paper. The option that is currently chosen is indicated by arrows enclosing that option. Defaults to format.

## XREF ALL/XREF SEG

This indicates whether cross references for coils in a network are to be done over the entire database or over one segment only.

## SET PARAMETERS

This SL creates a new set of SL's used to select parameters. The SL's are:

ALL FROM TO

PREVIOUS  
MENU

### Previous Menu

This SL key will be used to return the user to the previous set of SL keys.

### ALL: FROM: TO:

The user can ask for "ALL" information listed (all networks and 00001-4XXXX) or any range "from" and "to" using the AR and these keys. The "FROM #" must be between 1 and the highest 40000 series register for LIST REFERENCE and 1 and the highest permissible network number for LIST NETWORKS. If the "TO #" is greater than the highest referenced (network), the highest reference (network) will be defaulted.

### Previous Menu

This SL key will be used to return the user to the previous set of SL keys.

## List ASCII

When the SL key "LIST ASCII" is depressed a second set of SL keys is displayed, allowing the user to specify the conditions for printing the 584 ASCII data base.

ALL MESSAGES	FROM MESSAGE #	TO MESSAGE #					PREVIOUS MENU
-----------------	-------------------	-----------------	--	--	--	--	------------------

### ALL: FROM: TO:

The user can request "ALL" messages listed or any range "FROM" and "TO" using the AR and these keys. The FROM must be between 1 and the highest message created in the system. The system will default to no messages to be printed.

### Previous Menu

This SL key will be used to return the user to the previous set of SL keys.

## Operation of Lister

If the option of LIST NETWORKS is chosen, the FROM # and TO # will be interpreted as the range of networks to be listed. (ALL will list all networks). Beginning with the lowest network number, the programming panel will fetch a network (displaying the network on the screen) and list it. If a cross reference is needed, the cross references of all the coils that appear in the network will be listed. The next network will be fetched and handled similarly until the highest requested network has been listed.



All coils in the network will have cross references listed following the network. The cross reference is listed under separate reference type NO (Normally Open), NC (Normally Closed), PT (Positive Transitional), and NT (Negative Transitional). If a coil has no cross-reference, nothing will be printed.

The cross reference list looks like this:

COIL#	REF TYPE	CROSS REFERENCE BY NETWORK #
01024	] [	00002, 00003
	]P[	00002
00023	]P[	00002

If there is sufficient space, more than 1 network will be printed on a page.

### Coil to Network Cross Reference

The coil to network cross reference table is printed following the listing of networks. It contains the coil number and the network in which the coil is used.

Example of a coil to network reference table:

```
00001 00001,00001,00001,00000,00000,00000,00000,00000,00008,00008
00011 00000,00000,00000,00001,00000,00000,00000,00001,00008,00008
```

### Coil and Discrete Input Listings

For 0XXXX and 1XXXX references, the disable information is printed as either DN (disabled on) or DF (disabled off). If the coil is not disabled, 2 dashes (--) will be printed.

Example of 0XXXX and 1XXXX listings:

```
00001 --,--,--,DN,--,--,--,DF
00011 DN,--,DF,--,--,--,--,--
```

### Coil and Discrete Input Cross References

For 0XXXX and 1XXXX references, the cross references are listed in the same format as the cross reference listing that follows each network listing.

### Registers

Registers will be printed with contents shown in 4 radixes (decimal, hexadecimal, binary, ASCII); one line per register. This will look like:

#### Input Registers contents

Reg #	Decimal	Binary	Hex	ASCII
30001	0000	0000 0000 0000 0000	0000	??
30002	0031	0000 0000 0001 1111	001F	??
30003	0058	0000 0000 0011 1010	003A	?A

\*NOTE: If the contents of any decimal register are greater than 9999 the message: '>9999' is printed. Any ASCII register which contains non-printing characters will have a question mark printed in lieu of that character.

### Register Cross References

For register cross references, the register number is printed, followed by a list of the network numbers where the register is being used.



