

Ambiflex

MF820
OPERATOR'S
MANUAL

January 2000

CONTENTS

	Page No
MAKING PROGRAMME CHANGES	3
USING THE KEYPAD	3
UNLOCKING AND LOCKING THE MF820	4
To Unlock	4
Low Level Unlock	4
Mid Level Unlock	5
Locking the MF820	5
CHANGING/ADDING VALUES AND SELECTIONS	6
Selecting List Options	6
Changing Values	6
- Temperature Values	6
- Times	7
- Dates	7
TIME SCHEDULING	8
Low Level	8
Mid Level	8
Making Time Schedule Changes	9
- From Low Level Access	9
- Reviewing Existing Time Schedules	9
- Changing Existing Switching Times	11
- From Mid level Access	11
- Changing Existing Time Command Lines	12
- Adding (Inserting) A New Command Line	14
CALENDAR SCHEDULING	15
Changing Existing Calendar Dates	15
Adding (Inserting) New Calendar Dates	16
TIME (CLOCKTIME) SETTING	17
Changing Clocktime and Starting the Clock	17
- Starting the Clock (if stopped)	17
- Clock Adjustment	18
British Summer Time (BST)	18
1999/2000 Year Change	18

USER NOTES

MAKING PROGRAMME CHANGES


To make changes, as opposed to using the preprogrammed overrides, it is necessary to 'unlock' the MF820 (see Page 4). The level at which the unit is unlocked determines the nature and level of changes which the user can make.

USING THE KEYPAD

Where this guide shows, e.g. **5** it means press Key 5, then release.

Where it shows two keys with a '+' sign, e.g. **#** + **0** it means press **#** first and whilst holding it down, press **0**, then release both keys together.

Where it shows two or more keys **without** a '+' sign, it means press each key successively in the sequence shown, e.g. **1** **5** **5** **5** means press **1** and release, press **5** and release 3 times.

 on its own at any time returns the user to the standby display. If pressed **part way** through an edit (change) operation, the change will be aborted.

Each edit function has to be accepted by the user before the change is entered into the MF820. The user accept action is:

+ **0** Hold down **#** and press **0** then release both.

Most keys have dual functions. That is, in the edit mode, keys **0** ... **9** allow numeric values to be entered for temperatures, times, dates etc.

Prior to entering the edit mode they allow navigation of the cursor within the display as follows:

2 and **5** move the cursor up and down the column where it is currently located


1 and **3** move the cursor to the next leftmost or next rightmost column



9 enters the **edit/change** mode and the cursor moves to the bottom line of the display

7 is similar to edit but it allows the user to **add** or **insert** (as opposed to change), e.g. time switch commands


UNLOCKING AND LOCKING THE MF820

TO UNLOCK

Press  to make sure MF820 is in standby display mode.

 +  The MF820 display will change to:

Access	Unlock
??????	Locked Key [9] to open

 and the cursor moves to the bottom line over the leftmost '?'

LOW LEVEL UNLOCK

Enter the low level password. If left at its default setting enter display as follows:


or appropriate password if this has been changed.

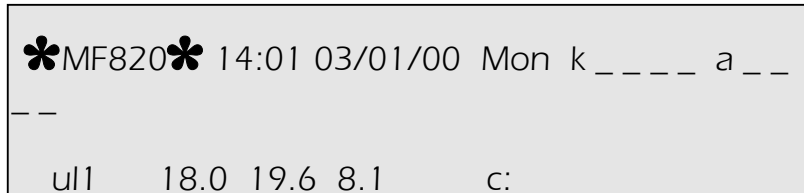
As each key entry is made, the '?' changes starting with the rightmost '?' to #.

When all six digits have been entered:  +  twice to accept.

If entered correctly, the display will change to:

Access	Unlock
??????	Open, low

 to return to standby display which will now show 'u1' (unlocked, level 1) in the bottom left hand corner.



MID LEVEL UNLOCK

Repeat above process using default mid level password:

When unlocked at mid level, the default display is as above but with 'ul2' in the bottom left hand corner.

