

## SECTION 4 484 LADDER LISTER

The 484 Ladder Lister Tape (AS-T484-002) is used to generate a ladder listing of a user's program obtained from a 484 Programmable Controller. It contains options to print the following information:

- List of all of the networks existing in the 484's memory or just a partial listing. A partial listing can be obtained by specifying the FROM and TO range of networks.
- List of coil usage for discrete inputs, discrete outputs, and internal coils with associated cross references to the type of contact used. The contacts include: normally open, normally closed, positive transitional, and negative transitional. The list includes implied references of coils used, output only, when applicable.
- List of all the sequencer cross references.
- List of registers, input or output, with associated cross references. Implied references (e.g., multiply) are located when applicable.
- Display of register contents in decimal, binary, hexadecimal, and ASCII format.

Software label keys on the P190 keyboard enable the operator to set up the various parameters for a listing. The types of listing information available are summarized in Table 4-1. Figures 4-1, 4-2, and 4-3 show the software labels in the RESET and EXIT Levels of the 484 Ladder Lister.

The P190/484 Ladder Lister also provides an OFF-Line listing capability. Any 484 program logic tape can be listed on the printer without the P190 having to be connected to the 484 PC.

*Table 4-1. Available List Options*

Ladder Logic Networks	Optional cross reference of coils by contact type and network number
Coil-to-Network Cross Reference	Output coils and internal coils
Coil Disable/Enable Status	Optional cross reference of coils (0XXX) by contact type and network number
Discrete Input Disable/Enable Status	Optional cross reference by contact type and network number
Sequencers	Cross reference of sequencers by contact type and network number
Input Register Contents	Optional cross reference by type and network number
Output/Holding Register Contents	Optional cross reference by type and network number

