

KEY TO COMMON SYMBOLS		

EMERGENCY GRAVITY FLOW OVERHEAT LOOP.  
NEEDS TO BE 10% OF WOOD BOILER OUTPUT.  
24" MINIMUM ABOVE HEIGHT OF BOILER FOR  
PROPER GRAVITY FLOW.

36 FT OF MINIMUM OF FINNED  
ELEMENT RECOMMENDED FOR  
THE BIOMASS 60  
180°F WATER TEMPERATURE  
65°F ROOM AMBIENT

PITCHED TO AIDE WITH  
GRAVITY FLOW

SPACE HEATING  
DEMAND

DUMP ZONE  
DEMAND

Manual Dump Zone  
Ball Valve  
Normally Closed

Caleffi Z200537  
1" Cu. Straight Though  
Zone Valve Body

Caleffi Z146000  
Normally Open (Powered Closed)  
Two Position, Spring Return

Ball Valve  
Normally Open

Honeywell L6006A1145  
Aquastat Controller  
Set to 195°F, 5" DIF

Honeywell 121371B  
3/4"x 3" Aquastat Well

With a Rise in Water Temperature,  
R to W Contact Makes, Enabling  
SR501 and Basement Pump P2  
(Test to Confirm)

120 VAC  
Emerg Switch

Thermal Fuse

30 PSI RELIEF

#90 Expansion Tank

1 1/4"

Boiler Return Sensor

1 1/4"

Webstone Purge/Fill  
Ball Valve

ESBE Themic Valve  
140°F Boiler Return  
Setting

BIOMASS 60KW  
WOOD BOILER  
50 GAL CAPACITY

Ball Valve To Remain Open For  
Dump Zone To Operate.  
Close For Filling And Purging  
Circuit Only.

Fill Water  
Manual Fill

Air Scoop

Optional Ball Valve and Bypass  
Piping to Allow for Local  
Operation of the Boiler Through  
Both Inlet Branches of the  
Thermic Valve

NORMALLY CLOSED

Dial Thermometer

1 1/4"

HEAT COIL

FUTURE HOT WATER  
STORAGE TANK

Webstone Purge/Fill  
Ball Valve

1 1/4"

1 1/4" SUPPLY/RETURN  
FEED LINES

1 1/4"

3/4" or 1"

T&P Valve

120VAC

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BASEMENT WOOD BOILER  
OVERHEAT DUMP ZONE

TACO SR501  
CONTROL

24 VAC  
Power Source of  
Lithium Battery

AZEL TECHNOLOGIES  
DS-60  
DIGITAL TEMP GAUGE  
2 CHANNEL

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TEKMAR  
OUTDOOR  
SENSOR

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120VAC

Tekmar  
401

Tekmar 001  
Transformer

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Simple Toggle Switch  
To Disable Wood  
Stage 1 Boiler Heating

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Simple Toggle Switch  
To Disable Wood  
Stage 2 Boiler Heating

