

TAPE LOADER

The tape loader tape (T190-001) allows the P190 to:

1. Load — loads a previously recorded program, including the configuration table and traffic cop, into the 584's memory. Memory size must be sufficient to store all the logic, and the controller must be able to perform all the functions on the tape.
2. Dump — records a 584's memory onto tape.
3. Relocate Logic — loads the user logic only (no configuration table and no traffic cop) from a previously recorded program into the 584's memory. Typically used to load programs from another controller, or, to replace user logic over a new configuration table and traffic cop.
4. Verify — compares a 584's memory vs. tape. Verifies that data is loaded or dumped accurately. May also be used as a security measure to ensure that no changes to memory have been made.
5. Start — controller starts solving logic and updating I/O.
6. Stop — controller stops solving logic and updating I/O.
7. Clear Memory — clears user logic (networks and ASCII messages) from memory. Configuration table and traffic cop remain intact.
8. Evaluate Tape — ensures tape quality.

NOTE: See pages 20-7 and 20-8 for tape loader menu chart.
See page 20-3 for tape loader error and information messages.

Dump Procedure

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 "584 OPERATIONS".
5. Press "DUMP". The controller may be running while dumping.
6. Remove the tape loader tape and insert a write enabled blank tape.
7. Optional — press "ENTER TITLE" and type up to 52 alphanumeric characters.
8. Press "END TITLE".
9. Optional — press "ENTER DATE" and type a six digit date (083184 = August 31, 1984).
10. Press "PROCEED".

Load Procedure

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 "584 OPERATIONS".
5. Press "STOP 584".
6. Press "PROCEED".
7. Press "LOAD".
8. Remove the tape loader tape and insert a previously recorded "DUMP TAPE".
9. Press "PROCEED".

TAPE LOADER

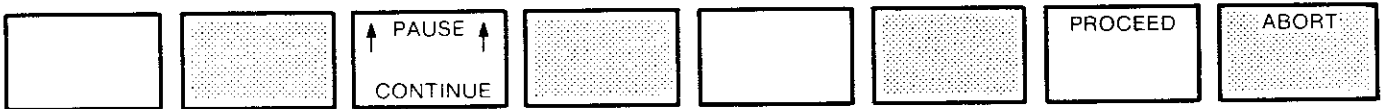
Relocate Logic Procedure

1. Ensure that the 584 has a valid configuration table, traffic cop, and that the number of segments on the dump tape and in the 584 are equal. (See Chapter 12.)
2. Follow the "LOAD PROCEDURE" above, except press "RELOCATE LOGIC" instead of "LOAD" in Step 7.

Verify Procedure

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 "584 OPERATIONS".
5. Press "VERIFY TAPE WITH 584".
6. Remove the tape loader tape and insert a previously recorded "DUMP TAPE".
7. Press "PROCEED".

The verification process begins, and the following menu is displayed:



PAUSE/CONTINUE — toggle this software labeled key to select between "PAUSE" and "CONTINUE". The selection is indicated by the arrow within the keypad display.

"PAUSE" = verification stops when a miscompare is found.

"CONTINUE" = verification continues when a miscompare is found.

PROCEED — starts or restarts the verification procedure.

ABORT — stops the verification procedure, displays exit level menu.

A miscompare generated by the normal operation of the controller will be in the "WORDS" area as noted under "MEMORY TYPE". If, for example the 584 has been stopped or started since the production of the dump tape, a miscompare will result in the status area. Discrete and register data may have also changed (e.g. a timer register may have change value). If, however, a miscompare occurs in the "NODES" area, then logic has been altered and further examination of the program is in order.

The P190 displays the following during verification:

Title:

Date:

Transfer Address: None

Action	Count	Memory Type	Address
Verifying	171	Words	F0000

*Total Retry Count = 0000

Last Miscompare:

Address	Memory	Tape
F0000	1004	1000

*Up to 6 retries will be made. Use this count to judge quality of communications link. If 6 retries per any I/O operation fails to complete a transaction, then a P190 error message will be displayed.

INFORMATION AND ERROR MESSAGES - TAPE LOADER TAPE (T190-001)

The messages shown on the P190 Programmer screen during use of the tape loader tape serve two purposes: to supply instructions and information, and to alert the user to errors in operation and programming. The messages listed in this section are listed alphabetically and defined. Suggested action is given to help the user correct error conditions. All error messages may be cleared from the screen by pressing CLEAR ERROR, except for those that disrupt communications. Errors involving illegal or invalid data in the AR may be cleared by pressing CLEAR AR.