LOCKING THE MF820

The MF820 will lock itself automatically 20 minutes after the last keystroke. To lock it before this

+ then then +

to revert to standby display.

CHANGING/ADDING VALUES AND SELECTIONS

SELECTING LIST OPTIONS

Once the user has entered the **edit/change** or **add/insert** mode there are normally two possibilities:

If the change is a selection from a list of options e.g. '**START**', '**STOP**', '**CYCLE**', etc. keys **2** and **5** are used to move up and down the column until the required selection is displayed.

If the change is a numeric value, e.g. a temperature, a time or a date setting, keys **0**...**9** are used to enter the value. N.B. all values have four digits.

Separators such as the decimal place, ':' for time, etc. are always in a fixed location and can be ignored as part of the entry process.

CHANGING VALUES

Temperature Values

Each of the four digits enters the display from the right hand side and moves to the left. There is always one decimal place.

e.g. to change **+020.5** to **020.0** all 4 digits have to be entered:

0 and the display changes to +205.0

2 and the display changes to +050.2

0 and the display changes to +502.0

0 and the display changes to +020.0

9 9 9 9 causes the display to change to -999.9 and a four digit negative value can now be entered.

0 0 0 0 Causes the display to change back positive to +000.0

Times

When editing/entering times the new times move in from the left, e.g. to change '08:15' to '10:30',

should be entered. Before is pressed, the display would show 08:15.

and the display changes to 1#:#

and the display changes to 10:#

and the display changes to 10:3#

and the display changes to 10:30

If **not** accepted at this point any additional entries move in from the **right** and the display shows number only; no #'s are displayed.

Dates

Entry is the same as for time except that there is always a '/' to separate months and days. Incorrect values such as 59/14 will not be accepted by the system.

All entries must be in 'dd/mm' format (not American mm/dd format).

TIME SCHEDULING

For most day to day operations it is not necessary to make changes to the Time Schedule settings. This is because override facilities are provided by the 4 (black) pushbuttons and/or the override keys **0**.. **9**.

For details of what override facilities have been provided for use when the MF820 is 'locked' see Page 19 of the User Guide.

If however, it is necessary to modify time switching commands programmed at the commissioning stage, this can be done by the user, but first the MF820 has to be unlocked by entering a password. This procedure was explained earlier under the heading **MF820 Unlock/Lock** (see Page 4).

LOW LEVEL

To change existing switching times only, the MF820 needs to be unlocked at its lowest level, i.e. Level 1. At this level the user is allowed access to:

1. Change any existing switching times for days already programmed.

It **does not allow** the user to:

- a. Add new switching times.
- b. Delete existing time switching commands.

MID LEVEL

If it is necessary to make time scheduling changes which:

1. Add new switching commands.
2. Delete existing switching commands for specific days.
3. Change command type; e.g. from **'Start'** to **'Opsrt'**.
4. Change temperature index levels X1, X2, etc.

It is necessary to unlock the MF820 at the mid level.

This still **does not allow** the user to make:

- a. Global deletions of complete time schedules.
- b. Set up new override facilities using 'flag' settings A,a,B,b, etc.
- c. Copy one time schedule channel to another timeschedule channel.

These changes can only be made at the high or engineer level, Level 3.

MAKING TIME SCHEDULE CHANGES

From Low Level Access

Reviewing Existing Time Schedules


Unlock MF820 as explained in 'MF820 Lock/Unlock'.

From standby display position + and the display changes to:

```
Timesched Review   chnl 1   Mon (1)
STATION HTG  [#] = view  [5] = nxt chn
```

View the time schedule for channel 1 on Monday e.g.

```
Timesched   Review   chnl 1   Mon (1)
1   Start   1 . . . . .   07:30
```



Where a dot '.' appears it means that the same command is set for the same time for the day where the dot is positioned, i.e. a dot in position 3 would mean the same command is set for Wednesday. A dash '_' means the command is not set for that day.

Repeat pressing to view all command lines for channel 1 on Monday.

Then to move the cursor from Chnl 1 to Chnl 2 to view other existing time channels.

