SALUS

Programmable Thermostat with Plug in RF Boiler Control

SALUS

Instruction Manual
Model No ST620WBC

WARRANTY 2 YEARS

CE

PRODUCT COMPLIANCE

This product complies with the essential requirements of the following EC Directives:

- Electro-Magnetic Compatibility directive 2004/108/EC
- EC Marking directive 93/68/EEC
- R&TTE Directives 99/5/EC

SAFETY INFORMATION

These instructions are applicable to the Salus Controls model stated on the front cover of this manual only, and must not be used with any other make or model.

These instructions are intended to apply in the United Kingdom only, and should be followed along with any other statutory obligations.

This accessory must be fitted by a Competent person, and installation must comply with the guidance provided in the current editions of BS7671 (IEE Wiring Regulations) and Part 'P' of the Building Regulations. Failure to comply with the requirements of these publications could lead to prosecution.

Always isolate the AC Mains supply before installing or removing the Integral RF Boiler Control to the boiler.

When fitting or replacing the batteries, do not mix old and new batteries together. Do not use rechargeable batteries.

Please leave these instructions with the end user where they should be kept in a safe place for future reference.

INTRODUCTION

The ST620WBC comprises of the S series programmable room thermostat with an integral plug-in RF boiler control. The RF boiler control is a direct replacement for the basic time clock or blanking plate usually supplied with the boiler. Installing the RF boiler control takes minutes. Once installed, you will benefit from all the control features of the Salus ST620 programmable room thermostat.

Your new ST620WBC includes the following:

ST620 Programmable Room Thermostat

A programmable room thermostat is a device that combines the functions of both a room thermostat and time controller into a single unit. The programmable thermostat is used to switch your heating system on and off as required. It works by controlling the temperature according to a series of programmed time settings that take effect at different times of the day.

The ST620 programmable room thermostat is a stylish and accurate 5/2 or 7 day programmable electronic thermostat with a large, easy to read display. This programmable thermostat has been specifically designed to be used with the integral RF boiler control.

Features

- Touch Ring Technology
- Large LCD with White Backlight
- Stylish Casing
- Intelligent Communication Technology
- Battery Powered with Replacement Indicator
- Frost Protection

- Burner on Symbol
- Radio Controlled Clock (RCC)
- Holiday Function
- Service Function
- Six Time / Temperature Settings
- Secure RF Transmission

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INTEGRAL RF BOILER CONTROL
The Integral RF boiler control is the RF receiving unit for the ST620 programmable room thermostat. This unit uses a plug-in connection to connect directly to your boiler and provides the ON/OFF switching.

Features
- LED status indication
- Plug-in connection to boiler
- 3 position switch
- 868 MHz communication

About this Manual
This manual is divided into nine parts, these have been colour coded as follows:

Also in the box...
Installation Manual
Warranty card,
Surface mount stand
2 x Screws
2 x Anchors
2 x AA batteries

1. INSTALLATION
ST620 Programmable Room Thermostat

Getting Started.......

Installing the ST620 Batteries
To open the case of the ST620, undo the securing screw on the bottom.

Now pull the screw down until it stops, then carefully separate the two halves of the case by gently pulling out an upwards direction. You will now see the battery compartments on the rear of the front fascia as shown.

Ensure that the batteries are inserted correctly and check the polarity.

Powering up the ST620 for the first time

As soon as the batteries have been inserted, the ST620 will power up for the first time and behave in the following way:

All the segments on the display along with the display backlight will be turned on as shown.

After two seconds, the software version number will be briefly on the screen.

The ST620 will now prompt you to choose a language. If you require ENGLISH press OK. If you require a different Language use the touch ring to scroll through the language options then press OK.

The ST620 at this point will be in AUTO and at factory default settings. Changing default settings will be explained in sections 4 & 5. You will also notice that the time at the top of the LCD is flashing. This will continue to flash until the unit picks up the RCC (Radio Controlled Clock) signal and displays the correct time. More information on the RCC can be found on page 29.

Now put the ST620 front fascia in a safe place so you can mount the ST620 back plate. The back plate is easily fixed to the wall and uses industry standard mounting positions. We recommend that you continue with the back plate mounting before starting to program the ST620.

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Note: If you do not wish to mount the ST620 on the wall, use the stand provided and assemble the ST620 front and back housing. Remember to tighten the screw at the bottom.

Wall Mounting Guidelines
The ST620 should be mounted in a location where the thermostat is accessible, reasonably lit and free from extremes of temperature and draughts. Do not mount the thermostat on an outside wall, above a radiator or in a location where it may be subjected to direct sunlight.

