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1. Introduction

The Powrmatic Hitech Powrtrol will accurately control any form of heating equipment with respect to environmental temperature and time. This being achieved by temperature sensing electronics and a constantly accurate digital time switch. Also provided as standard is a SUMMER/WINTER switch, providing 'fan only' operation on air heaters during the summer period.

The 'Units' temperature sensing unit features two set points. When the digital time switch is in an 'ON' state, the temperature sensing unit operates to the set point.

At such times the switch is in an 'OFF' (STY) state the temperature sensing unit works to the lower set point to provide frost protection at 5°C unless the frost protection link is removed (see para. 6.2).

A CLOCK PROGRAM switch allows for heating to be inhibited during holiday periods for example, without losing the frost protection facility or the inconvenience of altering the clock programming.

Full technical data plus information on method of functioning are to be found in the companion booklet - "Installation Instructions". The purpose of this booklet ("Users Instructions") is to explain the method of programming a desired sequence of events and the use of the unit once fully programmed.

IMPORTANT

The time clock in this unit runs off a 1.5v alkaline battery e.g. Duracell, size AAA. A new battery will last for approximately 2 years and it is recommended that it is changed at the yearly service. First indications of battery failure will be fading of the display. If a change of battery (see page 10) fails to restore the clock operation a Service Engineer should be contacted.

2. Programming/Setting Up

With the Hitech Powrtrol installed (refer to the Installation Instructions) the desired switching functions and timings (i.e. the switching programme) can now be programmed into the unit's memory.

Before commencing to key-in a programme isolate the mains electrical supply to the unit and remove the unit's metal cover by releasing the securing screw at each end and pulling the cover away from the base plate.

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3. Important General Notes

a) Operations and setting of the time clock are via 4 push buttons as follows (See also Pages 7 & 8)

- i) Operable through casing
Blue Button - + 1 hr (+ 1 hr) See section 6.6
Black Button - Manual override (MAN) See section 6.5

- ii) only operable with outer case removed.
White Button - increment (inc)
Red Button - mode (set)

b) The clock employs the 24 hour system e.g. 2.35pm is shown as 14.35pm.

c) Up to eight memory entries are available viz.

Monday - Friday inclusive are dealt with as one block and 2 on/off periods are available i.e. 4 memory entries.

Saturday and Sunday are dealt with individually, each day having 1 on/off period available i.e. 2 memory entries per day.

It is not necessary to use all the available memory entries and those not programmed will be ignored with the clock status i.e. ON or OFF remaining unchanged.

For the Monday - Friday block only if the 'OFF' time of the first period is programmed to be the same as the 'ON' time of the second period then the clock status will not change at this time i.e. the clock status will be 'ON' from the start of the first period until the end of the second period. 'ON' and 'OFF' switching times are only available in ten minute steps, e.g. 08:00, 08:10, 08:20 etc. It is not possible to programme intermediate minutes.

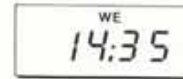
d) Each time hours or minutes are being set the digits concerned will flash as a reminder as to which ones are being set.

e) Each press of the increment (inc) button advances digits. If the button is kept depressed for more than 2 seconds digits advance automatically.

f) If, during programming, no button is depressed for approximately 2 minutes the display will automatically revert to the run mode and show the actual time.

4. Time Setting

Proceed as follows. The example given shows how to set the time to 2.35pm Wednesday (14.35 WED).



1. MASTER CLEAR

Press 'SET' & 'MANUAL' at the same time, this will give a display as shown.

IMPORTANT

'Master Clear' deletes all previous instructions from the clocks memory and normally should only be used on initial setting up. Thereafter, for minor changes to the programme the following instructions should be followed but 'inc' should not be pressed for those settings that are correct and not to be altered.



2. SET DAY

Press 'SET' at this point. Press 'INC' to advance one day at each position until Wednesday (WE) is displayed.



3. SET HOUR, 14:00

Press 'SET' once, press 'INC'. Press 'INC' until 14:00 shows on clock display.



4. SET MINUTES 00:35

Press 'SET', press 'INC' to advance minutes until 14:35 is reached

To facilitate accurate time setting the seconds are reset to zero each time 'INC' is pressed.