The MF820 has eight channels, i.e. Chnl 1 to Chnl 8 but the number used will vary for different applications.

To change the day on which the time schedule is viewed move the cursor from Chnl 1 to Mon (1) by pressing **3**. Then **5** to change this value i.e.

- 5** Goes to: Mon (1)
- 5** Goes to: Tues (2)
- 5** Goes to: Wed (3)
- 5** Goes to: Thu (4)
- 5** Goes to: Fri (5)
- 5** Goes to: Sat (6)
- 5** Goes to: Sun (7)
- 5** Goes to: Any Day
- 5** Goes to: Week Days
- 5** Goes to: Weekend

Changing Existing Switching Times

Once the required Time Channel has been selected, carry out the review procedure for that channel for 'Any day' by repeat pressing **#** until the line to be changed appears on the bottom line of the display, then:

9 And the cursor will move to the left hand digit of the time currently set.

h h m m to enter the new switching time.

e.g. **0 7 4 5** would set a time of 07:45 (24 hour format).

Once the correct time has been set, it can be entered into the system by **#** + **0** once. Then **#** to move to the next command line.

To make changes to other time channels, select the required channel by scrolling (**5** or **2**) whilst the cursor is on the top line next to 'chnl'.

From Mid Level Access

If locked, unlock to Mid Level, as explained previously. This, in addition to allowing time changes, also allows the command type to be changed, days to be deleted, and the temperature index X1, X2, etc. to be changed.

If already unlocked at Low level:

+ ***** then **3 5 9** and the display changes to:

Access	Unlock
??????	open,low

Enter the Mid Level password, (default is **0 1 2 3 4 5**) and accept as described in 'MF820 Unlock/Lock' (Page 4).

Proceed with editing Time Schedules as for Low Level.

Changing Existing Time Command Lines

Once the required channel has been reviewed, and the first command line to be edited has been selected

Timsched	Review	Chnl 1	Mon (1)		
1 Start	1	07:30	X1	A	-----
Command	Days Viewed	Time	Temp Index	Calendar Flag	Override Commands

9 and the cursor will move to the time command type on the left hand side of the bottom line of the display.

If the command type is to be changed, scroll using **5** or **2** until the new command type has been selected.

The command type may change from **Start** to:

- N/a** This means not applicable.
- 'Cycle'** This is a start command which means go into proportional load cycle mode at the time set.
- 'Opstp'** This means switch off before or at the time set providing the target end temperature will be met.
- 'Stop'** This means switch off at the time set for the days programmed.
- 'Pulse'** Currently this command is not in use.
- 'Opsrt'** Which means an optimised start to reach the target temperature at the time displayed.

Then back to **Start**.

Then + and the cursor will move to the 'day' selections.

To add a day which is not already programmed, enter the day key number, e.g.

adds day 1 (Monday).

If the day is already programmed, entering the day number will remove it.

e.g. if display shows '1 2 3 4 5 _ _'

removes day 4 and display becomes '1 2 3 _ 5 _ _'

again restores day 4.

removes all days which if accepted deletes that command line.

adds all days.

+ to accept the required day combination and the cursor moves onto 'time'.

Enter new time, if required, as in Low Level.

+ to accept new time and cursor moves to the temperature index column.

The selections here are '_' 'X1' 'X2' 'X3' 'X4'

To select use or key.

In most applications, the currently programmed index should be accepted by

+

However, if adding a new command line (see next) the selection may be made. '_' defaults to 'X1' index when the MF820 is in operation.

Adding (Inserting) A New Command Line

This may be required if an additional time period, e.g. 'Evening Use' or 'Saturday Working' is to be provided.

The procedure is very similar to the editing process but to add a new time command line:

7 and the display will change to:

```
Timsched Review      chnl 1  [Cmnd]
1 Stop 1 2 3 4 5 6 7 00:00  _ _ _ _ _ .
```

From here the process is the same as if **9** had been pressed except it is creating a new additional command line.

Once all changes have been made, review to confirm they have been correctly entered.

CALENDAR SCHEDULING

In both Low and Mid Level access existing dates for suspending and restoring daily time schedules may be changed.