SURFACE MOUNT STAND SUPPLIED

The ST620 should be mounted in a location where it will not come into contact with moisture or condensation as this can affect the Touch Ring operation.

To ensure trouble free reception for both the Radio Controlled Clock (RCC) and the Radio Frequency (RF) signal. Always ensure that the programmable thermostat is mounted away from any possible sources of interference (such as radios, TV sets, computers, etc.), and is not mounted on or in close proximity to large metal objects. Installing the ST620 in enclosed areas such as cellars and basements is not recommended.

NOTE: The ideal position to locate the ST620 is about 1.5m above floor level.

RF Transmission
The receiving range between ST620 and the RF Boiler Control is around 100 metres in open air, however many factors can affect the RF transmission and shorten the operating distance, e.g. shielding by thick walls, foil back plasterboard, metal objects such as filing cabinets, general RF interference, and so on.

The operating range is generally around 30 metres, which is large enough for most household applications.

Mounting the Back plate
Use the screws and anchors supplied to mount the ST620 back plate in your chosen position. Now attach the ST620 front fascia to the back plate. Remember to tighten the securing screw
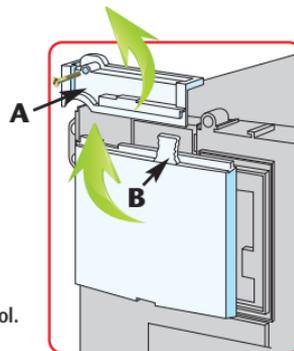
Mounting the RF Integral Boiler Control to the boiler

DANGER!

- **24V & 230V: Do not Touch Electrical Components or circuits**
- **Isolate mains electricity supply before starting any work and observe all relevant safety precautions**
- **Follow electro static discharge precaution. Do not touch any visible PCB parts or components.**

1. Switch off the boiler at its main supply. Remove the outer casing and front fascia to allow access to the main control panel.

2. Remove cover panel A upwards to remove.

3. Pull top tab B upwards, then outwards to remove blanking plate or existing control.
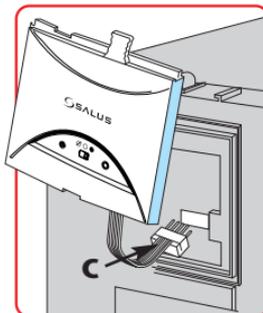

Now you are ready to fit your Salus integral RF boiler control
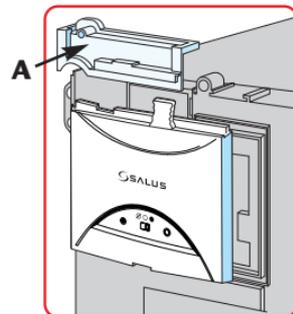
4.   First plug in the connector block C ensuring correct orientation.
      Remember to ensure the block is fully connected

5.   Now locate the boiler control's four hooks then press in and down.
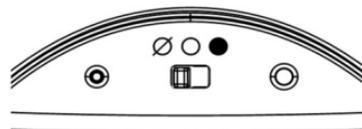   Replace Cover panel A.

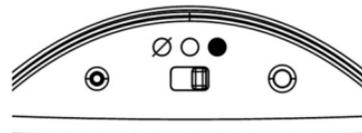6.   Replace the front fascia and boiler's outer casing
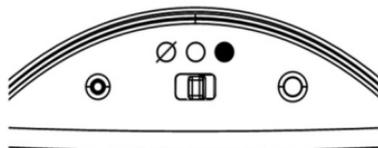
7. Before switching the boiler on at its mains supply, ensure the module switch is in the OFF position ∅.

8. To ensure the boiler control is connected properly, please now move the switch to ON ●. The boiler should now Fire and the LED on the your boiler control should illuminate

9. Now move the switch back to AUTO ○.

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RF COMMUNICATION

Your ST620 comes already paired with the integral boiler control. This means that the ST620 will communicate with integral boiler control straight away.

Testing the ST620 RF communication

Press the touch ring anywhere (except the OK and Arrow keys) to enter manual override mode. The current set temperature will be displayed on the LCD, now press the touch ring again and move your finger clockwise to increase the displayed temperature to 35 deg. Now press the OK button, your boiler should now fire and the LED on the integral boiler control should be illuminated.
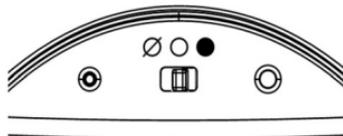
If you find that the LED on the integral boiler control and the boiler are already on, double check you have the integral boiler controls selector switch in the AUTO position. If the switch is in the AUTO position follow the instructions above but decrease the temperature to 5ºC. The LED and boiler should go off.