## Input Register Cross Reference

Reg #	Cross Reference By Networks
30001	00005,00007-00011,00014
30002	00006,00008,00010,00013-00017

The cross reference list of 4XXXX registers is separated under the heading of IN and OUT. The IN and OUT lists for each register are completed before going to the next one.

## Output/Holding Registers Cross Reference

Reg #		Cross Reference By Networks
40001	In	00001,00003,00006
	Out	00002,00005,00007-00009
40002	In	00011,00013,00015-00020
	Out	00002,00005,00008

## ASCII Messages

The messages are printed one line at a time. A sample of an ASCII message is given below.

MESSAGE NUMBER: 1

MESSAGE LENGTH: 20

14,2X,'THIS IS A SAMPLE LISTING',  
4B4,"377",

Each message is separated by 3 lines. The next message will be printed on the same page if there is enough room.

## Printing Control

### Start-Up

At "LADDER LISTER" level there will be an SL labeled:

COMMENCE

This is the GO command. When struck, the parameters are re-checked, and if valid, the printing operation is started.

### Stop/Continue

After the "COMMENCE" SL has been struck, the SL labeled STOP is displayed.

To pause during a print operation, the STOP key is struck. This stops sending out characters to the printer after the current line. To continue, the CONTINUE SL key (which is displayed when STOP is pressed) is struck and the print operation continues with the next print line. The only other valid key when in "STOP" is "SHIFT/RESET". No other keys are valid in "CONTINUE" only stop. This key would be used if the operator needs to adjust the printer.

	STOP						
	CONTINUE						

### Aborting a Listing

To abort a listing, the user will press "STOP", followed by SHIFT/RESET. If, while trying to output a line, the P190 output driver is not freed within approximately 40 seconds, the error message: "OUTPUT DEVICE HUNG UP" will be displayed and the SL's described in section 6 will be activated. However, the date will not be displayed at this time unless the user attempts to change it.

## **Examine Memory (Monitor and Program)**

This operation will allow the user to examine memory locations in the 584 controller by their absolute addresses. Values may be displayed in decimal (up to 9999), hexadecimal, binary or ASCII. The default radix will be hexadecimal.

Sometimes a location (1 word, or 16 bits, in a particular place in memory), when accessed by the RAP, displays an address. This hex value can be used (along with a P190 and a utility tape), without conversion, to examine the location at that hex address. To examine this address from the RPA, the hex address must be converted to a decimal address before being keyed in. Also, in order to let the 584 know that the number keyed in is an address (0 to 65536), the number in the leftmost location must be a "3", followed by the five digit address.

For instance, to monitor the coil disable/enable table, the address for that table is kept at location 56. Key in 300056 and press REF and the display shows 00B48C. B48C is 46220 in decimal. By keying in 346220 and pressing REF, the number displayed is the hex equivalent of the coils that are disabled (disabled = set = 1) for the first 16 coils (bit 1 = coil#1)(e.g., if the number displayed is 008000 it means that out of the first 16 coils, coil 1 is the only one disabled). To look at the next 16 bits, simply press the REF button again and the second group of coils are displayed.

NOTE: When using the Examine Memory feature of the P190 to view a location at an address given in hexadecimal 8000 or above, the following conversion needs to be done: Eliminate the high bit of the high order hex number, use the remaining bits as the high order hex number. Then place an "F" in front of these four hex numbers (e.g., BA35 = F3A35, 8C4F = F0C4F).

## **Cursor Function**

The hardware cursor left, right, up, and down keys will cause the cursor to move to the next display field in the appropriate direction. If in the program mode with the cursor on a field with an ASCII or binary display radix, a second, small cursor will appear to highlight individual characters. Holding the 'SHIFT' key while depressing the cursor left/right keys will allow this small cursor to be moved.

## **Get — Display Contents of Memory (Monitor and Program)**

This hardware key will display the contents of the 584 address specified by the value in the AR. The five digits in the AR will be taken as a hexadecimal address. The most significant digit will be treated as the page number (D-F) and the 4 least significant digits will represent a 15 bit address (0000-7FFF). The contents will be displayed at the location under the cursor. The default display radix will be hexadecimal.