Press 'SET' to advance for programming.

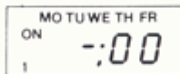
5. Programme Entry

Proceed as follows. The example given shows how to enter the following programme.

Monday - Friday	ON 08.00	OFF (Sty) 13:10
	ON 14.20	OFF (Sty) 18:30
Saturday	ON 8.00	OFF (Sty) 12:00
Sunday	OFF all day.	

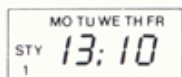
It is recommended that you write down the programme you require before starting the next section. Blank programme formats are provided at the rear of this booklet.

Note: If the clock is in the run mode press 'Set' button 4 times to enter programme mode. Clock display will be as shown below unless a programme has been entered previously. Previous programmes will be overwritten as the new programme is entered.



1. MONDAY TO FRIDAY

PROG 1, SET HOURS ON
 Press '**INC**', Press '**INC**' until hour display shows **08:00**
SET MINS, PROG 1 WEEKDAY
 Press '**SET**' only (mins not required)
CLOCK NOW READS 08:00



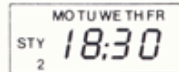
2. MONDAY TO FRIDAY,

PROG 1, SET HOURS OFF (STY)
 Press '**SET**', press '**INC**' until display shows **13:00**
 Press '**SET**', press '**INC**' once, this will give you **13:10** on the clock.
N. B. MINS SET IN 10 MIN INCREMENTS.



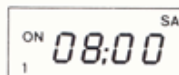
3. MONDAY TO FRIDAY,

PROG 2 SET HOURS ON
 Press '**SET**', press '**INC**' until display reads **14:00**
 Press '**SET**', press '**INC**' twice for min display, this will give you **14:20 on the clock.**



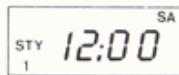
4. MONDAY TO FRIDAY,

PROG 2 SET HOURS (STY) OFF
 Press '**SET**', press '**INC**' until display reads **18:00**
 Press '**SET**', press '**INC**', three times for min display, this will give you 18:30 on the clock.



1. SATURDAY

PROG 1 ON
 Press '**SET**', press '**INC**' until 08:00 is displayed
 Press '**SET**', '**INC**' is not depressed because :00 is the desired display



2. SATURDAY

PROG 1, (STY) OFF
 Press '**SET**' press '**INC**' until 12:00 is displayed
 Press '**SET**', '**INC**' is not depressed because :00 is the desired display