To stop testing the RF communication press and hold the arrow key on the ST620 for 2 seconds – this will return the ST620 to AUTO mode. You can now proceed to the user controls section on page 15.

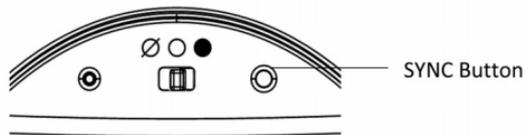### Manual Setup of RF Communication

If you find that your ST620 will not communicate with integral boiler control please follow the steps below:

1.   Ensure the switch on the RF integral boiler module is in the AUTO ○

2. Gently press and hold the SYNC button with a blunt object. After 3 seconds the Boiler Control LED will flash once every second to indicate it is ready to pair and ready to receive a signal from the ST620. The Boiler Control will remain in pairing mode for 12 minutes.

SYNC Button

3. Activate ST620 into pairing mode. To access the Menu screens on the ST620RF, press the OK key twice. The first menu displayed is the PROGRAM menu:

4. Use the Touch Ring to scroll through the Menus to locate the pair option then press OK key

5. Press OK key again activate pairing mode. PAIR will stop flashing and the pair icon will appear

6. The display will change to show a rundown timer:

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The display counts down for a period of 10 minutes, with the RF Signal indicator flashing while the signal is being transmitted. The RF address code will be generated randomly.

When the Boiler Control successfully receives a signal from the ST620 during the pairing operation, the Boiler Control will store the generated address code into its internal memory. The LED will pulse once every second and go out if the code is stored correctly, or pulse twice every second if this was unsuccessful. If pairing is unsuccessful then you will have to re-start the pairing process.

Additional Information
Pressing the Reset button on the ST620 will clear the RF address code and restore the default code which will be saved into the internal memory of the unit. Replacing the ST620 batteries will not affect the RF code setting, pressing and holding the SYNC button on the Boiler Control will however clear the RF address code saved into the internal memory, and switch the Boiler Control into pairing mode, as previously described.

SERVICE and CONTROL functions
If you require to use the above functions of the ST620 during this Installation, please refer to pages 33 and 34.

USER CONTROLS

Integral RF Boiler Control
A — LED

This LED will be on when the ST620 is demanding heat.

B — Mode Switch

● **ON – Boiler will be on continuous**

○ **AUTO – will follow time and temperature program in the ST620**

∅ **OFF – Boiler is off**

C — SYNC Button - This is used **only** for pairing the RF communications.

ST620 Overview
The status and operation of the ST620 is clearly shown
on the large Liquid Crystal Display (LCD).

This display allows the user to see at a glance the current status of the heating
system, as well as a clear indication of the current room temperature.

There are few user controls for the ST620, making the programmable thermostat very easy to operate. The controls are a Touch Ring (which surrounds the user display), two touch sensitive buttons, a reset button and a slide operated switch mounted on the side of the thermostat. These controls are shown below, along with a description of each of their functions.

Indicator	Description	Function
88:88 AM PM 1 2 3 4 5 6 7	Clock Display	Displays the day and time
88 ℃ .8	Temperature indicator	Displays set or measured temperature
88888888	Alphanumeric Display	Displays menu and other status messages
❶❷❸❹❺❻	Programme Number indicator	Displays the number of the active (selected) programme
〰	Heat Mode indicator	Indicates heating output is turned on.
✳	Holiday indicator	Indicates Holiday operation mode is selected
🔋	Battery Status	Indicates battery is low
((ᵒ))	RF Signal indicator	Indicates the unit is transmitting a wireless signal
Υ	RCC indicator	Indicates unit is searching for radio controlled clock signal
⚕	Service indicator	Indicates Service function is active
☼	Frost Mode indicator	Indicates frost setting is turned on
🔒	Touch Lock indicator	Indicates touch lock is activated

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USER CONTROL FUNCTION SUMMARY ST620:

Key / Operation	Functions
Touch Ring (move clockwise)	Increases the set temperature and scrolls through the menu selection
Touch Ring (move anti- clockwise)	Decreases the set temperature and scrolls through the menu selection
OK Key	Enters Menu or confirms a menu selection
Arrow (Back) Key	Single touch- sets the unit back 1 step. Hold for 2 seconds sets unit back to normal mode
Reset Button	Resets the thermostat to default (original factory) settings
Slide Switch	Activates and deactivates the key lock function (prevents accidental changes)

BASIC OPERATION
Getting Started...........
ST620 Programmable room thermostat

Your ST620 comes with factory set default program. The temperature and time settings have already been set. If the default program meets your requirement there is no need to change the default program.