## **Get Next (Monitor and Program)**

This hardware key will display the contents of the next word of the 584's memory at the current cursor position and move the remainder of the column, beginning at the cursor, up one row.

## **Get Previous (Monitor and Program)**

This hardware key will cause the 584 word at the address one less than the location the cursor is on to be displayed at the cursor. The remainder of the column beginning at the cursor will be scrolled down one row.

## **Display Decimal (Monitor and Program)**

This SL key will cause the contents of the location at the cursor to be displayed in decimal. If the value is greater than 9999, '>9999 OVERFLOW' will be displayed instead of the contents.

### Display Hex (Monitor and Program)

This SL key will cause the contents of the location at the cursor to be displayed in hexadecimal.

### Display Binary (Monitor and Program)

This SL key will cause the contents of the location at the cursor to be displayed as a sixteen bit binary value.

### Display ASCII (Monitor and Program)

This SL key will cause the contents of the location at the cursor to be displayed as two ASCII characters.

### Enter — Data to Memory (Program)

This hardware key will cause the data taken from the AR to be entered into the memory location specified by the cursor. The current radix for that memory location will be used. This key will be used for hexadecimal and decimal values. The value will also be updated on the screen.

### Set Bit (Program)

This SL key will set the bit of the location at the hardware cursor (displayed in binary) and move the hardware cursor one position to the right (with wraparound).

### Clear Bit (Program)

This SL key will clear the bit of the location at the hardware cursor (binary display) and move the hardware cursor one position to the right (with wraparound).

### Set All (Program)

This SL key will set all sixteen bits of the location at the cursor (displayed in binary).

### Clear All (Program)

This SL key will clear all sixteen bits of the location at the cursor (displayed in binary).

### ASCII (Program)

ASCII values may be entered into memory locations displayed in ASCII via the ASCII keys. The hardware cursor will determine the location of the character which is to be modified. The hardware cursor will be moved one position to the right (with wraparound).

### SL Keys for Memory Examine Decimal, Hexadecimal, ASCII Display

DISPLAY DECIMAL	DISPLAY HEX	DISPLAY BINARY	DISPLAY ASCII				
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### Binary Display

DISPLAY DECIMAL	DISPLAY HEX	DISPLAY BINARY	DISPLAY ASCII	SET* BIT	CLEAR* BIT	SET* ALL	CLEAR* ALL
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\*Program mode only

## Memory Examine Display

7F234 = 1111000011110000 72AB1 = 0101010101010101 0C105 = 0000111100001111  
10025 = 9876 DECIMAL  
10026 = A3CD HEXADECIMAL  
2A01B = ABAD HEXADECIMAL  
1DFBA = HEXADECIMAL  
2AC15 = 1111010100001010 1DA65 = FADE HEXADECIMAL  
00000 = FFFF HEXADECIMAL  
00002 = MO ASCII 1FADE = BEEF HEXADECIMAL  
00003 = DI ASCII  
00004 = CO ASCII  
00005 = N ASCII 0B002 = DEAF HEXADECIMAL  
ERROR: INVALID ADDRESS  
NET: 00000 UNIT: 123 SEG: 01 AVAIL: 22768 USED: 0100 DATE: 11/22/33 AR: 00000  
DISPLAY DISPLAY DISPLAY DISPLAY SET CLEAR SET CLEAR  
DECIMAL HEX BINARY ASCII BIT BIT ALL ALL

## Hardware Keys

This section will define the selected hardware keys which are functional during the operation of the Utility Package.

### Reset

The RESET key is used to place the P190 Utility Package system at the RESET level mode of operation. A specific set of SL keys (relative to the controller operations selected) will be displayed, identifying the new set of functions permitted.

### Exit

The EXIT key is used to place the P190 Utility Package system at the EXIT level mode of operation. A specific set of SL keys (relative to the controller operations selected) will be displayed, identifying the new set of functions permitted.

### Clear AR

The CLEAR AR key is used to clear the AR register appearing on the status line of the screen to zeros.