At Mid level only, completely new (holiday/shutdown) periods may be added, i.e. if no calendar dates have been programmed, it is not possible to add any at Low Level access.

CHANGING EXISTING CALENDAR DATES

As a standard convention, all MF820's are set where:

- 'a' after the date means 'suspend all daily time programmes **starting** on this date' i.e. the first day of holiday.
- 'A' after the date means 'restore all daily time programmes starting on this date' i.e. the first day of normal operation.

For this to work, all Timeschedule start commands i.e. '**Start**', '**Opsrt**', '**Cycle**', '**Pulse**' must have the 'A' flag set.

Return to the standby display by pressing  Then by pressing:

 +  the display will show typically:

Calsched Review	chnl 1
STATION HTG	[#] = view [5] = next chn

After selecting the required channel and reviewing existing dates, review again until the first date to be changed is displayed then:

9 then enter new date e.g. **2 5 0 8** = 25 August

+ **0** to accept.

+ **0** again to accept 'a' etc.

to move to the next date which should have an 'A' after it. (Every 'suspend' date (a) should be followed by a restore date (A) and vice versa).

9 To enter new date, **#** + **0** to accept, **#** to move to next date.

Carry on until all dates have been reviewed, changed and accepted.

N.B. CALENDAR DATES ROLL ON CONTINUOUSLY; THEY DO NOT STOP AT THE END OF THE CURRENT YEAR.

ADDING (INSERTING) NEW CALENDAR DATES

Proceed as for changing dates and to add a new (extra) start holiday date:

7 The display will show '01/01 _ _ _ _'

d d m m to enter new date.

+ **0** To accept date; the cursor moves to the first 'flag' space i.e. the 'A' flag.

5 Repeated to select 'A' or 'a' flag then **#** + **0**

Carry on until all additional dates have been entered. The MF820 will sort them chronologically.

Remember every 'suspend' (a) date must be followed by a 'restore' (A) date.

TIME (CLOCKTIME) SETTING

The MF820 clock/calendar is battery backed and will normally continue to operate correctly for approximately 10 years.

CHANGING CLOCKTIME AND STARTING THE CLOCK

Unless preprogrammed for an application the MF820 will be stored and shipped with the clocks stopped. This is to conserve the life of the battery since maintaining the clock operational is the biggest single drain on the battery when not connected to a mains power supply.

The clock has to be first started and then set to the correct time and date.

Starting the Clock (if stopped)

This can only be done from mid and higher levels, from the standby display

+ 9

Time Keep	Clockset
16:22	07/04/97 Mon BST stopped

2 Until 'Clk Ctrl' is selected then

9 and 5 to toggle between stopped and 'normal'.

Select 'normal' then # + 0 followed by # #

Select 'ClockSet' and enter correct time etc. as described below.

Clock Adjustment

Changing clock times can be done from both Mid and Low Level access levels (see Pages 4 + 5 for unlock instructions). In the Timekeep Clockset Menu:

9 and the cursor moves to time at the bottom left hand side of the display.

h h m m to enter correct time, then **# + 0**

d d m m m m to enter date including year

+ 0 and then clock will update 'Day' and 'BST' will update automatically.

BRITISH SUMMER TIME (BST)

From the Timekeep Clockset menu **5** once will show BST dates.

BST start/end dates may be set in one of two ways:

1. The default for the BST **start** date is set with the month only, e.g. 00/03 for March the MF820 will change from Winter to Summer Time automatically at 02:00 on the **last Sunday** in March, every year.

Occasionally this will be wrong for a period of 1 week only in some years. When the time change takes place on the Sunday before the last Sunday in the month.

2. If the BST **start** date is set with both month and days, e.g. 26/03 it will change from Winter to Summer Time at 02:00 on the date set, i.e. 26th March every year until changed.

To change from the default setting: **9** and enter new start date.

+ 0 accept and enter new finish date.

+ 0 to accept, **#** to update.

1999/2000

When 31st Dec 99 is reached, the clock rolls over to 1st Jan 00 and continues to operate correctly.

USER NOTES