Programme	Output	Weekday	Weekend
1	ON TEMP	6:00AM 21°C	6:00AM 21°C
2	ON TEMP	8:00AM 14°C	8:00AM 14°C
3	ON TEMP	11:00AM 21°C	11:00AM 21°C
4	ON TEMP	1:00PM 14°C	1:00PM 14°C
5	ON TEMP	4:00PM 21°C	4:00PM 21°C
6	ON TEMP	9:00PM 14°C	9:00PM 14°C

Reviewing the Set Temperature

1. AUTO mode is when the thermostat is displaying the room temperature.

2. If you press the Touch Ring anywhere except the OK and Arrow keys you can check the set temperature setting.

This will display the current set temperature. The set temperature will be displayed for two seconds before the LCD changes to display the room temperature again.

The ST620 will go back to AUTO mode without changing the set temperature after 10 seconds of inactivity, or after pressing the Arrow key.

Manual Override

When the ST620 is in AUTO mode, press the Touch Ring anywhere except the OK and Arrow keys to enter the manual override mode. The currently set temperature will be displayed on the LCD and will flash.

When the set temperature is flashing, press the touch ring and move your finger clockwise to increase the set temperature, or anti-clockwise to decrease the set temperature. Press OK at any time to confirm the selection.

NOTE: The ST620 will go back to AUTO mode without changing the set temperature after 10 seconds of inactivity, or after pressing the Arrow key.

When the ST620 is operating in Manual Override mode, the LCD will display MANUAL instead of AUTO. The manual setting will remain in effect until the next programme time is reached, or the Manual Override mode is cancelled.

Manual Override mode can be cancelled at any time by pressing and holding the Arrow key for 2 seconds – this will return the ST620 to AUTO mode.

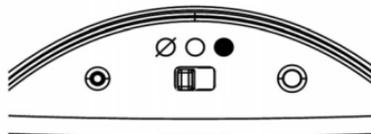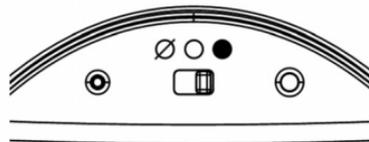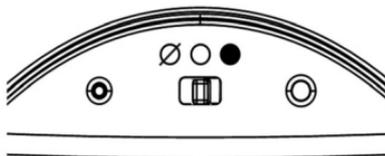**ST620WBC INSTRUCTION MANUAL**

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RF Boiler Control

When the switch on the Boiler Module is in the AUTO position, the Boiler Control will automatically receive the RF signal from the ST620 and control the module output so that it switches the boiler accordingly.

The user can also move the switch to the MANUAL ON position; when in this mode, the boiler will be always turned on and the LED indicator will also be lit constantly.
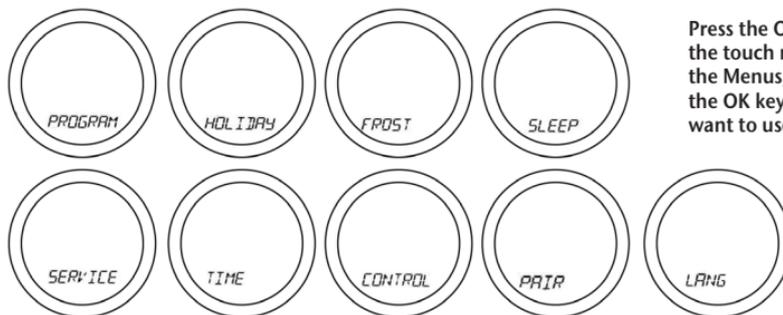
The user can also move the switch to the OFF position; when in this mode, the boiler will not receive a signal from the ST620 and the LED indicator will also be lit constantly.

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ADVANCED FUNCTIONS
Menu Screen Overview

Press the OK key twice and use
the touch ring to scroll through
the Menus, and you can then press
the OK key to select the menu you
want to use.

You can scroll through the menus in either direction, depending on the direction you move your finger around the
Touch Ring. The menus are displayed in the order shown in the picture above.

Pressing the Arrow key will return the ST620 to AUTO/MANUAL mode. The programmable thermostat will also return
to AUTO/MANUAL mode after 10 seconds if no Key is pressed.

NOTE: SERVICE and CONTROL are functions that should be carried out by an installer or competent person.
These function are explained in detail on Page 33.