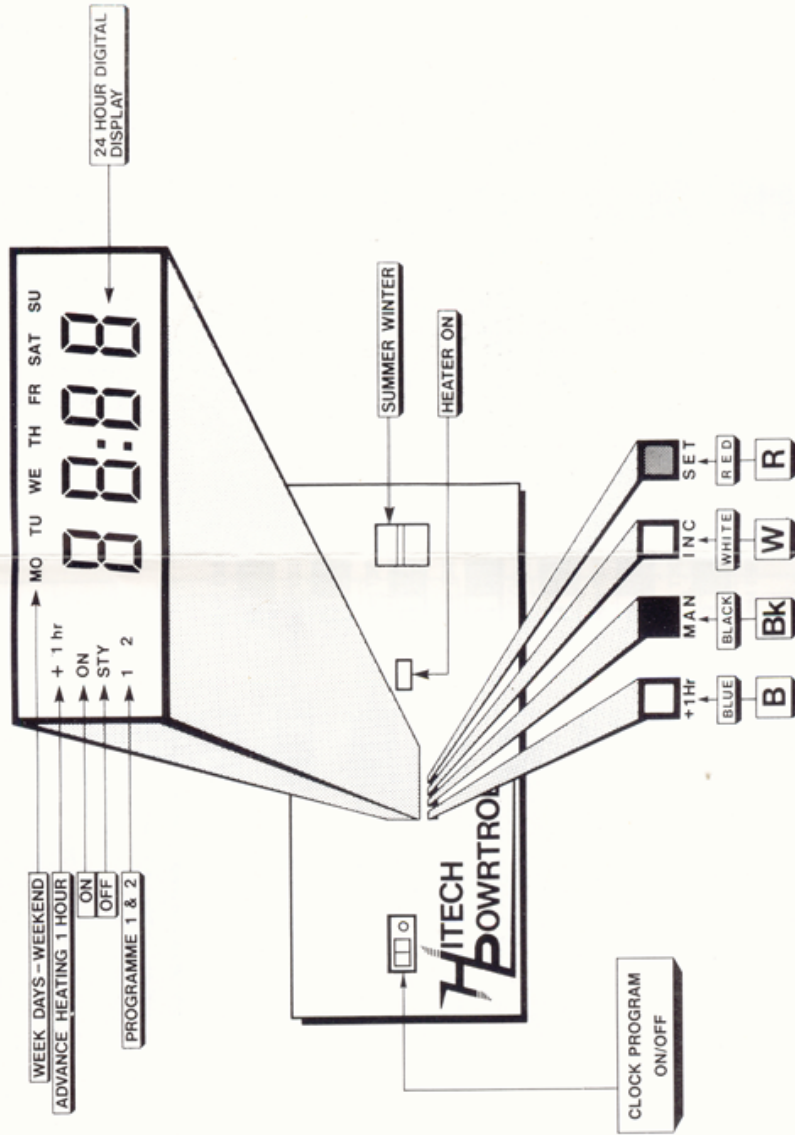
**1. SUNDAY.
NO PROGRAM**

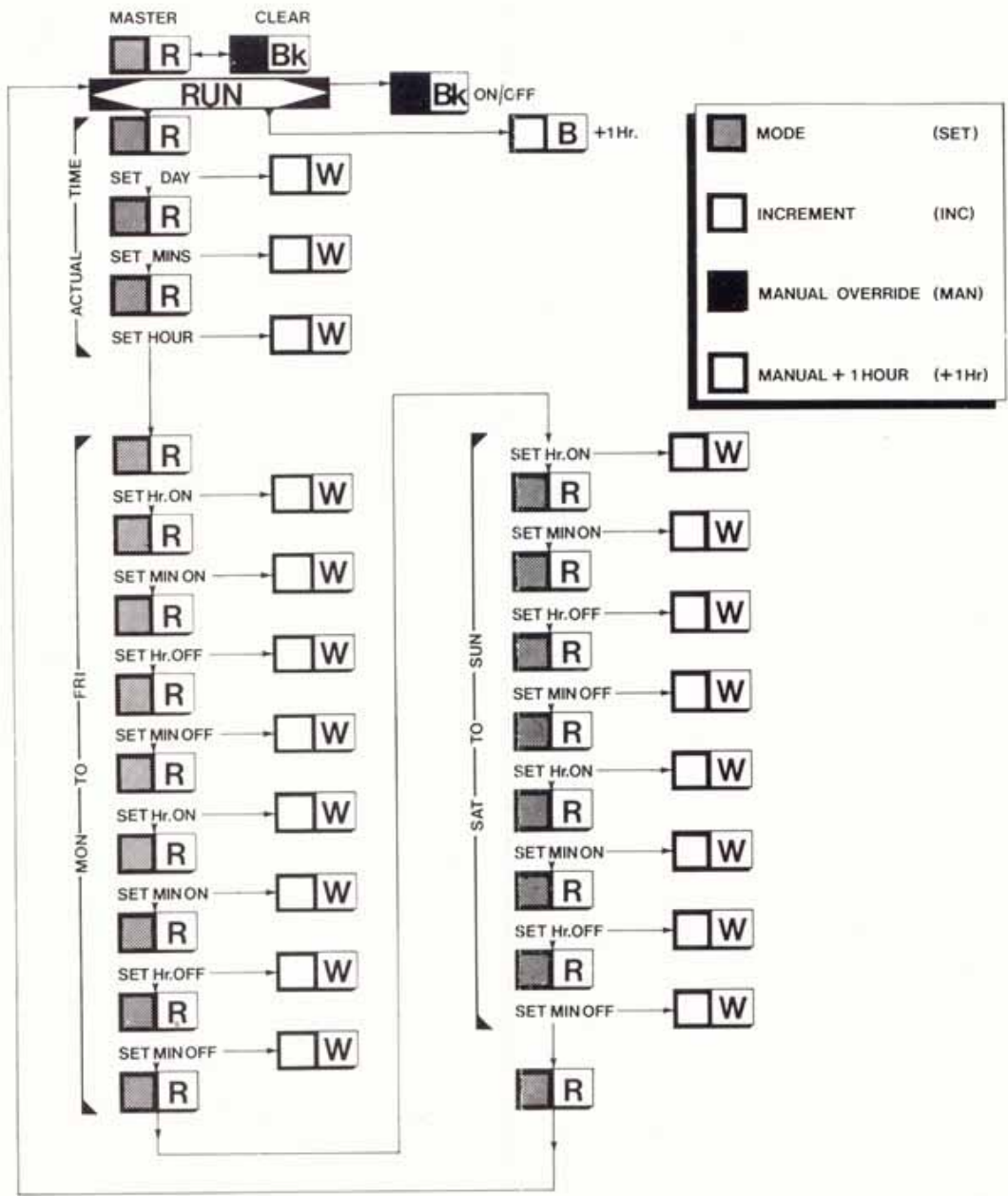
Press 'SET', four times which brings you back to actual time

