1. ERROR MESSAGES

1.1.   Standard Error Message

? (question mark) is the standard error message in Max-FORTH.

An error exists when Max-FORTH responds with a **?** prefixed with one of the following:

- the most recently entered word which is not part of the Max-FORTH dictionary, or

- the most recently entered number which is not valid under the current BASE.

Example: Enter WRONG . WRONG is not a part of the Max-FORTH dictionary, therefore, Max-FORTH will respond with WRONG ? . Enter HEX . Max-FORTH will respond with OK . Type 10H . Max-FORTH will respond with 10H ? since 10H is not a valid hexadecimal number (the H character is not a valid hexadecimal digit).

1.2.   Standard Error Message Routine

Max-FORTH has a standard routine for handling errors depending on the value of the user variable WARNING which is not named in the dictionary of Max-FORTH V3.3 and older versions:

WARNING value   *Max-FORTH action*

less than 0   executes the word ABORT (as vectored through user variable UABORT)

0 (default)   prints an error message number n

greater than 0 assumes that a disk (RAMdsk) is in use, takes screen 1 and indexes into it for line to show with error.

1.3.   Error Message Definitions

When Max-FORTH detects an error condition, it may respond with an error message which corresponds to an error message number shown in the Table below. Max-FORTH clears the stacks and executes QUIT as its last actions when an error is processed, except for the following messages:

- **NOT UNIQUE**   Has no effect on stacks, Max-FORTH execution continues normally.

- **HAS INCORRECT ADDRESS MODE**   Shows the name of the code word being defined, the name of assembler op-code word being interpreted, and the message number.

1.4.   Max-FORTH Error Messages

Number	Message	Definition	Recovery Action
0	?	Echoed word was the most recently interpreted. The word is not in the dictionary or is not a valid number.	Check the word's name for spelling error or define the named word. Check if the number is valid under current BASE or change BASE.
1	STACK EMPTY	Parameter stack is empty.	Use proper stack management. Correct use of numbers on the stack. Match available to number needed by current operation.
2	DICTIONARY FULL	Dictionary space is used up.	FIRST HERE - is less than $A0. ~~Increase dictionary space by moving FIRST~~, or by FORGETing disposable word entries.
3	HAS INCORRECT ADDRESS MODE	Address mode for assembler op-code is incorrect.	Correct the address mode.
4	NOT UNIQUE	The <name> of the word just defined already exists in the dictionary.	Latest definition of <name> will be used. See further explanation following table.
5		not assigned	
6		not assigned	
7	FULL STACK	The parameter stack is full.	Use proper stack management. DROP or output some stack item.
8		not assigned	
9		not assigned	
10		not assigned	
11		not assigned	
12		not assigned	
13		not assigned	
14		not assigned	
15		not assigned	
16		not assigned	
17	COMPILATION ONLY	The word just interpreted must be used inside of a definition.	Do not use the word outside a colon definition. Probably structure words such as DO, IF, BEGIN, etc.
18	EXECUTION ONLY	The word just interpreted must be used outside of a definition.	Do not use the word inside a colon definition. Probably words like .(etc.
19	CONDITIONALS NOT PAIRED	Omitted words or incorrect nesting of conditionals.	Correct or add the conditional pair. Probably IF used without corresponding THEN.
20	DEFINITION NOT FINISHED	Definition is not finished or delimiter is missing.	Finish the definiton or add delimiter. Probably, DO used without corresponding LOOP. May also indicate a stack imbalance during an IsoMax definition.
21	IN PROTECTED DICTIONARY	The word in question is below the FENCE. The word in question is not a "core" word, when compiling for small targets.	Quit trying to FORGET a protected word or move FENCE. Don't try to use a word above FENCE, or switch to a larger target CPU.
22	USE ONLY	Incorrect use of the word -->	Do not use --> when not loading.

	WHEN LOADING		
23	NO NAME	Name expected in input, not found.	Use appropriate <name> string. Probably a defining word expected a string to convert into a name.
24		not assigned	
25		not assigned	
26		not assigned	
27		not assigned	
28		not assigned	
29		not assigned	
30		not assigned	
31		not assigned	
32	FOR-INPUT MISSING PARAMETERS	FOR-INPUT used without TEST-MASK, DATA-MASK, AT-ADDR.	Provide all three parameters.
33		not assigned	
34		not assigned	
35		not assigned	
36		not assigned	
37	NOT A STATE WORD	A STATE word is required.	You must use a word defined as an IsoMax STATE for this operation.
38	THEN-STATE REQUIRED	THIS-TIME or NEXT-TIME used without THEN-STATE.	Provide the missing parameter.
39	CYCLE COUNT REQUIRED	SCHEDULE-RUNS used without EVERY..CYCLES.	Provide the missing parameter, in the format EVERY n CYCLES.
40		not assigned	
41	AS-TAG MISSING PARAMETERS	AS-TAG used without WITH-VALUE, AT-ADDR.	Provide the missing parameters.
42		not assigned	
43		not assigned	
44	FOR-OUTPUT MISSING PARAMETERS	FOR-OUTPUT used without SET-MASK, CLEAR-MASK, AT-ADDR or AND-MASK, XOR-MASK, AT-ADDR.	Provide all three parameters. SET-MASK requires CLEAR-MASK. AND-MASK requires XOR-MASK.

A further explanation may be useful in understanding the special "NOT UNIQUE" warning. This is a warning and not an error, per se. If the two definitions are an exact match, the latest definition will be used and the former definition will remain in the dictionary, but can not be found, since all searches of the dictionary stop at the latest occurrence found. This message may also occur when full sized name matches reduced-number-of-characters name in ROM. To save space in the ROM some words had a reduced number of characters stored in their name field. For instance, in the WORDS list, the word LOOP can be seen as "EE82 LOO_". This shows LOOP has only three significant characters in its name in the internal ROM, but is listed as having 4 total characters (as can be verified by the _ indicating a truncated character). Consider what happens when a new word is defined with the name LOOK. The new words name matches LOO_. So the warning is issued. No problem occurs in this case, however. Both names can can still be found. When LOOK is referenced the new definition is found in the dictionary search. When LOOP is used, the new definition LOOK is not considered a match because of the explicitly expressed characters. The P and K characters don't match.

The earlier definition LOO_ does match. The three significant characters LOO match and the total length 4 matches as well. So both definitions can still be referenced, even though a warning message was issued.