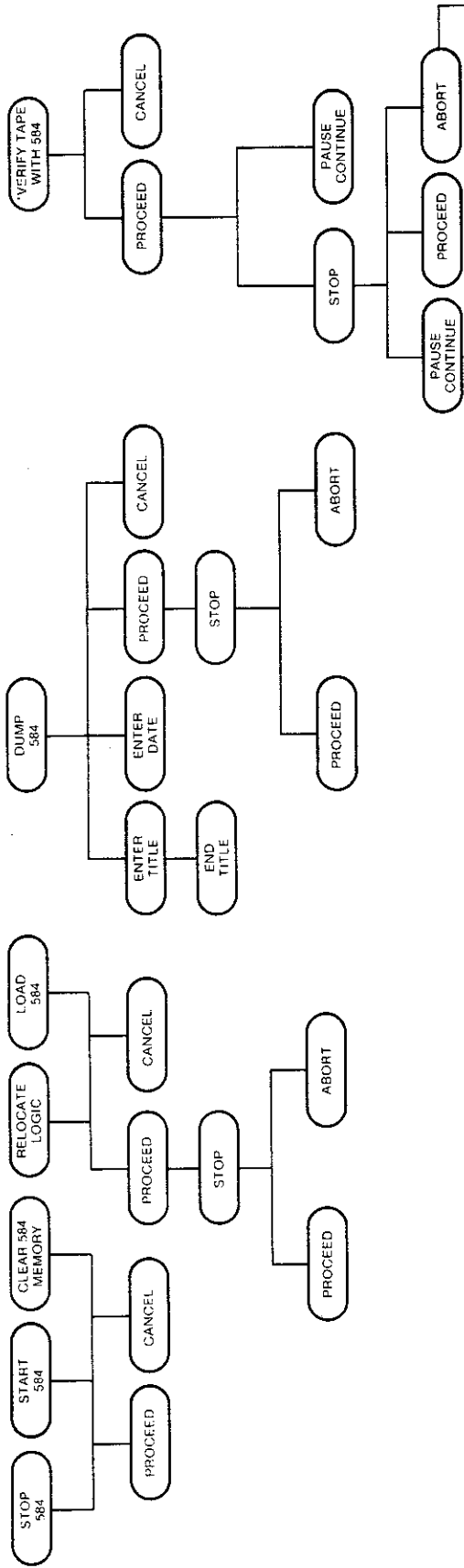
Message	Description	Suggested Action
AR not decimal	The information being entered must be decimal, as in the case of reference numbers.	CLEAR AR and enter decimal data.
Bad length received	Communications error in message received from PC.	CLEAR ERROR, RESET, reattempt operation.
Controller has space for XXXXX nodes - tape has XXXXX	This message may occur during the relocate logic operation. The logic space in the controller is not the same size as the logic on the tape to be loaded. The load may be performed if there is sufficient space in the controller.	Press "Stop", "Abort", if the tape has more logic than the controller has room for.
Controller has XXX segments - tape has XXX	This message may occur during the relocate logic operation. The number of logic segments in the 584 PC differs from the number of logic segments on the tape to be loaded. The operation may not be performed.	
Controller in dim awareness - function aborted	The relocate logic operation cannot be performed because the controller has not been configured.	Configure controller, using 584 Config Tape, then retry.
Controller running	The attempted action cannot be performed because the controller is running (such as trying to clear memory on a running controller).	Make sure that the right controller has been selected. If it has, stop controller, then perform action.
Controller running - load not allowed	A running controller may not be loaded.	Make sure that the right controller has been selected. If it has, stop controller, then perform load.
Configuration incompatible	This is a warning message. The configuration of the 484 controller and the configuration on tape are not compatible. The selected operation may be performed, at user's risk, if there is sufficient memory in the 484 PC.	
CRC failure	Indicates a communications error picked up by the error checking (CRC = cyclical redundancy check).	CLEAR ERROR, RESET, and reattempt operation.

Message	Description	Suggested Action
Dump complete	The dump of a PC's memory to tape has been completed, the dump tape may be removed from the P190 programmer.	
End of tape encountered	This message is a warning that the end of tape has been reached before it should have appeared.	Remove tape and retry operation. If error reoccurs, select new tape.
End of tape fault	The tape has run out, past the allowable point. This message follows "End of tape encountered."	Remove the tape and retry the operation with a new tape.
XXX errors - verify complete	This message notes the number of errors which were encountered during verification (comparison), and indicates that the verification operation has been completed.	
Fatal I/O error must initiate reset sequence	Communications error message has been cleared from screen. RESET must be pressed to be able to reinitiate communications.	RESET, and reattempt operation.
Function not allowed	The requested function may not be performed at this time.	
Insert blank tape and press commence	Insert a blank tape (T190-000). Make sure record tab is all the way to the left. Press the "commence" CRT label key. This message is a prompt during dump operations.	
Insert 584 dump tape and press commence	Insert tape containing memory dumped from a 584 PC and press the "commence" CRT label key.	
Invalid address Invalid command Invalid node Invalid parameter	} Communications error in the area indicated.	CLEAR ERROR and reattempt operation.
Invalid reference number	The reference number (e.g., 0XXXX, 1XXXX, 3XXXX, 4XXXX) is not valid for the type of operation used.	Enter valid reference number (e.g., 0XXXX, or 1XXXX for a contact, 4XXXX for a DX destination).
Invalid unit #	The unit number (device address) is not in the valid range, 1 through 246, inclusive.	Enter appropriate unit number, from 1 to 247.
Load complete	} The load operation has been successfully completed. If new baud rates for peripheral ports 1 and 2 have been set, they are displayed.	
Load complete - new port 1 & 2 baud rates:		
Load not possible - press abort key	The load cannot be performed. This may be because of a misreading of the tape, or an incompatibility between the tape and PC.	Press the "Abort" CRT label key and retry operation.