### Clear Error

The CLEAR ERROR key is used to remove the error message or information message appearing on the status line of the screen.

### Backspace

The BACKSPACE key is used in conjunction with entering a title. The BACKSPACE key will erase one character from the screen and re-position the cursor one position to the left.

### Rubout

The RUBOUT key is used in conjunction with entering a title. The RUBOUT key will erase the entire title and re-position the cursor to the start of the title request.

## **Print**

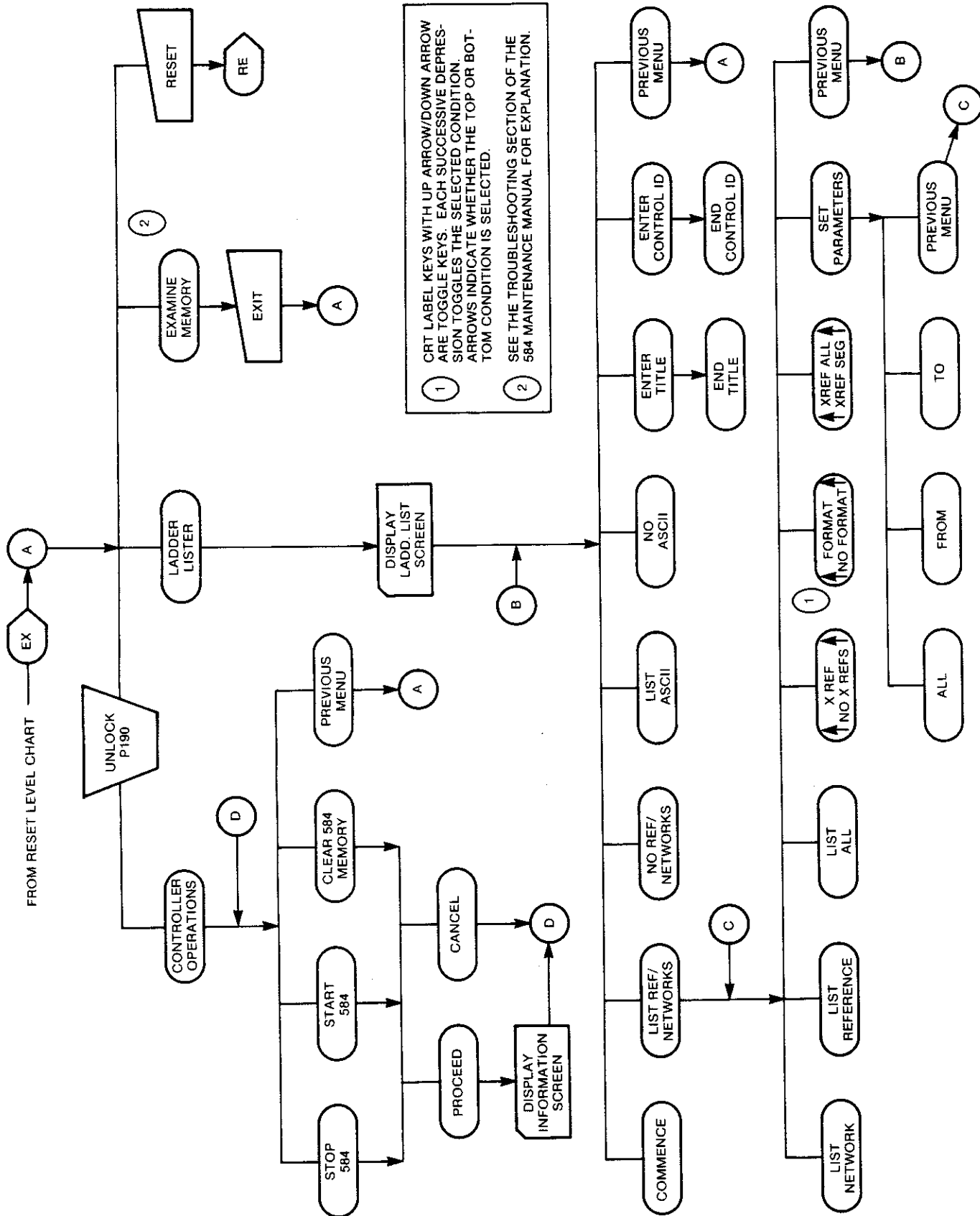
The PRINT key is used to print whatever is displayed in rows 1-18 of the P190 screen to a line printer.