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ADVANCED FUNCTIONS IN DETAIL
PROGRAM Function
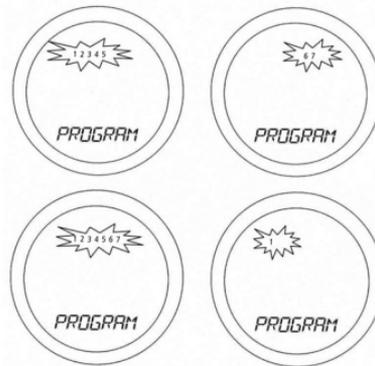## Changing the Default Time and Temperature Program

The ST620 offers great versatility with its programming options, allowing the user to programme the ST620 to operate on an individual, 5/2 or 7 day control cycle. The programmable thermostat has a default set of programmes that have been designed to meet the needs of most users. If these default programmes are not suitable for your particular situation, reprogramming the ST620 with your own settings is a very straightforward operation.

How to access the PROGRAM menu

To access the menu screens, press the OK key twice. The first menu displayed is the PROGRAM menu. Press the OK button to select.

Initially, the numbers for the Weekdays will be selected and flashing – you can scroll through all the various options for day selection weekdays (1-5) weekends (6-7) all 7 days (1-7) or individual days by using the touch ring. As usual, pressing the OK Key will select the desired option.

After correct selection of the day option, the ST620 display will change to the next programming screen. These screens allow you to set the required time and temperature settings to provide optimum control for your heating system.

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The hour setting will be the first setting that needs to be adjusted, and this will easily be seen because the 'hours' section of the time will be flashing. Using the Touch Ring, scroll up or down to adjust the hour to the required setting and then press the OK key to confirm.

After confirming this setting the 'minutes' section of the time will then start to flash. Change this setting using the Touch Ring in the same way that you changed the hour setting, confirming your setting with the OK key. Finally, set the desired temperature setting by scrolling with the Touch Ring and again confirm with the OK key.

Following this sequence you will have set up Programme 1 – the ST620 display will then move on to Programme 2. Continue to add your desired settings for each of the programmes through to Programme 6 in the same way as Programme 1 (hour, minutes, and temperature).

If you decide to enter settings for individual days rather than Weekdays or Weekends, the ST620 also offers a time saving COPY function that allows the user to copy settings from one day to another.

After entering the settings in Programmes 1 to 6 for Monday(1), the ST620 display will change to display a COPY TO screen. On this screen, scroll to the day that you want to copy the settings to using the Touch Ring, and then confirm this by pressing the OK key. The ST620 will then move to the next day and ask if you would like to copy again.

In the example here, Monday(1) has been programmed, and the next day that has not been programmed is Tuesday(2). Once the settings for Tuesday(2) have been programmed by copying, the settings can then be copied to Wednesday(3), and so on.

Pressing the Arrow key at any time will return the ST620 to the previous screen. Once all the days have been programmed, the ST620 will revert to AUTO mode.

Please be aware that each of the programme time settings must be in sequence: for example, Programme 3 cannot be set with a time earlier than Programme 2. If this situation occurs, then the ST620 may operate in an unpredictable way. The programmable thermostat will return to NORMAL mode after 10 seconds if no Key is pressed or if no movement is detected on the Touch Ring. In this case, the Programmes will not be updated

HOLIDAY FUNCTION
Entering the HOLIDAY menu allows you to turn the holiday override mode of the ST620 on. The HOLIDAY mode allows the user to override all the current Programme settings with a specific temperature setting that is active between two dates entered by the user.

When the holiday start date arrives, the HOLIDAY indicator turns on and the HOLIDAY mode is switched on. As long as the ST620 is in HOLIDAY mode the FROST protection mode will be disabled. When the holiday end date is reached, the HOLIDAY mode will be turned off automatically and the ST620 will operate in AUTO mode. The HOLIDAY mode indicator �֍ will be displayed on all the HOLIDAY menu screens.
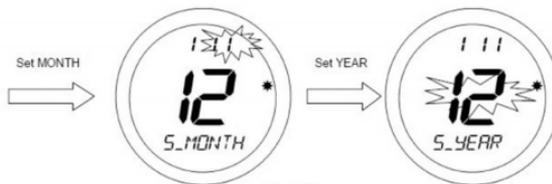
To start entering the Holiday Override settings, press the OK key once. 'S_DAY' will appear on the display. Use the Touch Ring to scroll to set the date and confirm the choice using the OK button.

The month setting ('S_MONTH') will then be selected – change this setting in the same way using the Touch Ring, and confirm the setting using the OK button. Finally, set the year ('S_YEAR') – this is done in exactly the same way as previously described for the date and month.

Set MONTH

Set YEAR

After confirming the year setting by pressing the OK key, the display will then change to display the first screen for entering the holiday end date.

Set MONTH

Set YEAR

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Use the Touch Ring to enter the date in exactly the same way as for the holiday start date.

By default, the HOLIDAY mode start and end dates are set to the current date. Make sure that the end date is after the start date – if not, the HOLIDAY mode will be disabled.

The final setting to be entered is the protection temperature you want set while HOLIDAY mode is active.