Message	Description	Suggested Action
Memory full	The limit for user logic space has been reached.	Review programs for best use of memory.
Memory protect ON	The desired action may not be performed because the PC memory protect keylock is ON.	Memory protect must be unlocked to perform desired action.
No function assigned to key	The selected key does not have a valid function at this stage of operation (such as pressing a key with no CRT label).	Select valid key.
Not attached to the controller	The selected operation cannot be performed because the P190 programmer is not attached to the controller.	Attach to controller, and perform operation.
Not logged in	The selected function or key is not operative because the P190 programmer is not attached to the controller.	Attach P190 programmer to the controller and perform operation.
Only decimal or hexadecimal characters allowed in AR	Special characters (such as /, ?, ;) are not allowed in the AR. Only decimal (0-9) and hexadecimal (0-9, A-F) are allowed.	Enter valid data.
Port empty or unattached	Communication is not possible through the selected port because there is no connection, either to a printer or to a controller.	Check connection at P190 programmer and at peripheral device.
Port 2 transmit timeout	Occurs during print operations. Indicates that communications have been interrupted.	CLEAR ERROR and retry operation.
Port 2 UART status error	} Communications error.	CLEAR ERROR and retry operation.
P190 UART status error		
Relocation complete	The "relocate logic" operation has been successfully completed.	
System Error: XXXX	Four digit number may indicate a single error (see list below) or the hexadecimal, no-carry, sum of several errors. Example: Peripheral port "stop" 8000 CPU diagnostic failure 0020 Invalid node type 0008 Logic check sum error 0004	Error may appear after a tape is loaded and before the controller is configured. In most cases, these are benevolent messages caused by loading and may be ignored. But if communications appear to be interrupted, reload the tape.

Message	Description	Suggested Action
System Error: XXXX (Cont.)	System error: 802C Since there is no carry, each set of errors produce a unique system error code.	
	0001 Illegal configuration.	
	0002 Backup checksum error.	
	0004 Logic checksum error.	
	0008 Invalid node type.	
	0010 Invalid traffic cop type.	
	0020 CPU diagnostic failure.	
	0040 Realtime clock failure.	
	0080 Watchdog timer (WDT) failure.	
	0100 No end-of-logic (EOL) or bad number of segments.	
	0200 State RAM test failure.	
	0400 Start-of-network (SON) Mode did not start segment.	
	0800 Bad multi-rate table.	
	1000 Illegal panel or host CPU intervention.	
	2000 Illegal mini-code instruction.	
	4000 (Reserved).	
	8000 Peripheral port "Stop".	
Tape checksum failure	Tape error. The operation is aborted.	Select another tape.
Tape drive not ready	No tape has been inserted into the tape transport.	Insert appropriate tape.
Tape drive timeout	Tape transport or tape error.	Retry operation. If the error reoccurs, try a new tape.
Tape record ID error	The wrong tape for the operation has been inserted (such as using a 484 PC dump tape to load into a 584 PC). This may also be caused by a tape read error.	Select appropriate tape if the wrong tape has been used. If the right tape was used, make sure tape has rewound to the start position and retry.
Tape record sequence	This message may occur during load or relocate logic operations. The information on the tape is out of sequence or there may be a tape read error.	Retry operation. Make sure tape has rewound to start position.
Tape UART status error	This is a tape error which may occur during load or relocate logic operations.	Retry operation. If the error reoccurs, try a new tape.
Tape verification error	This message occurs during evaluation of a tape or during a dump operation. The information on the tape has been written incorrectly.	Retry operation. If the error reoccurs, try a new tape.
Tape write protected	The tape may not be written over because the "record" tab is in the "write protect" position. This may be because the tape is to be saved.	Make sure the tape is meant to be written over. Locate the "record" tab in the upper left-hand corner of the tape. Slide the tab all the way to the left. Insert into tape transport and retry operation.
Timeout error-communications down	Communications error in message sent to controller.	CLEAR ERROR, RESET.

EXIT LEVEL



NOTE: IF MISCOMPARE OCCURS IN "PAUSE" MODE THIS MENU IS DISPLAYED

RESET LEVEL MENU