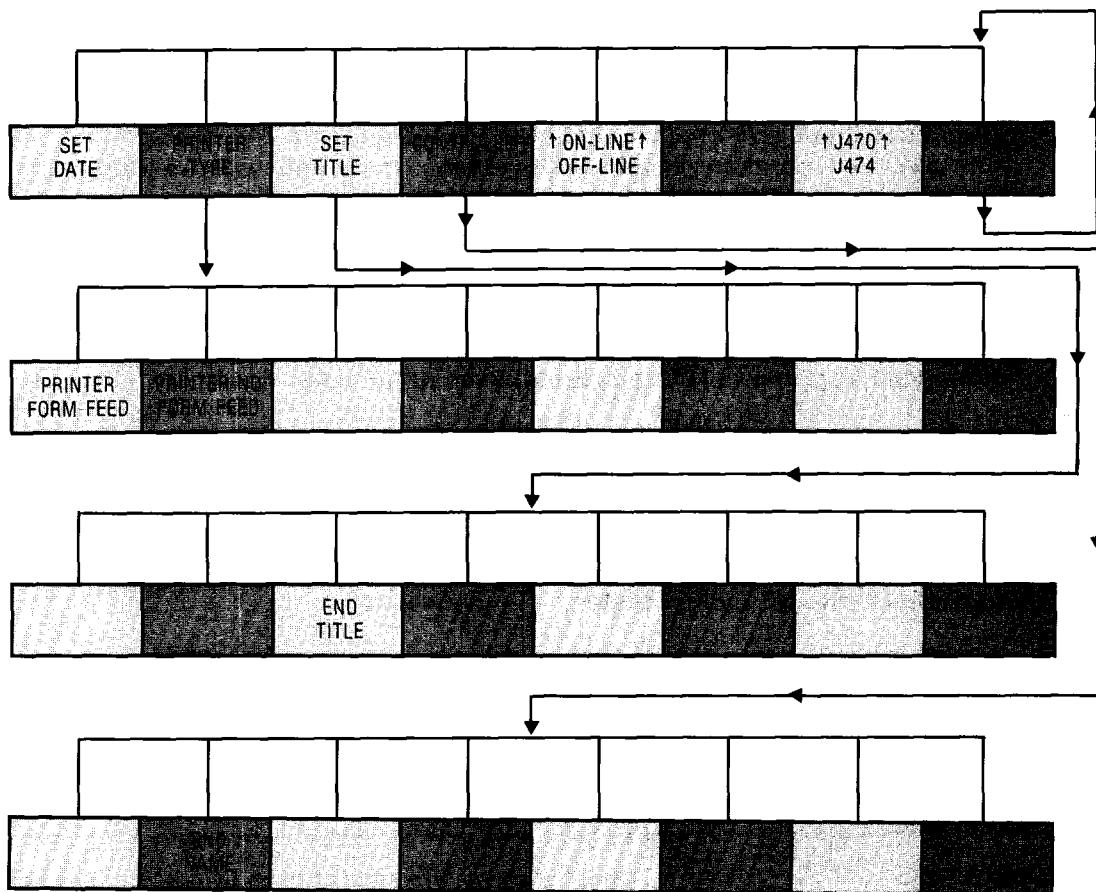


Figure 4-1. RESET Level — ON-Line

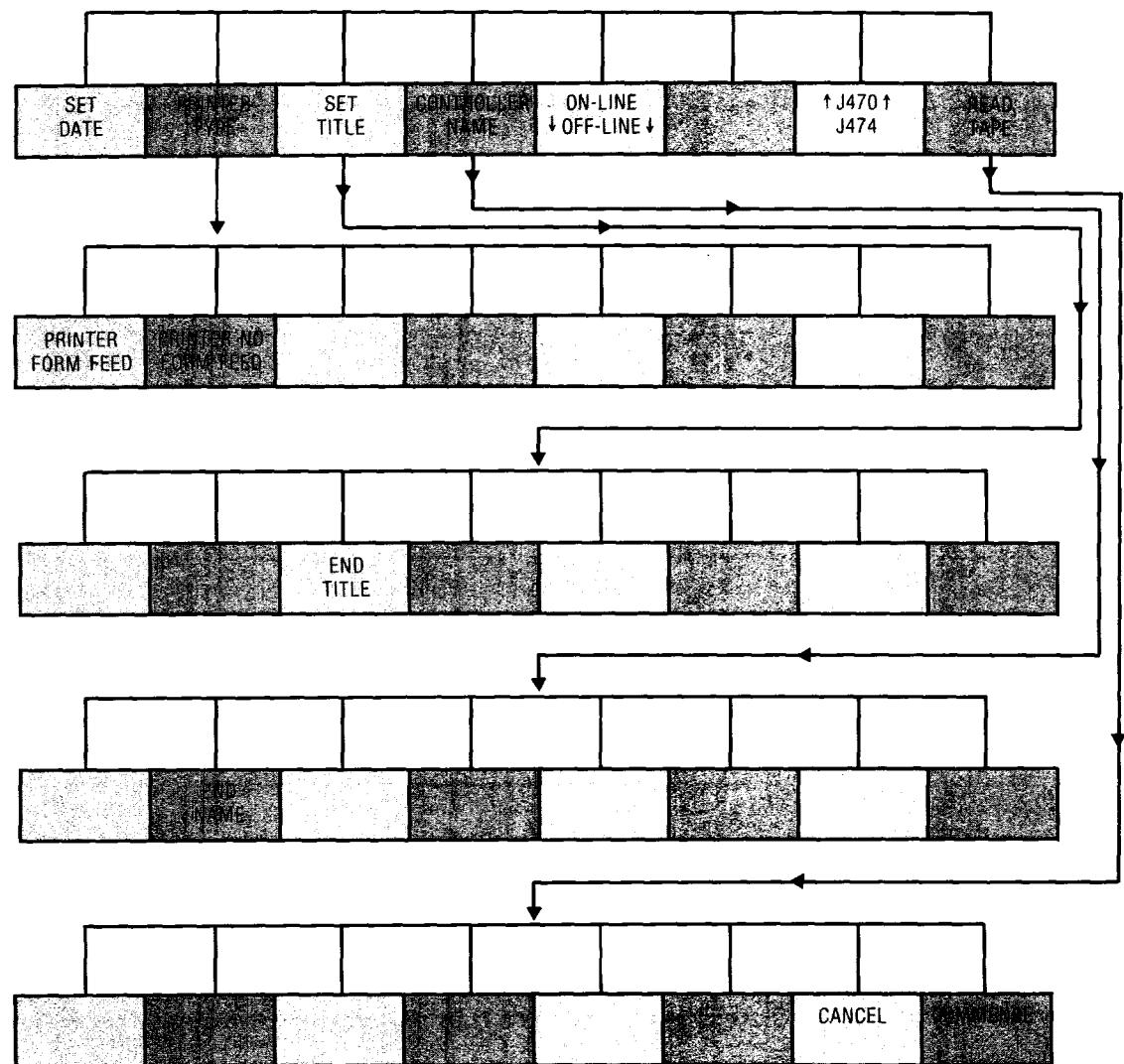


Figure 4-2. RESET Level — OFF-Line

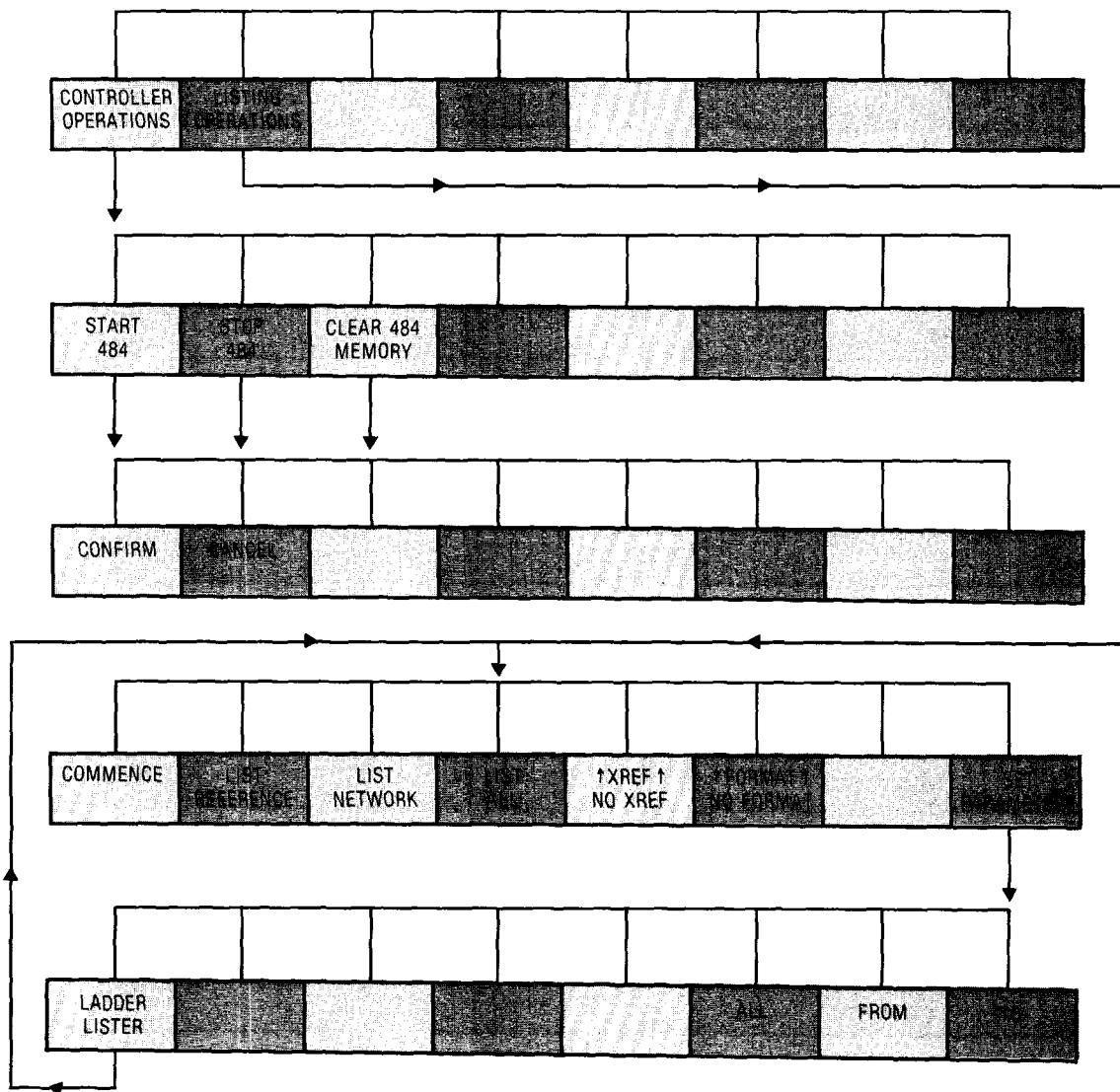


Figure 4-3. EXIT Level

#### 4.1 LIMITATIONS

The P190/484 Ladder Lister does not include a login/logout function. Therefore, the P190 cannot be certain of being the only programmer currently changing a 484 PC's memory. The results of the ladder listing are unpredictable if another device alters the 484 data base while the P190/484 Ladder Lister is functioning.

The two ports on the J470 cannot be used simultaneously.

The ladder lister does not detect implied references in the table-to-register or register-to-table operations. In this case only the specified registers are listed.

#### 4.2 EQUIPMENT REQUIREMENTS

The following is a list of the equipment required to use the P190/484 Ladder Lister Tape:

- A P190 Programmer with 4K or 8K Random Access Memory.
- A BASIC, ENHANCED I, or ENHANCED II 484 Programmable Controller.
- A J470 EIA Adapter or a J474/J475 MODBUS Slave Interface.

#### NOTE

If a J474 or J475 Interface is used, a J478 modem is required at the P190 Programmer while the J474 or J475 is connected to the 484 PC. The J474 or J475 can only be used with ENHANCED II INSTRUCTION SET of a 484.

- An AS-T484-002 master cassette tape containing the software for the P190/484 Ladder Lister. The master tape is used in the P190 to create working tapes; only the working tapes can be used to run the program. See the P190 Programmer User's Manual for detailed procedures regarding the creation of working tapes.
- A printer/terminal that is RS-232-C compatible operating at one of the following baud rates:

50, 75, 110, 134.5, 150, 300, 600, 1200, 1800, 2000, 2400, 3600, 4800, 7200, 9600, or 19,200.

#### 4.3 RESET LEVEL

After the tape is loaded, the P190 is at the RESET Level. To reach the RESET Level from another level, press the SHIFT key and the RESET/EXIT key simultaneously. At the RESET Level, the following can either be set or selected:

DATE  
PRINTER TYPE  
TITLE  
CONTROLLER NAME or NUMBER  
ON-Line or OFF-Line Mode

When the listing is printed, the heading contains all this information. When at the RESET Level the following software labels are displayed:

SET DATE	PRINTER TYPE	SET TITLE	CONTROLLER NAME	↑ON-LINE↑ OFF-LINE		↑J470↑ J474	ATTACH
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At power-up, the unit is in the ON-Line mode and the J470 Interface is selected. The above functions can be set in any order.

#### 4.3.1 SET DATE

When this software label key is pressed, the cursor moves to the top of the screen beside the word DATE. Enter any six alphanumeric characters; the RESET Level software labels are automatically displayed.

When printed, the characters appear in XX/XX/XX format. For example: enter 080384; the printout indicates 08/03/84. The interpretation of this is up to you, mmddyy or ddmmyy. In this example, mm = month; dd = date; and yy = year. The value set in DATE is preserved until changed. The default value is NO/DA/TE.

When setting the DATE value, all the alphabetic and numeric keys are valid. The error message "NON-PRINTABLE CHARACTER" or "NO FUNCTION ASSIGNED TO KEY" is displayed if a function key is pressed for DATE. The RUBOUT/BKSP key is not valid in the SET DATE function. If you wish to change the date value simply press the SET DATE software label key. This clears the previous entry and a new date can be entered.

