

METHOD OF CONTROLLING MULTIPLE AIR CONDITIONER

BACKGROUND OF THE INVENTION

5 This invention relates to multiple air
conditioner, more particularly a method of controlling
multiple air conditioner which is performed in a cooling
mode or a warming mode corresponding to changing of
temperature of outdoor when user demands cooling mode and
10 warming mode at the same time.

 In traditional air conditioner, when the cooling
mode and the warming mode are required to each the room
at the same time, namely, when different driving signals
are inputted to the air conditioner, it is driven in
15 accordance with original set up driving mode of an indoor
machine, on the other hand another indoor machine which
have another driving mode alarms to user. Further when
first driving mode is finished, namely after a compressor
becomes off-state, said indoor machine having another
20 driving mode drives.

 Referring to multi heat pump air conditioner as
shown in FIG.1, firstly, if warming driving mode is
inputted to the air conditioner under the state of first
indoor machine A is driving at cooling mode and second
25 indoor machine B is stopped, the indoor machine A

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continually executes driving colling mode and the indoor machine B alarms in state stop. Secondly, if each indoor machine requires different driving mode under the state that both of the indoor machine A and the indoor machine B are stoped, two driving modes of the indoor machines A, B becomes same in state stop with alarms or the air conditioner is driven only when off-signal is inputted to one indoor machine.

Heretofore, in traditional multiple air conditioner, when different driving modes are inputted by an user to each indoor machine, it is problem that driving mode of an indoor machine being driven in present decides driving mode of the air conditioner without considering pleasantness of the user and an indoor temperature.

SUMMARY OF THE INVENTION

The present invention is accomplished in view of the foregoing, it is an object of the invention to provide a method of controlling multiple air conditioner, which controls driving modes of indoor machines in accordance with an outdoor temperature.

In order to achive the object as previously discussed, a method of controlling multiple air

conditioner according to the present invention, specially in case where one outdoor machine is connected with plurality of indoor machine, comprises the steps of judging different driving mode to each other, and driving a corresponding indoor machine in accordance with comparing value as a result of comparing outdoor temperature with set up first temperature and second temperature.

In the above step, if the outdoor temperature is more than first set up temperature T1 an indoor machine having colling driving mode is driven, further if the outdoor temperature is less than second set up temperature T2(T2 is less than T1 or equal to T1) an indoor machine having a warming driving mode is driven, and lastly if the outdoor temperature is between first set up temperature T1 and second set up temperature T2 an indoor machine having original set up driving mode by the user is driven.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG.1 is a drawing showing a cycle of traditional two rooms driving multiple air conditioner.

FIG.2 is a flowchart showing a method for controlling multiple air conditioner in accordance with

this invention.

DETAILED DESCRIPTION OF THE INVENTION

5 Hereinafter a method for controlling multiple air conditioner according to this invention is discussed in detail with reference to the accompanying drawing.

10 In multiple air conditioner having plurality of indoor machine and one outdoor machine as shown in FIG.1, if driving mode is a cooling mode, a refrigerant(not illustrated) having high temperature and pressure outflowed from a compressor D is condensed in the outdoor machine(as function of heat exchanger) C via a four way valve E. And condensed high compressure refrigerant
15 expands via an inverse valve 7 for cooling flowing and storage device 5 for lay up refrigerant as liquid refrigerant in two solenoid valves 3,4 for maintaining constant mass of refrigerant and two fixed temperature type expansion valves 1,2 for inhibiting flowing of
20 refrigerant to the compressor D. Expanded low compressure refrigerant having low degree of dryness evaporates during pass over two indoor machines(as function of heat exchanger) A,B, and then the over-heated low compressure refrigerant having high temperature is inflowed to the
25 compressor D via two ON/OFF solenoid valves 9,10, the for

way valve E and an accumulator 8 in order.