IMPORTANT

After programming, and display returns to present time, switch state will be OFF (STY). Should this display be withing a programmed on time the manual button must be depressed to give the desired switch state. Thereafter the clock status will be as programmed.

L.C.D Clock display & programme button sequence.





6. IN USE

1. Normal Automatic Operation

The clock display should indicate the correct present day of the week, hours, minutes and the switching status. The colons separating the hours and minutes displays should be blinking in time with the seconds. The 'Heating ON' indicator will be illuminated when the thermostat section is calling for heat and the clock switching status is 'ON'.

2. Frost Protection

During clock 'off' periods, the heating equipment will be started when the temperature falls to 5°C. If frost protection is not required a qualified electrician should be engaged to carry out the alteration. (See Installation Instructions).

3. Summer/Winter Switch

If the heating equipment being controlled is an air heater and this switch has been utilised, then:

— in WINTER position

The air heater will operate automatically at the dictate of the unit.

— In SUMMER position

The main fans of the air heater will run continuously: the temperature sensing unit being nullified.

4. Clock Programme On/Off Switch

In the ON position, operation is normal as at paragraph 6.1.

When set to 'OFF', effectively prevents the sensor from operating the control relay at any time except when space temperature falls below 5°C. This function allows for maintaining frost protection only during holidays etc., without re-programming the digital switch. E.g. to maintain frost protection during a week's holiday in winter set clock program switch to 'off' for that week.

If frost protection is not required, switch off power to heating equipment.

The clock function is unaffected in either case.

5. Override Facility

If the override button is pressed it will alter the clock switching status to the opposite of that originally shown on the clock display.

At the next clock switching point the switching status will revert to that programmed.

6. '+ 1 Hour'

The '+ 1 Hour' button overrides all other programme features and switches the unit 'ON' for 1 hour. Should the '+ 1 Hour' button be pressed

during an on period the time switch will revert to STY at the end of 1 hour although this may be before the programmed stand by time.

7. Programme Review and/or Amendment

To review the programme entered into the clock first isolate the mains electrical supply to the unit and remove the unit's metal cover by releasing the securing screw at each end and pulling the cover away from the base plate.

Press 'Set' 4 times to reach the beginning of the programme. Continue pressing 'Set' to see each programme entry. If it is required to alter a specific entry e.g. at the beginning or end of British Summer Time, this can be done by pressing the 'inc' button when the digits to be changed are flashing. When review/amendment is completed replace cover and switch on electrical supply. Clock will revert back to run mode approximately 2 minutes after the last button was depressed.

8. Power Failure

In the event of power failure the clock keeps running.

— It maintains and displays correct time and the switching programme entered but output switching is not carried out.

— As soon as normal electric power returns, the switch position assumes the correct status ON or OFF, corresponding to the programmes entered.

9. Battery Replacment

Replace battery with equivalent type and size (e.g. Duracell size AAA) observe polarity when replacing in holder.

During battery replacement, time and programme data is lost, therefore clock must be re-programmed when new battery is fitted.