#### 4.3.2 PRINTER TYPE

This software label key is used to choose a particular type of printer device. With each type, six null characters are issued following each carriage return and line feed. When the key is pressed the following software labels are displayed:



##### 4.3.2.1 PRINTER FORM FEED

This software label key is pressed if you are using a printer that allows page eject during a listing. The screen displays the message, "THE FORM FEED OPTION HAS BEEN SELECTED". FORM FEED is the default option.

##### 4.3.2.2 PRINTER NO FORM FEED

This software label key is pressed if you are using a printer that does NOT allow page eject during a listing. The screen displays the message, "THE NO FORM FEED OPTION HAS BEEN SELECTED".

#### 4.3.3 SET TITLE

Pressing this software label key causes the cursor to be positioned at the top of the screen beside the label TITLE. Also, the software label END TITLE appears on the screen. Enter a TITLE of no more than 60 characters using the alphabetic and numeric keys. If more than 60 characters are entered, the error message "END OF TITLE" is displayed.

If any non-printable character is typed in it results in an error and the appropriate error message is displayed on the error line of the screen. The cursor remains in the same position when such an error occurs. If the TITLE is not finished just press the CLEAR ERROR key to resume typing in the TITLE. Pressing the END TITLE software label key terminates the title text; the TITLE is not inserted unless this is done. The TITLE is preserved until changed.

#### 4.3.4 CONTROLLER NAME

When this software label key is pressed the cursor is positioned at the location following the word CONTROLLER on the screen. Enter the name in the same manner as was done for entering a TITLE. A maximum of six characters is allowed.

When the CONTROLLER NAME software label key is pressed the END NAME software label appears on the screen. When the sixth character is entered, the message "END OF CONTROLLER NAME" appears. The END NAME software label key must be pressed, whether or not the name contains six characters, to terminate the CONTROLLER NAME. This inserts the name which is preserved until it is changed.

#### 4.3.5 ON-LINE/OFF-LINE

This is a toggle-type software label key which switches the P190 from one mode of communications to the other. At power-up the P190 is in the ON-Line mode. In the ON-Line mode the P190 is attached to the 484 using the ATTACH software label key, and communication with the 484 PC is allowed.

In the OFF-Line mode, communications are with a 484 dump tape in the P190. Setting the switch to OFF-Line clears the data base in the P190. If the OFF-Line mode is selected, the following software labels are displayed:

SET DATE	PRINTER TYPE	SET TITLE	CONTROLLER NAME	ON-LINE ↓OFF-LINE↓			READ TAPE
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These OFF-Line functions, excluding READ TAPE, are set in the same manner as the ON-Line functions. The READ TAPE software label key is explained in Section 4.3.8.

Figure 4-4 shows the OFF-Line screen display. The only part of this display which will change is the number of networks, as networks are programmed.

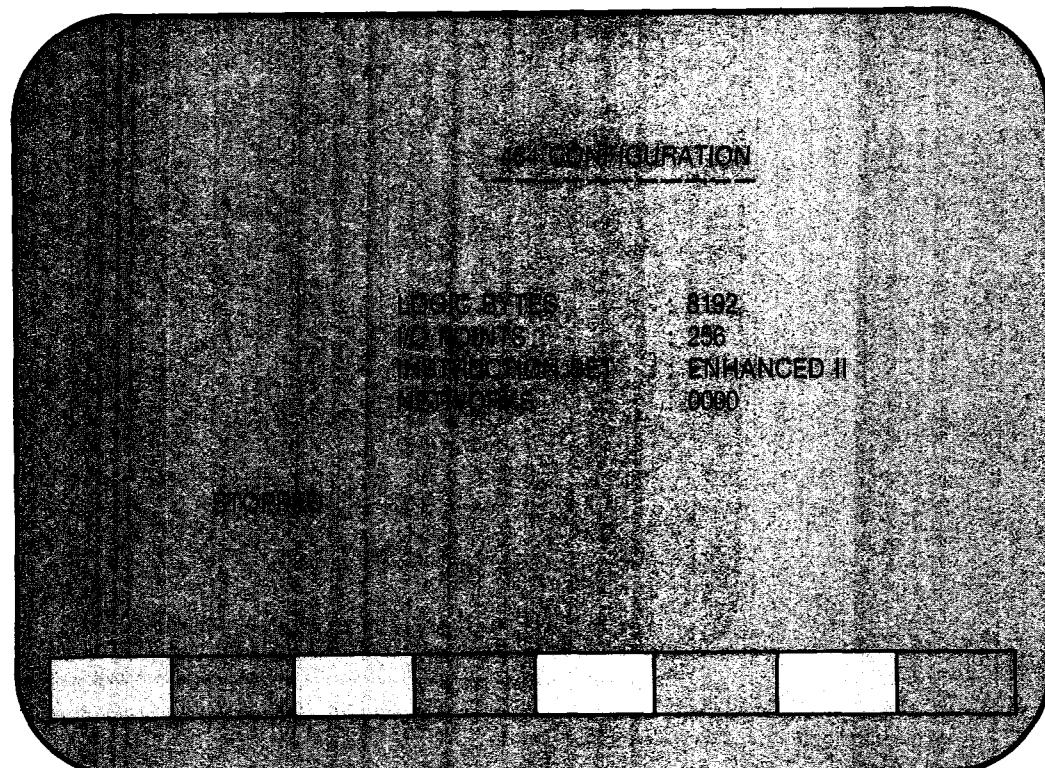


Figure 4-4. OFF-Line Screen Display

## 4.3.6 J470/J474 (ON-Line)

This toggle-type software label key enables you to select the communications protocol to match the type of interface used. The P190 ladder lister program communicates with the 484 PC via the J470 Adapter or the J474/J475 Interface only. To ATTACH the P190 to a 484 you must select the communications protocol by toggling the J470/J474 key. J470 is the default state of this option and the UNIT ADDRESS for it is always zero.