Use the Touch Ring to set the preferred temperature and confirm the choice using the OK button. Once the temperature setting is confirmed, the HOLIDAY mode will be activated.

While in this mode the HOLIDAY mode indicator ☀ will be shown on the display, but there will not be any MANUAL or AUTO indication. Pressing the Touch Ring will change the display to show the current temperature setting, but this setting cannot be adjusted while in this mode.
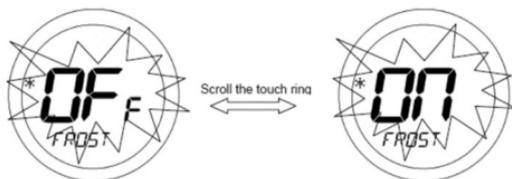
Cancelling Holiday Override Mode

When in HOLIDAY mode, pressing the OK key will make the display change between CANCEL and HOLIDAY every 0.5 seconds as shown below:

Pressing the OK key will cancel HOLIDAY mode and return the ST620 to AUTO mode. Pressing the Arrow key leaves the programmable thermostat in HOLIDAY mode.

FROST (Protection) Function

Entering the FROST menu allows you to turn the frost protection mode of the ST620 on or off. The FROST mode temperature is preset at 5 ºC; this temperature is factory set and cannot be adjusted. The FROST mode indicator ❄ will be displayed on all the FROST menu screens.

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On entering the menu, use the Touch Ring to scroll to the preferred option (OFF or ON), and confirm the choice using the OK button. Use the Arrow key to return to the Menu Option display.

If the ST620 is operating in FROST mode the LCD will not indicate MANUAL or AUTO, but will display both the room temperature and also the FROST mode indicator.

To turn off FROST mode, select the FROST menu and then by using the Touch Ring scroll to the OFF setting. Press the OK key to confirm the setting.

SLEEP Function

The SLEEP mode allows the ST620 to conserve power by turning off the LCD display. Entering the SLEEP menu allows you to activate this power saving feature from a 5 second run down timer:

Pressing the OK Key at any time within the 5 seconds will cause the ST620 to immediately go into SLEEP mode, as will allowing the countdown to complete. Pressing the Arrow key will return the ST620 to the Menu display mode.

Pressing the Touch Ring for 1 second will turn on the LCD backlight, and pressing the Touch Ring for 3 seconds will wake the ST620 from SLEEP mode and restore the programmable thermostat to AUTO mode.

NOTE: The unit will not control the heating while in SLEEP mode.

TIME Function
Radio Controlled Clock

The ST620 time and day of the week settings are updated automatically every day (at 12:00 AM or 2:00 AM) by the use of a very accurate internal Radio Controlled Clock.
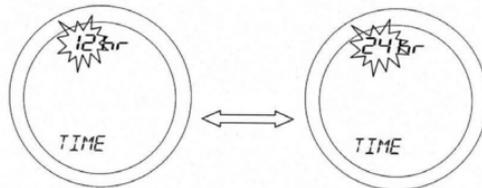
The RCC status indicator will be displayed for 10 minutes during clock updates. The indicator will flash during the time update process, after which the indicator will be displayed for 5 minutes before turning off.

The time and date will also be automatically updated when the ST620 is powered up, or after the Reset Button is pressed.

If for any reason the ST620 fails to automatically update the time setting, then the data stored in the internal memory will be used. The clock settings can also be changed manually if required – manual settings will be overwritten at the next successful automatic update.

If the time and date setting need to be set manually, this can be done by accessing the TIME menu. The first option within the menu is a choice of 12 or 24 hour clock setting.

On entering the menu, use the Touch Ring to scroll to the preferred option (12 or 24 hour clock), and confirm the choice using the OK button. Use the Arrow key to return to the previous screen display. After setting the time display format, the next screen display allows you to set the time.

Use the Touch Ring to scroll to set the hour and confirm the choice using the OK button. The minute setting will then be selected – change this setting in the same way using the Touch Ring, and confirm the setting using the OK button. After setting the time, the next screen display allows you to set the date – this is set in exactly the same way as previously described for the time.

After setting the date, the next screen display allows you to set the daylight saving time (DST) option.

Scroll the touch ring

Use the Touch Ring to scroll to set the DST option ON or OFF, and confirm the setting using the OK button – the default setting is ON. Press the Arrow key to return to the previous screen display, or do nothing for 10 seconds and the ST620 will return to NORMAL mode.

The DST setting allows the ST620 to automatically adjust the time when local time changes from Greenwich Mean Time (GMT) to British Summer Time (BST) on the last Sunday in March, and then back to GMT on the last Sunday in October each year.