While if driving mode is a warming mode, the refrigerant having high temperature and pressure outflowed from the compressor D is condensed in the indoor machine A,B via the four way valve E and the ON/OFF solenoid valves 9,10. And condensed high compressure refrigerant is firstly expanded in the solenoid valves 3,4 via two inverse valves for warming flowing 11,12 and secondly expanded in a fixed temperature type expansion valve 6 for warming mode via the storage device 5. Expanded low compressure refrigerant having low degree of dryness evaporates during pass over the outdoor machines C, and then the over-heated low compressure refrigerant having high temperature is inflowed to the compressor D via the for way valve E and the accumulator 8 in order.

A method of controlling multiple air conditioner in accordance with the present invention, in case where user inputs two different signals, as one signal for cooling mode and another signal for warming mode, a movement of the multiple air conditioner is excuted by a cycle as described hereinafter.

If an outdoor temperature is more than first set up temperature T1, one indoor machine having colling driving mode is driven but another indoor machine having

warming mode is not driven with lighting up a lamp which represents that the machine is standing by ready to drive, further if the outdoor temperature is less than second set up temperature T_2 (T_2 is less than T_1 or equal to T_1), one indoor machine having a warming driving mode is driven but another indoor machine having cooling mode is not driven with lighting up a lamp which represent that the machine is standing by ready to drive, and lastly if the outdoor temperature is between first set up temperature T_1 and second set up temperature T_2 , one indoor machine having the original set up driving mode by the user is driven but another indoor machine having driving mode which is different from the original set up driving mode is not driven with lighting up the lamp which represent that the machine is standing by ready to drive.

FIG. 2 is a flowchart showing the preferable embodiment of a method for controlling an air conditioner in accordance with this invention, an indoor machine which is previously driving is called a machine A in the following.

There are two cases of different two driving modes inputted by an user, firstly an indoor machine A have a cooling mode and another indoor machine B have a warming mode, and secondly the indoor machine A have the

warming mode and the indoor machine B have cooling mode.

In first case, only in case where present outdoor temperature is less than second set up temperature T2, the indoor machine B is driven at warming mode but the indoor machine A is not driven with lighting up the lamp, while in case where present outdoor temperature is more than second set up temperature T2, the indoor machine A is driven at cooling mode but the indoor machine B is not driven with lighting up the lamp.

In second case, only in case where present outdoor temperature is more than first set up temperature T1, the indoor machine B is driven at cooling mode but the indoor machine A is not driven with lighting up the lamp, while in case where present outdoor temperature is less than first set up temperature T1, the indoor machine A is driven at warming mode but the indoor machine B is not driven with lighting up the lamp.

As discussed the foregoing, in a method for controlling an air conditioner in accordance with this invention, when an user inputs different two driving mode in a room having plurality of indoor machines, it is possible to control the driving mode of the indoor machines according to an present outdoor temperature.

Having described a specific embodiment of our bearing, it is believed obvious that modification and

variation of our invention is possible in light of the
above teachings.

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WHAT IS CLAIMED IS:

1. A method of controlling multiple air conditioner having one outdoor machine and plurality of indoor machine comprising the steps of:

judging different two driving modes inputted in each indoor machine ; and

driving a corresponding indoor machine in accordance with comparing value as a result of comparing outdoor temperature with set up first temperature and second temperature less than first temperature or equal to first temperature.

2. A method of controlling multiple air conditioner in accordance with claim 1, wherein the driving step is executed when the outdoor temperature is more than first set up temperature an indoor machine having cooling mode is driven, while when the outdoor temperature is less than second set up temperature an indoor machine having warming mode is driven, and when the outdoor temperature is between first set up temperature and second set up temperature an indoor machine having original set up driving mode by the user is driven.

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METHOD OF CONTROLLING MULTIPLE AIR CONDITIONER

ABSTRACT

A method for controlling multiple air conditioner having one outdoor machine and plurality of indoor machine comprises the steps of judging different two driving modes inputted in each indoor machine, and driving a corresponding indoor machine in accordance with comparing value as a result of comparing outdoor temperature with set up first temperature and second temperature less than first temperature or equal to first temperature.