If the J474 option is chosen, the J474/J475 must be accompanied by a modem such as the J478 and the J474 or J475's unit address must be specified via the AR. The valid range for the unit address is 1-247; the address is wired onto the connector which is attached to the J474/J475. An error message "INVALID UNIT NUMBER" is displayed in case an invalid unit address is entered, and ATTACH is not possible. The J474 option can only be specified with ENHANCED II INSTRUCTION SET of a 484.

## 4.3.7 ATTACH

This software label key "attaches" the 484 to the P190 by initiating communications between the two devices.

## 4.3.7.1 ATTACH (ON-Line)

The P190 is considered attached to a 484 Controller if it has successfully read a controller's configuration while in the ON-Line mode. Note that the EXIT Level can only be reached if an ATTACH was successful. When ATTACH is successful, the information shown in Figure 4-5 is displayed on the P190 screen.

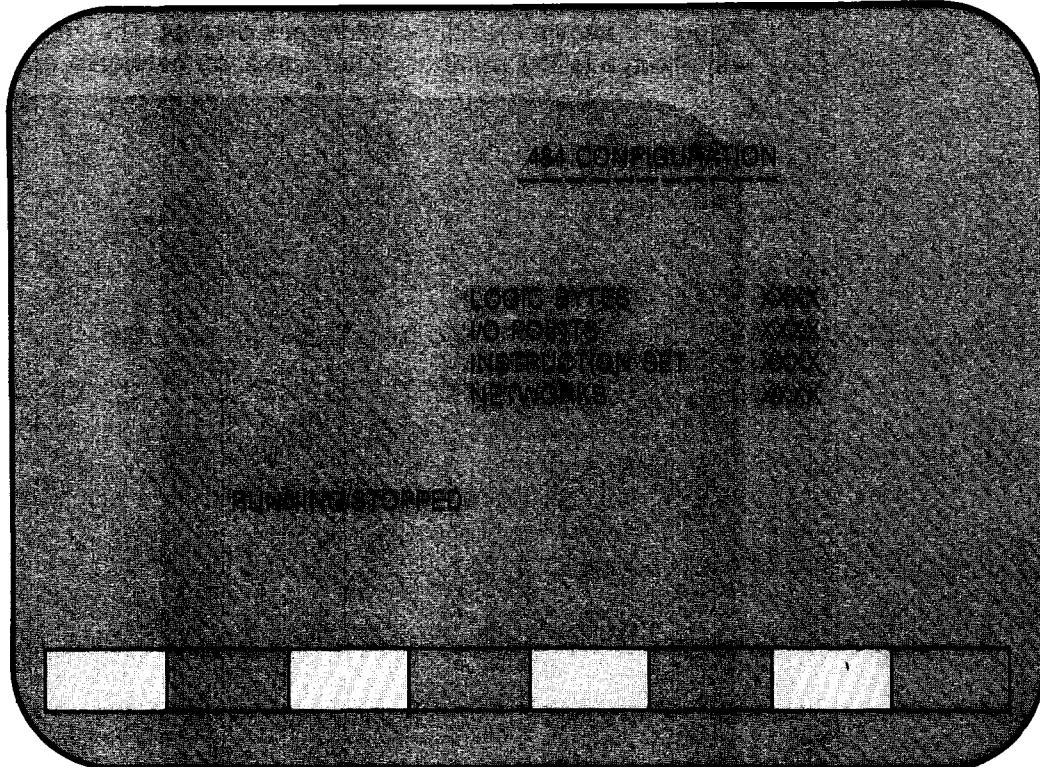


Figure 4-5. ON-Line Screen Display

RUNNING/STOPPED refers to whether or not the controller is running. For logic bytes, I/O points, and networks, XXXX is a decimal value not greater than 9999. The instruction set can be BASIC, ENHANCED I, or ENHANCED II.

#### NOTE

If the controller is attached and you switch from ON-Line to OFF-Line mode, when you return to the ON-Line mode the controller is released and must be reattached.

#### 4.3.7.2 ATTACH (OFF-Line)

When in the OFF-Line mode, the P190 is always attached. The configuration display is the same as the ON-Line configuration display. The 484 defaults to two channels of I/O, 8K of user logic, and ENHANCED II INSTRUCTION SET.

#### 4.3.8 READ TAPE (OFF-Line)

Pressing this software label key causes the contents of a previously created dump tape, which is currently in the tape drive, to be read into the P190. The dump tape contains a copy of the user program in a 484 PC and can be used to create a ladder listing. See Section 3.8 of this manual for details on how to create a dump tape using the tape loader tape.

When the READ TAPE software label key is pressed, the message "INSERT 484 DUMP TAPE AND PRESS COMMENCE" appears on the screen. When the tape is inserted and COMMENCE is pressed, the message "\*\*\*\*LOADING\*\*\*\*" appears on the screen.

When the message disappears, the contents of the tape are loaded and you can go to the EXIT Level. If after pressing the READ TAPE software label key you choose not to read the tape, press CANCEL. Pressing CANCEL returns you to the RESET Level.