LANGUAGE Function

The language selection is usually selected on first power up or when the unit is reset. This is explained on page 7. However if you require to change the language of the ST620 then you can do this by accessing the language menu. Entering the language menu will allow you select your required language

ENGLISH   FRENCH   DEUTCH   CESTINA   POLSKI

ITALIAN   DUTCH   ESPANOL   ROMANA

Once you have displayed your required language, press the OK button to select and save.

SERVICE and CONTROL Functions

Service Function

The Service Menu should only be selected or changed by the Engineer carrying out the installation, or other qualified person. It is strongly recommended that you familiarise yourself with the instructions contained in the Operation section of this manual before attempting to change any of the settings in the SERVICE menu.

To access the Menu screens, press the OK key twice. The first menu displayed is PROGRAM:

Use the Touch Ring to scroll through the various menus, and press OK key to activate the service menu.

The SERVICE indicator ♀ will be displayed on all SERVICE menu screens. Firstly you need to enter a unique PIN code, when the first digit flashes scroll to set the first digit and press OK to confirm the repeat for the other two digits.

Once all digits have been entered, press OK to confirm or the arrow key to return to previous digit or previous display. The service code is total 3 digits, from 000 to 999.

NOTE: If you forget the code then you will need to contact the Salus Technical Team

Now you have entered your own **PIN** code you will be asked to select **SERVICE ON** or **OFF**. Default is OFF, if you do not require the service function activated press **OK** and proceed to **HEAT** or **COOL** menu.

Set code 231

If you require **SERVICE** mode activated, use the touch ring to scroll from **OFF** to **ON** and press **OK.**

HEAT or COOL

The unit is default HEAT, if you are happy with HEAT press OK . If you wish to configure the ST620 for a cooling application, select COOL and press OK

NOTE: Changing the HEAT or COOL function should only be done by your engineer or a competent person. Changing this setting will have a serious effect on your system operation.

If you have selected service as OFF press to save and return to the AUTO Display.

If you have selected service as ON then follow the instructions on the next pages.

The next menu screen allows you to set the next service date for the system. Set the date in the order of; day, month and year:

Confirm the setting using the OK key, or Press the Arrow key to return to the previous screen display. The next menu screen allows you to set a temperature setting. This temperature is the maximum temperature that the heating system will operate at once the previously set service date is reached.

The temperature is set by scrolling the Touch Ring to the desired setting, then confirming with the OK key.

After enabling SERVICE mode, there is a screen that will allow you to enter an 11 digit number – this feature is intended for you to enter your telephone number so that the end user can contact you when the next service is due. The number is entered in the same way as the code – scroll with the Touch Ring until you reach the required number, then confirm by pressing the OK key.

Repeat this action until you have entered the entire telephone number. After entering and confirming the last digit with the OK key, store the telephone number by pressing the Arrow key.

Once set as described, the SERVICE indicator will appear on the display 30 days before the set date. At seven days before the set date, the SERVICE indicator will flash and the bottom section of the display will alternate between displaying the current mode (AUTO or MANUAL), and the telephone number previously entered.

Set digit 2 → Set digit 3

Set digit 5 → Set digit 6

Set digit 8 → Set digit 9 - 11

Once the SERVICE date has been reached, the system will only operate at the temperature that was previously set in SERVICE mode. The display will no longer display the operating mode, only the telephone number that has been entered and the SERVICE indicator (which will continue to flash).

To enter the SERVICE menu, press the OK or Arrow keys, and enter the code you originally set to access SERVICE mode. Once back in SERVICE mode, you can edit the telephone number, set a new servicing date, or turn SERVICE mode ON or OFF in exactly the same way as described earlier.

CONTROL (PWM) Menu

By selecting the Control menu, the installer can change the control method used by the programmable thermostat - either ON/OFF or Pulse Width Modulation (PWM). The default setting is ON / OFF.

On entering the menu, scroll to select the preferred option (ON/OFF or PWM control), and confirm the choice using the OK button. Use the Arrow key to return to the Menu Option display. **PWM mode should only be selected by the Engineer carrying out the installation or other qualified person.**

USEFUL INFORMATION

BATTERY STATUS

The ST620 checks the battery voltage frequently during normal operation .If the battery voltage is sensed as being low, the low battery indicator will be displayed on the screen.

Although the programmable thermostat will continue to operate normally at this stage, you should replace the batteries as soon as possible to prevent the ST620 entering OFF mode.

OFF MODE

The Low Battery indicator ⬜ will be displayed if battery voltage is detected as "low", in this case the thermostat functions normally during low battery except the backlight will be turned off. The ST620 will enter into OFF mode if the battery voltage falls drastically low, and all outputs will turn off.