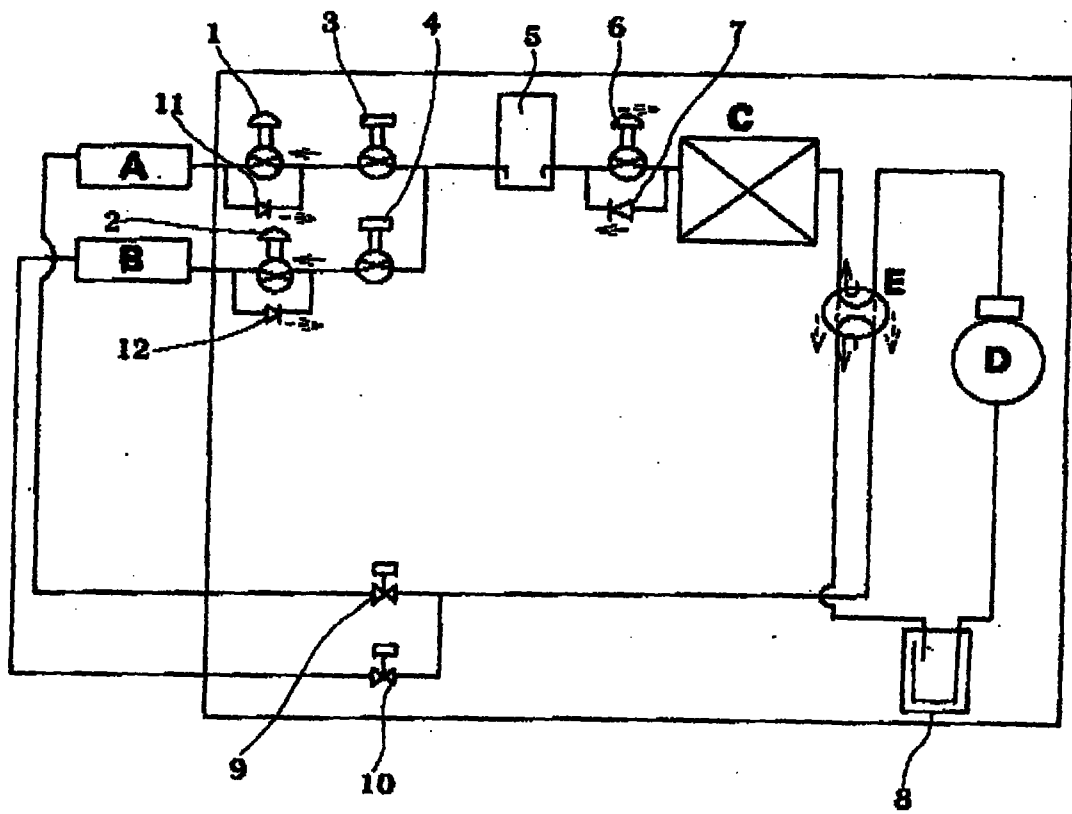
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DRAWINGS