### 4.4 EXIT LEVEL

To reach the EXIT Level press the RESET/EXIT key provided the P190 is "attached" to the 484. When this key is pressed it brings up a new level of software labels that enable you to select the next set of 484 operations. The software labels displayed when in the program mode, P190 keylock unlocked, are:



When in the monitor mode, P190 keylock in the locked position, only LISTING OPERATIONS can be performed.

#### 4.4.1 CONTROLLER OPERATIONS

When this software label key is pressed, a new set of software labels is displayed:



Reminder: CONTROLLER OPERATIONS can only be reached in the ON-Line and program modes.

#### 4.4.1.1 START 484 (Program Mode Only)

This software label key sets up the P190 to issue a START command to the 484. When it is pressed the following software labels are displayed:



The command to start the 484 is issued when the CONFIRM software label key is pressed. If the controller is already running when the key is pressed, a message appears indicating that the controller is running, and the command is ignored. If after pressing START 484 you choose not to start the 484, press CANCEL to escape. Press the RESET/EXIT key to return to the EXIT Level.

#### 4.4.1.2 STOP 484 (Program Mode Only)

This software label key sets up the P190 to issue a STOP command to the 484. The CONFIRM and CANCEL software labels are displayed when this key is pressed. The controller is not stopped until the function is acknowledged by pressing the CONFIRM software label key.

If the controller is already stopped when the key is pressed, an error message is displayed indicating that the controller is stopped and the stop command is ignored. As with the START 484 option, the STOP 484 can be canceled before it is executed. Press the RESET/EXIT key to return to the EXIT Level.

#### 4.4.1.3 CLEAR 484 MEMORY (Program Mode Only)

When this software label key is pressed it sets up the P190 to issue an “initialize memory” command to the 484. Like START 484 and STOP 484, the message is not issued until a confirmation is done by pressing CONFIRM. This option can also be canceled before it is executed. Press the RESET/EXIT key to return to the EXIT Level.

#### 4.4.1.4 CONFIRM (Program Mode Only)

This software label key, as explained previously, initiates a previously selected control operation — START, STOP, or CLEAR MEMORY.

#### 4.4.1.5 CANCEL (Program Mode Only)

This software label key, when pressed, causes the P190 to cancel the previously specified action — START, STOP, or CLEAR MEMORY.

#### NOTE

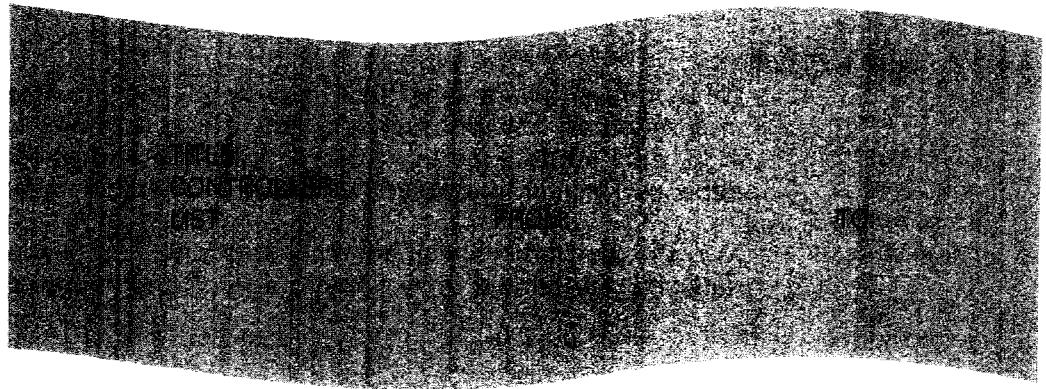
The CANCEL software label key must be pressed before CONFIRM to cancel an operation. Pressing CANCEL has no effect once an option has been confirmed.

#### 4.4.2 LISTING OPERATIONS (Monitor and Program)

When this software label key is pressed the following software labels are displayed:



In addition to this, the screen shows the following fields, beginning at the left-hand edge of the screen:



The spaces are filled with the previously entered values or default values: LIST ALL, FROM 0001, and TO 4254.

LIST ALL is the default value. If neither LIST NETWORK nor LIST REFERENCE is chosen, all the networks and references are printed under the LIST ALL option. The SET PARAMETERS software label does not appear until either LIST REFERENCE or LIST NETWORK is pressed. The SET PARAMETERS software label key must be pressed to set the FROM/TO field.

#### 4.4.2.1 COMMENCE

When this software label key is pressed, the listing is printed. Therefore, the other options should be set before pressing COMMENCE. If COMMENCE is pressed before setting the options, the default options are selected by the program: LIST ALL, XREF, and FORMAT.

The first thing that happens when the COMMENCE software label key is pressed is the validation of the FROM and TO values that you have entered for LIST NETWORK or LIST REFERENCE. If the values are invalid for the listing desired, an error message is displayed. If the FROM and TO values are valid, the ladder lister begins the printing operation.

Once the printing is started there is a way to stop the listing. After COMMENCE is pressed the software label STOP is displayed. To pause the print operation press STOP.

#### NOTE

Before pausing, the listing continues to print out to the end of the section or network currently being printed.

When the STOP is acknowledged and the printing stops, the software labels CONTINUE and ABORT LISTING are displayed. When the CONTINUE software label key is pressed the printing operation continues from where it was paused.