As all functions except sampling the battery voltage are disabled in OFF mode, it is recommended that you replace the ST620 batteries as soon as possible to restore normal operation.

If the voltage of the replaced batteries is not high enough (if older batteries have been used) the unit will remain in OFF mode and will not reset.

BACKLIGHT

The backlight of the ST620 is switched on automatically whenever the Touch Ring is activated, or any of the keys are pressed. The backlight will remain illuminated for approximately 6 seconds after the last key press, except if you are changing settings within the Clock, Programme or Temporary Override modes – in this case, the backlight will remain illuminated for 10 seconds after the last key press.

The backlight will not illuminate if the ST620 battery is low, or if the Slide Switch is in the LOCKED position.

SLIDE SWITCH

The Slide Switch has two positions: UNLOCKED and LOCKED. In the LOCKED position, the Touch Lock indicator 🔒 will be visible on the LCD, and it will not be possible to change the ST620 settings. If you are unable to change any thermostat settings, check that the Slide Switch is in the UNLOCKED position.

RESET BUTTON

The Reset Button is provided as a way to restore the thermostat to its default factory settings. Pressing this button will delete any previously entered settings.

After pressing the Reset Button, the ST620 will revert to the following (default) settings:

Mode:	Auto
Programme:	6
Time:	12:00am
DST:	On
Control method:	On/Off
Holiday:	Off
Frost:	Off
Sleep:	Off
RF address code:	factory setting

RF COMMUNICATION

When the ST620 is operating in AUTO mode, if the Boiler Control has not received a signal from the ST620 after 1 hour, the Boiler Control will turn off the boiler, and the LED indicator will flash constantly (two times every second).

Once the Boiler Control receives a valid ON or OFF signal, the Boiler Control will control the heating system accordingly.

ENERGY TIP

One way to set and use your room thermostat is to find the lowest temperature setting that you are comfortable with, and then leave it set at this temperature. You can do this by setting the room thermostat to a low temperature, (for example 17 °C) and then increasing the setting by one degree each day until you are comfortable with the room temperature - you won't have to adjust the thermostat further, as adjustment above this setting will waste energy - a 1 °C increase in temperature is equal to 3% of your heating costs.

MAINTENANCE

The ST620 programmable thermostat requires no special maintenance. Periodically, the outer casing can be wiped clean using a dry cloth (please DO NOT use solvents, polishes, detergents or abrasive cleaners, as these can damage the thermostat).

There are no user serviceable parts within the unit; any servicing or repairs should only be carried out by Salus Controls or their appointed agents.

Should the ST620 programmable thermostat fail to function correctly, check:

•   The batteries are the correct type, fitted correctly and are not exhausted - fit new batteries if in doubt.
•   The ST620 Boiler Control has mains power (LED on)
•   Heating system time switch or programmer is switched on.
•   If the ST620 is still not functioning correctly, press the Reset Button.

TECHNICAL SPECIFICATION

Model:	ST620
Type:	Electronic programmable thermostat with RF boiler module, designed for Volt Free and AC heating applications.

Clock

Type:	Radio Controlled Clock (RCC)
Display Modes:	12 or 24 hour clock display.

Programming

Programming Modes:	User selectable for 5/2 or 7 day option
Number of Programmes:	Six (6) user programmes plus factory default programme.
Override Facility:	User selectable programme override facility.
Holiday Facility:	User selectable option to temporarily override selected programme.

Temperature

Scale:	Celsius
Tolerance:	Less than ± 0.5 ºC at 25 ºC
Sampling Rate:	Every 15 seconds
Display Range:	0.0 ºC to + 45.0 ºC
Display Resolution:	0.5 ºC
Set Temperature Range:	5.0 ºC to + 35 ºC
Resolution:	0.5 ºC

Control

Control Method:	1. ON – OFF control
	2. PWM control

Memory Backup

Type:	Electrically Erasable Programmable Read Only Memory (EEPROM)

Radio Frequency (RF) Settings

Operating Frequency:	868 MHz
Max. Operating Range:	100 metres (free air) or 30 metres (indoors)

Environment

Operating Temperature:	0 ºC to + 50 ºC
Storage Temperature:	- 10 ºC to + 60 ºC

ST620WBC Warranty

Salus Controls warrants that this product will be free from any defect in materials or workmanship, and shall perform in accordance with its specification, for a period of two years from the date of installation. Salus Controls sole liability for breach of this warranty will be (at its option) to repair or replace the defective product.

Customer Name: ....
Customer Address: ....
.. Post Code: ....
Tel No: .... Email: ....

Engineers Company: ....
Tel No: .... Email: ....
Intallation Date: ....
Engineers Name: ....
Engineers Signature: ....

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