## **UTILITY TAPE**

### **User Listing Procedure**

The following procedure assumes that the user wants to print a complete ladder listing, including all networks, references, and ASCII messages.

1. Load a tape loader son tape into the P190 and simultaneously press the two red buttons, "INIT" and "INIT LOCK".
2. Enter the 584 unit I.D. #into the assembly register.
3. Press "ATTACH"
4. Press "PRINTER TYPE"
5. Press either "NO FORM FEED" or "FORM FEED".  
    "NO FORM FEED" will be used for a printer which supports no form feed.  
    "FORM FEED" will be used for a printer which does support form feed.
6. Press "SET DATE" and type a six digit date code.
7. Press "EXIT"
8. Press "LADDER LISTER".
9. Press "ENTER TITLE" and type up to 60 characters.
10. Press "END TITLE".
11. Press "ENTER CONTROL ID" and type up to a 6 character controller I.D. #(address).
12. Press "END CONTROL ID".
13. Press "LIST REF/NETWORKS".
14. Press "LIST ALL".
15. Press "PREVIOUS MENU".
16. Press "COMMENCE".



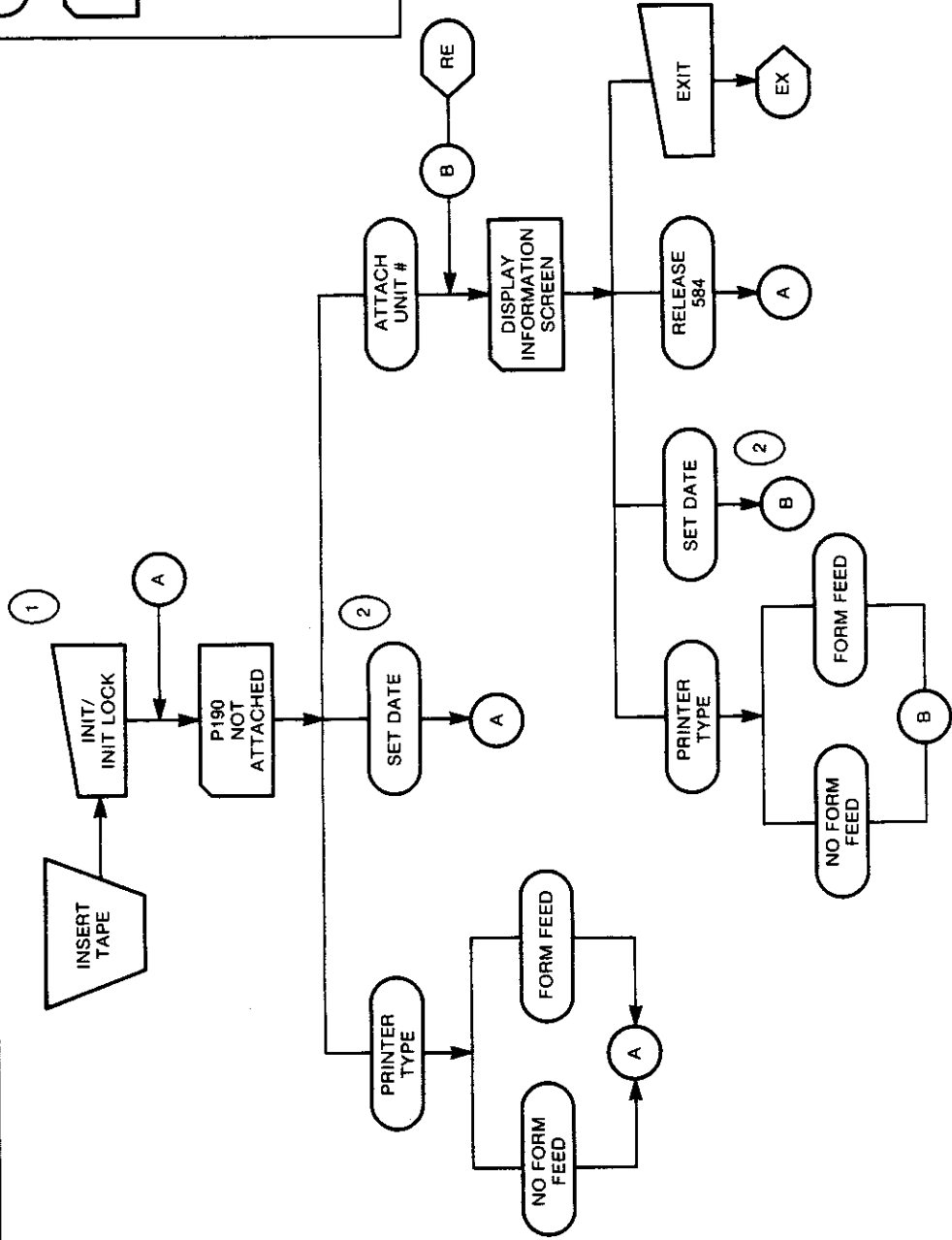
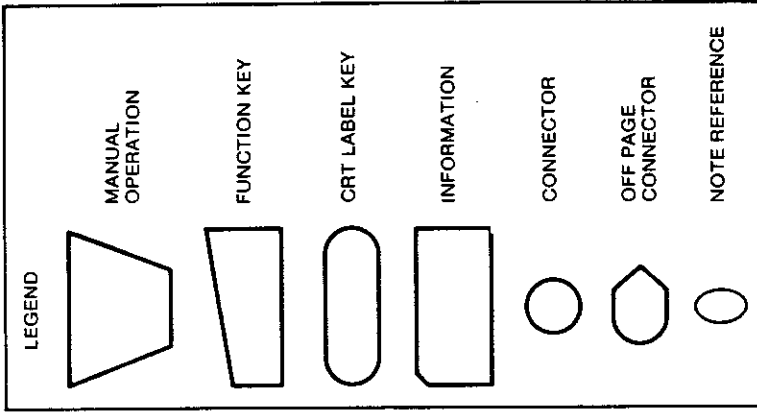
1 CRT LABEL KEYS WITH UP ARROW/DOWN ARROW ARE TOGGLE KEYS. EACH SUCCESSIVE DEPRESSION TOGGLES THE SELECTED CONDITION. ARROWS INDICATE WHETHER THE TOP OR BOTTOM CONDITION IS SELECTED.

2 SEE THE TROUBLESHOOTING SECTION OF THE 584 MAINTENANCE MANUAL FOR EXPLANATION.

# 584 PC UTILITY TAPE (AS-T584-005) REV. B RESET LEVEL

1 THIS CHART ASSUMES A VALID HARDWARE CONNECTION BETWEEN THE P190 AND A 584.

2 WHEN "SET DATE" IS PRESSED, THE CRT SCREEN PRESENTS "DATE" IN THE UPPER LEFT CORNER AND DISPLAYS NO CRT LABEL KEYS. WHEN SIX DIGITS HAVE BEEN ENTERED (MONTH, DAY, YEAR), THE SCREEN REVERTS TO CRT KEYS.