FIG. 1

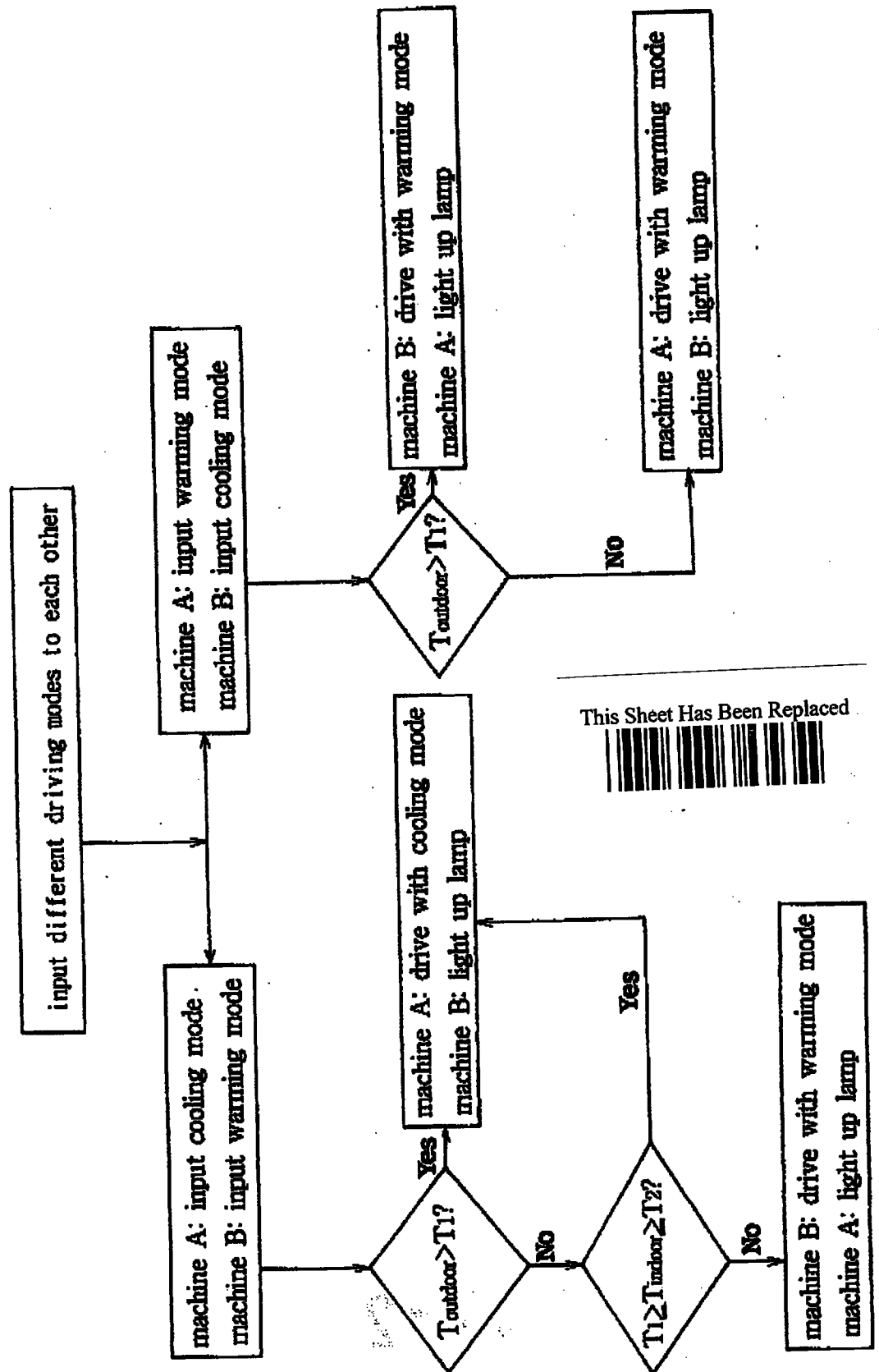
PRIOR ART



— warming mode

- - - cooling mode

FIG. 2



METHOD OF CONTROLLING MULTIPLE AIR CONDITIONER

ABSTRACT

5 A method for controlling multiple air conditioner
having one outdoor machine and plurality of indoor
machine comprises the steps of judging different two
driving modes inputted in each indoor machine, and
driving a corresponding indoor machine in accordance with
comparing value as a result of comparing outdoor
temperature with set up first temperature and second
10 temperature less than first temperature or equal to first
temperature.

Figure 2 of the drawings should accompany the publication
of the abstract.