The ABORT LISTING software label key is pressed to abort a listing in progress. When this software label key is pressed a message appears on the CRT screen and the printer: "ERROR: LISTING ABORTED". Press the CLEAR ERROR key to clear the message and continue at the listing operations level.

#### 4.4.2.2 LIST NETWORK

When this software label key is pressed, the numbers in FROM and TO are interpreted as network numbers. Therefore, if reference numbers (e.g., 3021 or 4115, etc.) are located in FROM and TO, the error message "INVALID RANGE" appears. To clear this, reset the numbers to network numbers within a valid range.

ALL the networks specified are listed and, if chosen, cross referenced. The networks are printed three lines to a node and appear as follows:

NETWORK: 0021

## NOTES

If there is sufficient space, more than one network is printed on a page but a network is never split between two pages.

The symbol for a normally closed contact can vary from printer to printer. The one used here is not necessarily a standard.

#### 4.4.2.3 LIST REFERENCE

When this software label key is pressed the numbers entered in FROM and TO, using the SET PARAMETERS function, are interpreted as reference numbers. The numbers must be within the range 0XXX-4XXX. If they are incorrect reference numbers, the error message "INVALID RANGE" is displayed. Enter valid reference numbers to clear the error.

All the references that are within the range of the FROM and TO numbers are printed when COMMENCE is pressed. The listing of 0XXX references includes the network number and disable information. The listing of 1XXX references includes disable information. The listing of 3XXX and 4XXX references gives the register number and its contents.

For 0XXX and 1XXX references, the disable information is indicated by: DN (Disable ON) or DF (Disable OFF). If the coil is not disabled, two dashes (--) are printed. The following is an example of the table:

#### LISTING OF COIL DISABLE/ENABLE STATUS

COIL#	COIL STATUS									
0001	--	--	--	--	DN	--	--	DF	--	--
0011	--	DF	--	DN	--	DF	--	--	--	--

The registers are printed with their contents shown in four different formats — decimal, binary, hexadecimal, and ASCII — using one line per register as shown in the following example.

#### LISTING OF INPUT REGISTER CONTENTS

REG #	DEC	BINARY	HEX	ASCII
3001	000	0000 0000 0000 0000	0000	??
3002	000	0000 0000 0000 0000	0000	??

#### NOTE

The BASIC 484 does not support input registers. The Enhanced I and II controller ladder listings will show input registers with the characters “??” printed in place of non-printable characters.

#### 4.4.2.4 LIST ALL

In the LIST ALL option, the reference range and the network range are based on the configuration of the 484 Controller. The reference range values are entered into FROM and TO for you, by the program. If the LIST ALL option is chosen, all the networks and references present in the controller are listed. If no list function (LIST REFERENCE, LIST NETWORK, or LIST ALL) is specified, LIST ALL is chosen as a default by the program. See Table 4-1 for a list of everything printed under the LIST ALL function, cross references being optional.

## 4.4.2.5 XREF/NO XREFS

This is a toggle-type software label key which indicates whether or not a cross reference of the networks and/or references is done. The ladder lister defaults to the XREFS option for a listing.

The cross references of 0XXX and 1XXX discrete are listed on the page after the disable information, while the cross references of 3XXX and 4XXX registers follow the listing of the register values. The cross reference of the coils in a network is listed directly below the printed network.

In a cross reference, the REF TYPES are:

] [ Normally Open	]P[ Positive Transitional
]÷[ Normally Closed	]N[ Negative Transitional

## 4.4.2.5.1 Network Cross Reference

The network cross reference of coils is by contact type and network number. The following is an example of a cross reference of a network:

COIL#	TYPE	REF
		X-REF BY NETWORKS
0101	J [	0021
	]PC	0017

## 4.4.2.5.2 Coil-to-Network Cross Reference

The coil-to-network cross reference table is printed following the listing of networks. It contains the coils and the network in which each coil is turned on. The following is an example of a cross reference table:

## X-REF OF COILS TO NETWORK#

## OUTPUTS

0001	0003	0003	0004	0000	0022	0000	0000	0022	0005	0005
0011	0000	0022	0000	0022	0000	0022	0000	0000	0000	0000

In the preceding example, column one contains the coil number. The next ten columns contain the network numbers where the coils are turned on; the number of the coil is implied. For example: in line one, 0004 stands for network 4 in which coil 0003 is turned on; coils 0009 and 0010 are each turned on in network 5.

#### 4.4.2.5.3 Coil Cross Reference

The coil cross reference table contains the coil number followed by its contact type and the numbers of the networks it appears in. This cross reference is unlike the coil-to-network cross reference in that the contact types are listed and the networks referenced are all the networks the coil appears in, not just the network it is turned on in. The coil cross reference table looks like the following:

#### X-REF OF COILS BY CONTACT TYPE AND NETWORK#

COIL#	REF TYPE	X-REF BY NETWORKS
0009	] [	0005
0101	] [	0021
	]PC	0017
0196	]PC	0009
0201	] [	0005, 0009
	]+[	0005
	]PC	0007-0008

#### 4.4.2.5.4 Discrete Input Cross Reference

In a discrete input cross reference table, the input is printed followed by its reference type and a list of the networks where it is being used. The cross reference table looks like the following:

#### X-REF OF DISCRETE INPUTS BY CONTACT TYPE & NETWORK#

INP#	REF TYPE	X-REF BY NETWORKS
1001	] [	0001, 0003, 0006, 0021
	]+[	0003-0006
1002	]+[	0021
1003	] [	0021
1004	] [	0001
	]+[	0021
1005	]+[	0001

## 4.4.2.5.5 Sequencer-to-Network Cross Reference

All 2XXX sequencers used are listed in the left, SEQ #, column followed by contact types and all the networks that the sequencer appears in. A sequencer cross reference listing looks like the following:

## X-REF OF SEQUENCERS BY CONTACT TYPE AND NETWORK#

SEQ#	REF	TYPE	X-REF BY NETWORKS
2101	]	[	0004
2503	]	[	0006
2611	]	[	0006-0008

## 4.4.2.5.6 Input Register Cross Reference

In a 3XXX input register cross reference table, the register number is printed followed by the type of register, INP, and a list of the networks where the register is being used. With a BASIC 484 Instruction Set this option is not available.