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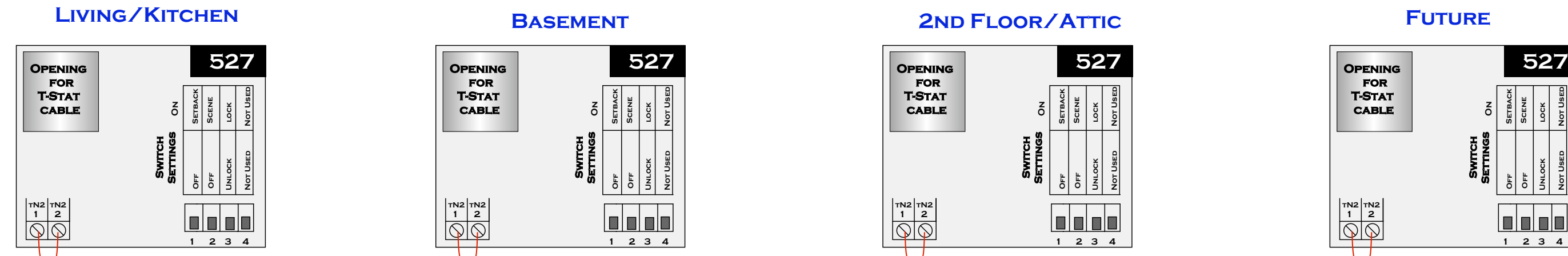
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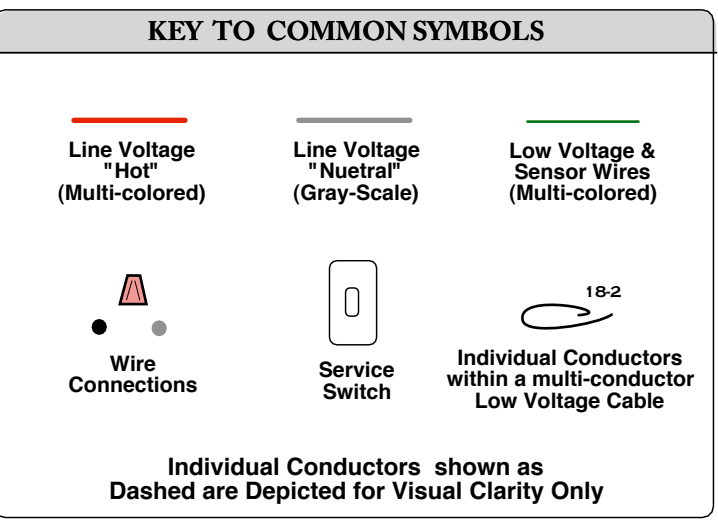
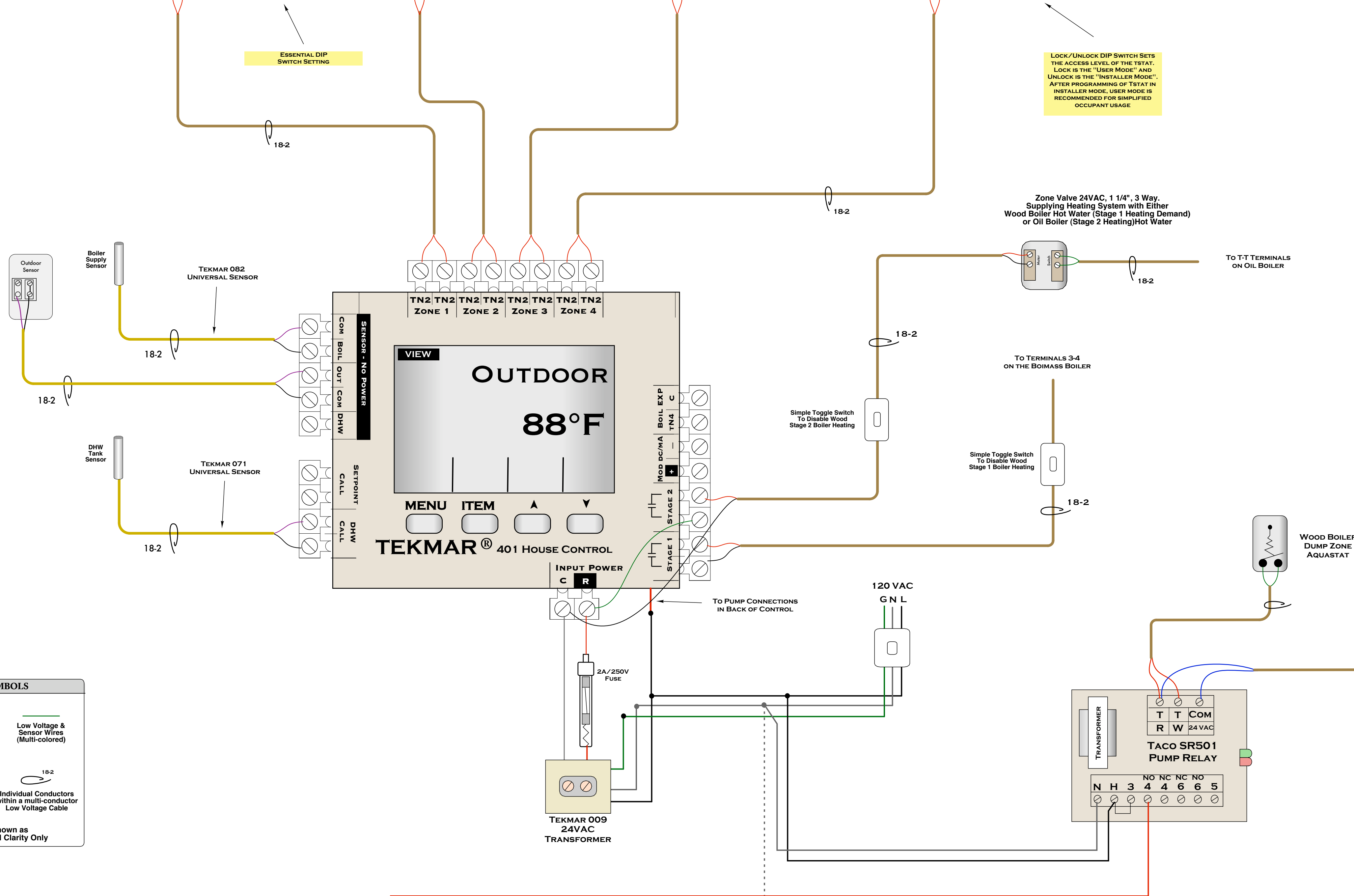
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**527 ESSENTIAL SETTINGS (INSTALLER ACCESS)**

ADJUST MENU	
Item Field	Setting
Set Room Heat	Home Owner Specified
Set Room Heat	---
Set Room Heat Away	---
Backlite	30 Sec
Temp Units	°F
Device /Software	527 / XX
Room Maximum	85°F
Room Minimum	45°F
Schedule	---
Supply Pump	---
Supply Pump Delay	---
Cycle	---
Air Group	OFF
Address	Auto
Floor Cooling	---
Escape	^ v

To Access the program mode of the Tekmar 527 control, press and hold simultaneously the 'Mode', 'UP', and 'DOWN' buttons. 'Adjust' will appear in the upper left corner of the display. Press and hold the both buttons for 2 seconds to go to the next setting. The controls will go back to the normal operation after the buttons are left alone for 10 seconds



**401 ESSENTIAL SETTINGS ADJUST MENU**

ITEM FIELD	SETTING
Outdoor Design	10°F
Boiler Type	2Stage
Boiler Design	180°F
Boiler Min	130°F
WWSD Occ	65°F
DHW Mode	1
DHW Occupied	140°F
Units	°F

DHW Mode 1 is a non Priority Mode Where the DHW Pump Can Run in Parallel with any zone pump that might be calling.

THE TEKMAR 401 HAS TWO DIFFERENT ACCESS LEVELS. THE INSTALLER ACCESS LEVEL ALLOWS FULL ACCESS TO ALL THE SETTINGS WHILE THE USER ACCESS LEVEL RESTRICTS THE SETTINGS TO WWSD AND TEMPERATURE UNITS. THE 401 DEFAULTS TO THE USER ACCESS MODE AFTER 12 HOURS OF OPERATION. THE ACCESS LEVEL IS FOUND IN THE TOOLBOX MENU. THE FACTORY DEFAULT SETTING IS **INSTALLER**.

