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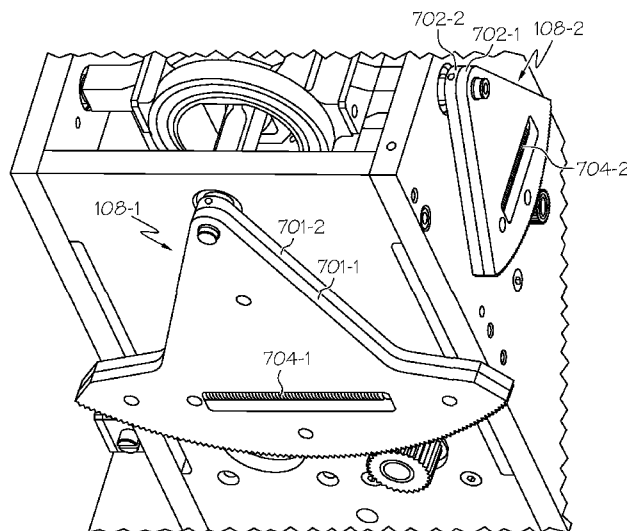
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(54) **Title:** ACTIVE HUMAN-MACHINE INTERFACE SYSTEM INCLUDING INTERPOSED SECTOR GEARS



(57) **Abstract:** A human-machine interface assembly (100) includes a user interface (102) a first motor (106-1), a second motor (106-2), a first sector gear (108-1), and a second sector gear (108-2). The user interface is configured to rotate about a first rotational axis and a second rotational axis that is perpendicular to the first rotational axis. The user interface is responsive to an input force to rotate about one or both of the first and second rotational axes. The first motor is disposed apart from the first rotational axis and generates a drive force about a third rotational axis that is parallel to the first rotational axis. The second motor is disposed apart from the second rotational axis and generates a drive force about a fourth rotational axis that is parallel to the second rotational axis. The first sector gear is coupled between the first motor and the user interface, and the second sector gear is coupled between the second motor and the user interface.



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A. CLASSIFICATION OF SUBJECT MATTER

INV. G05G9/047 G05G23/02 F16H55/18

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

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Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical search terms used)

EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

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Y	paragraph [0017] - paragraph [0025]; figures 1,2	2,3
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Further documents are listed in the continuation of Box C

See patent family annex

* Special categories of cited documents

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'E¹' earlier document but published on or after the international filing date

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'O' document referring to an oral disclosure, use exhibition or other means

'p' document published prior to the international filing date but later than the priority date claimed

'T' later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

'X' document of particular relevance the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

'Y' document of particular relevance the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents such combination being obvious to a person skilled in the art

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A	EP 0 079 184 A (XEROX CORP [US]) 18 May 1983 (1983-05-18) abstract; figure 1 -----	2,3
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