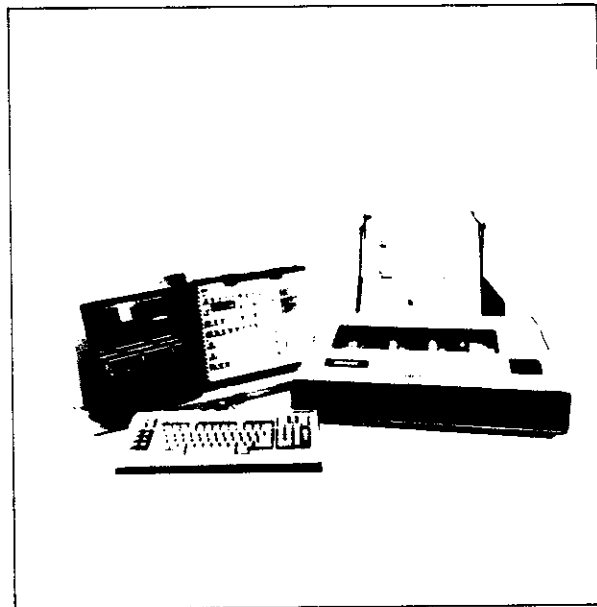


PI-PCWS-001 Rev B  
**PC Workstation  
DATA SHEET**

The Gould PC Workstation is a powerful tool for documenting and printing ladder logic programs, connection diagrams, graphic figures and text for multiple programmable controller models.

## FEATURES

- computer-generated documentation
- complete documentation including texted ladder diagrams.
- complete user-defined allocation of mnemonics to references.
- unique drafting package for annotated I/O field connections and panel layouts
- user-definable drawings
- high resolution, highly informative displays
- high performance hardware featuring:
  - 16-bit processor
  - 512K bytes of program memory
  - 15-inch diagonal full-color bit-mapped display
  - 98-key detachable keyboard
  - 16 megabyte Winchester mass storage unit
  - 5¼-inch minifloppy disk drive
- stand-alone desktop computer
- easy-to-use text editor
- menu-driven prompting
- common I/O and ladder diagram data files
- multi-vendor PC support



## GENERAL DESCRIPTION

The Gould PC Workstation is comprised of a stand-alone computer, printer and PC documentation software in a desktop package. The computer includes a color graphics monitor, detachable keyboard, and lectern-style housing for mass storage.

User logic from a programmable controller is loaded into the workstation through tape loaders and/or programming panels. The PC Workstation then generates annotated ladder listings by combining data from the PC with user-supplied information to create ladder diagrams.

At the same time, the PC Workstation generates cross-references, traffic cop, register content and ASCII message listings. The same data entered by the user to create an annotated ladder listing can also be merged with master I/O connection diagrams to produce full documentation for each of the programmable controller's I/O modules.

Text for ladder diagrams include logic element mnemonics, network commentary, addresses, and drawing references. Up to 75 mnemonic characters on 5 lines of text are allowed for each logic element. Graphic-style characters are used instead of limited ASCII characters for enhanced legibility. Spacing and location of the text is user-defined.

The Gould PC Workstation's graphics capabilities are not limited to ladder listings and connection diagrams. The PC Workstation's drafting program allows the user to draw a variety of figures (such as panel layouts and block diagrams) to enhance documentation.

Standard software for each PC model supported includes both documentation and drafting packages. Easy-to-use tables for diagram description simplify documentation changes, and menu-driven prompting guides the operator throughout the documentation process.

 **GOULD**  
Electronics



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**SPECIFICATIONS**

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**Physical Dimensions:**

	<b>Workstation</b>	<b>Keyboard</b>
Height	13.75 in. (34.92cm)	2.40 in. (6.09cm)
Width	30.00 in. (76.20cm)	18.00 in. (45.72cm)
Depth	12.00 in. (30.48cm)	8.50 in. (21.59cm)

**Cable Lengths:**

AC: 10 ft.

Keyboard to Workstation: 14 in. coiled, 5 ft. extended

**Safety:**

Meets UL478 (EDP) and 114 (Office Equipment)

Meets CSA154 (EDP) and 143 (Office Equipment)

**Environmental:**

	Operating Temperature		Non-Operating Temperature		Humidity
	°C	°F	°F	%	
Disk Media	10 to 40	50 to 104	- 22 to + 47	- 7 to + 116.6	20 to 80
System	0 to 40	32 to 104	- 40 to + 75	- 40 to + 167	5 to 95

**Power Supply:**

110 VAC /60Hz

220 VAC/50Hz

**PC Models Supported:**

See Price List

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**NOTES**

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