The input register cross reference table looks like the following:

## X-REF OF INPUT REGISTERS BY NETWORK#

REG #	TYPE	X-REF BY NETWORK #
3001	INP	0004, 0007-0008
3002	INP	0005, 0007-0008

## 4.4.2.5.7 Output/Holding Register Cross Reference

The cross reference list of 4XXX registers is separated under the type heading IN or OUT. The IN and OUT lists for each register are completed before going to the next register. With a BASIC 484 Instruction Set this option is not available.

The output/holding register cross reference listing looks like the following:

X-REF OF OUTPUT/HOLDING REGISTERS BY TYPE & NETWORK#		
REG #	TYPE	X-REF BY NETWORK #
4001	OUT	0004-0005, 0019
4002	OUT	0007
4003	OUT	0008
4101	IN	0017
4102	IN	0017
4102	OUT	0018
4103	IN	0017
4104	IN	0017
4105	IN	0017
4105	OUT	0017

In the preceding example, IN indicates that a register is not changed in the reference usage. OUT indicates that the register can be changed by an action of the logic in the reference usage. OUT can also indicate that the register usage can be determined by an actual hardware configuration.

#### 4.4.2.6 FORMAT/NO FORMAT

The options FORMAT or NO FORMAT are chosen by toggling this software label key; the selected option is displayed on the screen.

The ladder lister defaults to the FORMAT option in which the ladder lister starts a new page:

- at the beginning of a listing
- when there is no room on the current page
- when the listing of a series is done

When FORMAT is chosen the page header information appears on every page of the listing.

When the NO FORMAT option is specified, only lines three and four of the page header information are listed on the first page along with the configuration display. The page heading is not contained on any of the pages of the listing. The NO FORMAT option allows you to list one or a few networks at a time, a partial listing, and thereby eliminates the wasteful use of paper.

#### 4.4.2.7 SET PARAMETERS

When this software label key is pressed the following software labels appear:



#### 4.4.2.7.1 LADDER LISTER

This software label key is used to return to the EXIT Level upon completion of setting the parameters.

#### 4.4.2.7.2 ALL

When this software label key is pressed the listing contains all the networks or 0001-4XXX references found in the controller.

#### 4.4.2.7.3 FROM and TO

When you want only a partial listing of networks or references, use the FROM and TO software label keys. Values for FROM and TO are entered into the AR via the numeric keys section of the keyboard. Once the number you want is in the AR, press the appropriate software label key, TO or FROM, to enter the value.

The FROM number and the TO number must be between 0001 and the highest 4XXX series register for the LIST REFERENCE option. For the LIST NETWORK option this number must be between 1 and the highest permissible network number.

If the TO number is greater than the highest reference number or network number, an error message "INVALID RANGE" is displayed. Correct the number to clear the error.

### 4.5 THE LISTING

When the LIST NETWORK, LIST REFERENCE, or LIST ALL command is finally entered and the COMMENCE software label key is pressed, the listing is printed. Besides the actual listing of references and/or networks there is a front page display and each page contains a heading unless the NO FORMAT option has been selected.

#### 4.5.1 Front Page Display

The 484 Controller configuration parameters are located at the beginning of each listing. The configuration appears exactly as displayed on the screen at the RESET Level. (Refer to Section 4.3.7.1.)

#### 4.5.2 Page Header

The page heading consists of four lines. The first two lines appear on every page of a listing if the FORMAT option has been selected. The third and fourth lines are printed only on the first page of a listing, FORMAT or NO FORMAT. The following is an example of the page heading format:

(LINE 1)	GOULD MODICON-P190/484	LADDER LISTER	DATE	PAGE: 0XXX
(LINE 2)	(60 CHARACTER TITLE)			
(LINE 3)	CONTROLLER: FROM: XXXX	(6 CHARACTERS) TO: XXXX	EXEC: (ENHANCED I, etc.)	
(LINE 4)	FORM FEED or NO FORM FEED	CROSS REFERENCE or NO CROSS REFERENCE	FORMAT or NO FORMAT	LIST ALL or LIST NETWORK or LIST REFERENCE

## 4.5.3 Notes:

1. The DATE is set at the RESET Level. The PAGE number is controlled by the software of this program.
2. The TITLE is set at the RESET Level. The text for TITLE can be up to 60 alphanumeric characters.
3. The CONTROLLER name is set at the RESET Level. The EXEC is determined by the type of INSTRUCTION SET being used. The values in FROM and TO are taken from your input at the EXIT Level.
4. The options listed (e.g., FORM FEED, NO FORMAT, LIST ALL, etc.) are the options that you chose at the RESET (FORM FEED/NO FORM FEED) and the EXIT Levels, or the default values.