\MCS51\SAM\PFG100A.DOC

PFG100 REVISION A

A new revision to the original PFG100 is described that introduces 2 new

features.

1. The frequency range is extended downward to 1 Hz so it is now 1 - 10,000 Hz. This allows it to be used in the 1 - 4 Hz region described by Bob Beck for blood cleansing.
2. A 4K EEPROM is allowed which increases the number of Master frequencies to 96 and the number of Program frequencies to 264 min if all 96 Master frequencies are used and the maximum of 18 programs are used. Each Master frequency not used adds 2 more Program frequencies and each Program not used adds 1 more Program frequency.

Old programs will work with the PFG100A, so the PFG100.EXE software is

compatible. New PFG100A.EXE software is available that takes advantage of the new limits. It can create files for either the PFG100 or PFG100A.

The PFG100A requires a new microcomputer and a 93C66 EEPROM to achieve the new limits. The new microcomputer will function with a 93C56 used in the original PFG100 but with reduced limits.

The file structure of the original PFG100 is:

1. Master frequencies begin at NVMEM address 3F and extend down for as many frequencies as there are, up to 64.
2. Program 1 starts at 40H with a LS 1-byte header and a MS lowest frequency address from 0 to 3F. The LS nibble of the 1-byte header contains the Dwell time index, while bits 6:4 contain the Interrupt time index. Bit 7 is always 1. The lowest frequency address contains bit 6 = 1 if it is the SCAN mode instead of the STEP mode. Two consecutive headers without any program frequency locations between indicate the end of the program data.
3. The most significant word is 8080 which identifies this file as an original and not an A version file. Sometimes a 93 header is used with no program frequencies when there is an empty program.

The file structure of the new PFG100A is:

1. Master frequencies begin at 40H if there are fewer than 65 master frequencies or up to 5FH with 96 master frequencies.
2. Program 1 starts just above the highest master frequency and has a 2-byte header. The LS byte of the header contains the same Interrupt and Dwell info as the 1-byte header of the original PFG100. The MS byte contains the STEP/SCAN info. If it = 00 then the mode is STEP and if it is = 40H the mode is SCAN. The program frequency locations are 1-byte as above but if there is an odd number, a 7F filler byte is added so that the 2-byte headers are contained in 1 word and not split between 2 words.
3. The MS word is 8180 to A080 where the MS byte designates the highest master frequency location, calculated by making bit 7 = 0 and adding 3F. For example: 8580 would be 05 + 3FH or 44H as the highest master frequency location.