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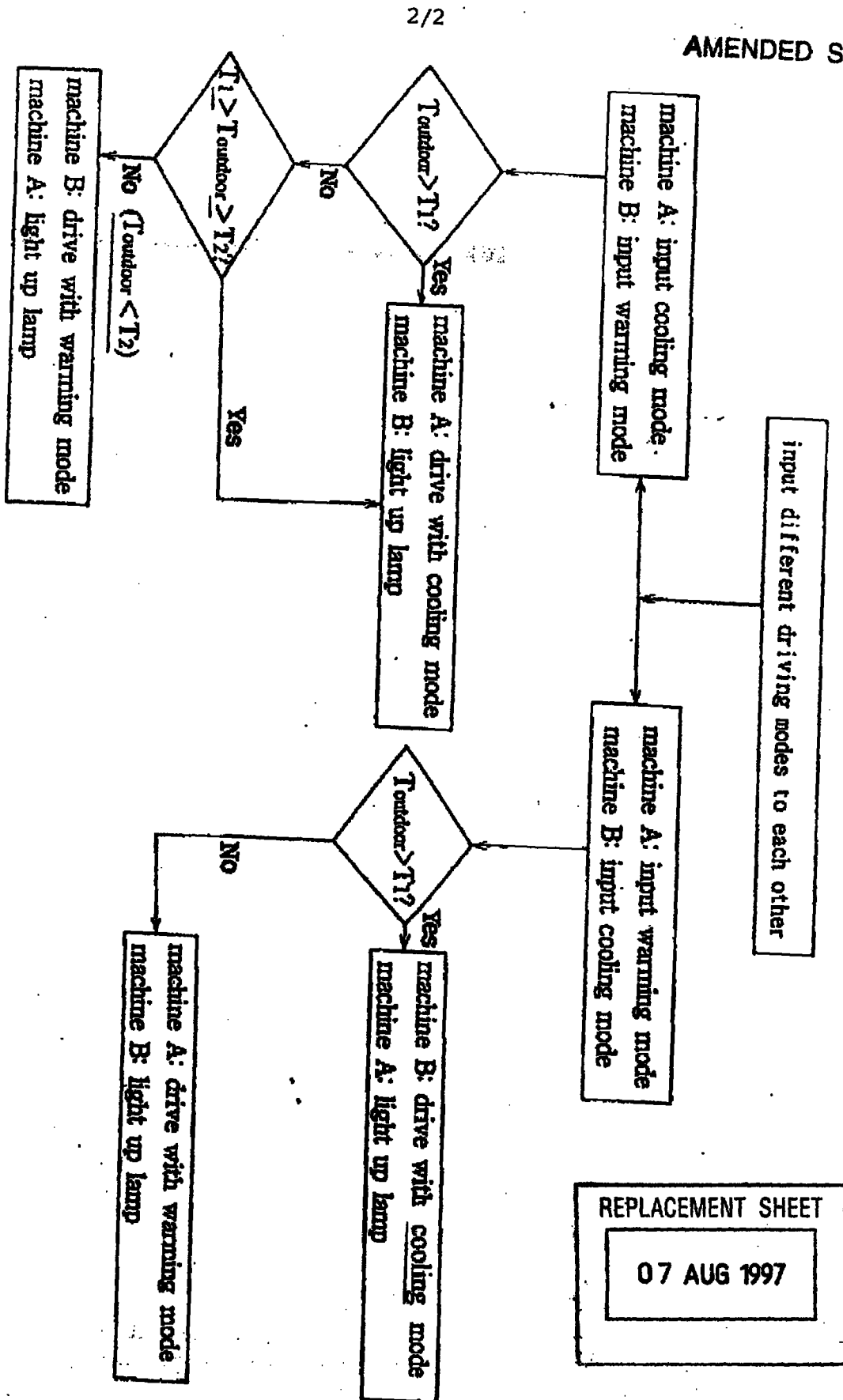
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FIG. 2





Claim.

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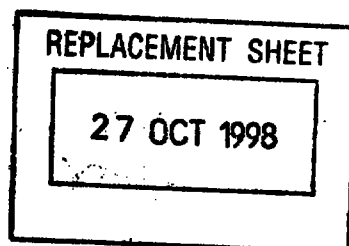
1. A method of controlling multiple air conditioner having one outdoor machine and plurality of indoor machine comprising the steps of:

judging different two driving modes inputted in each indoor machine; and

driving a corresponding indoor machine in accordance with comparing value as a result of comparing outdoor temperature with set up first temperature and second temperature less than first temperature or equal to first temperature,

wherein the step of driving a corresponding indoor machine is executed when the outdoor temperature is more than first set up temperature, an indoor machine having cooling mode is driven, while when the outdoor temperature is less than second set up temperature, an indoor machine having warming mode is driven, and when the outdoor temperature is between the first set up temperature and the second set up temperature, an indoor machine having original set up driving mode by the user is driven.

2. (Canceled)



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