Heater and Batch Top Dry Revisions

0.30   Released OCTOBER 23, 1998
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1) FLAME TIME OUT IS NOW 10 SECONDS. THE IGNITOR SHUTS OFF IN ABOUT 7.5 SECONDS.

0.29   Released OCTOBER 22, 1998
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1) ELIMINATE THE DEISEL OPTION -- FORCE THAT FLAG TO ALWAYS BE RESET. THIS CAUSED A 36 SECOND FLAG TIME OUT WHICH THE HARDWARE IS NOT SETUP TO ACCEPT.   IF DEISEL OPTION IS REQUIRED AT SOME LATER DATE -- WILL HAVE TO MODIFY SOFTWARE TO REDUCE FLAME TIME OUT BACK TO 12 SECONDS MAX OR CHANGE THE HARDWARE.
2) DEFAULT FAN DELAY = 0 SECONDS (FOR SLAVES)

0.28   Released August 24, 1998
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1) CREATE O / noO FLAG -- FOR EITHER IGNITOR OR HOT SURFACE IGNITION -- WHEN SET THIS IS USED FOR A HOT SURFACE IGNITION SYSTEM -- SO THAT AT THE END OF THE PURGE DELAY THE IGNITOR COMES ON FOR 5 SECONDS BEFORE THE GAS VALVE TURNS ON.
NOTE: I DID NOT USE I / noI BECAUSE IF THIS SOFTWARE WAS PUT ON AN OLD DRYER -- IT WOULD DEFAULT TO noI -- IF THEY DID NOTHING. SINCE H / noH IS ALREADY BEING USED FOR HUMIDITY -- I JUST USED O.
2) WHEN THE " O " FLAG IS SET -- AFTER THE 9 SECOND IGNITOR PERIOD THE IGNITOR DOES NOT TURN OFF
3) IN THE " O " MODE A FLAME OUT CAUSE THE GAS VALVES TO GO OFF FOR 5 SECONDS WHILE THE HOT SUFACE INGITION COMES ON. THE WAY I DID THIS WAS TO RESET THE PURGE TIMER TO 5 SECONDS -- SO ON THE DISPLAY THE " PURGE " COMES UP -- THIS WAS THE EASIEST WAY TO ACCOMPLISH THIS.
4) CREATE d / nod FLAG -- FOR DIESEL FIRED SYSTEM. THIS SYSTEM HAS NO PURGE DELAY (ACTUALLY 1 SECOND PURGE) AND A 36 SECOND FLAME OUT TIME.   ??
SHOULD THERE BE A LITTLE MORE PURGE DELAY --- SAY 5 SECONDS INCASE SOMEONE ACCIDENTLY SET THE WRONG FLAG.
5) IF THE OPERATOR SET BOT THE " O " AND " d " FLAG THE " d " FLAG WILL NOT SET.

0.27   Released August 22, 1998
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1) Fixed problem in the Non Top Dry where after 30 minutes Error 3 shut the dryer down.

0.26   Released April 29, 1998
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1) CHANGE FLAME OUT TIME TO 12 SECONDS -- IGNITOR SHUTS OFF IN 9 SECONDS -- 3 SECONDS LATER IF NO FLAME -- SHUT DOWN -- NO FLAME. (CHANGED IN .30)
2) INCLUDE " FLAME " SYMBOL IN THE AMBIENT TEMPERATURE AND HUMIDITY MODES
3) ALLOW HUMIDITY DIFFERENTIAL TO BE SET TO 2 %
4) DON'T DESTROY " MODE " REGISTER WHEN EXITING THE PROGRAM MODE

0.25   Released April 27, 1998
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1) Add a mode select for the humidity and ambient temperature. Using the mode switch (Fan bypass).

C.24   ??????????????????????

C.23   Released OCTOBER 29, 1997
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1) FIXED PROBLEM WHERE IF BOTH THE MASTER AND SLAVE HAVE THEIR OWN INDEPENDENT ERRORS -- THE SLAVE DOES NOT FLICKER
BACK AND FORTH BETWEEN IT ERROR AND THE MASTER ERROR -- SLAVES ERROR HAS PRIORITY ON THE SLAVE UNIT AND THE MASTER HAS PRIORITY ON MASTER UNIT.
2) IF THERE IS AN INCONSISTANCY BETWEEN MASTER AND SLAVE (ERROR 9, 10 OR 11) -- THE MASTER TRIES RESENDING THE IGNITOR COMMANDS 50 TIMES AND RECHECKING BEFORE ISSUING THE ERROR

b.23   Released OCTOBER 22, 1997
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1) EXTEND THE IGNITOR ON TIME TO 14 SECONDS AND THE LAST 4 SECONDS SHUT THE IGNITOR OFF (changed in .26)

A.23   Released OCTOBER 15, 1997
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1) ALLOW 20 SECONDS FOR ILLEGAL FLAME SENSE

0.23   Released NOVEMBER 14, 1996
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1) IF DIP SWITCH NUMBER 3 IS ON -- DISABLE THE AIR FLOW ALARM -- THE DISPLAY AIR FLOW INDICATION ALWAYS FOLLOWS THE ACTUAL AIR FLOW SWITCH.
2) START THERMISTOR CONTROL OUT AT THE HIGH TEMPERATURE RANGE -- THIS WILL PREVENT MOMENTARY HIGH TEMPERTURE READING ON THE SLAVE ON POWER UP
3) IN THE TOP DRY MODE WHEN J5-3 AND J5-4 ARE SHORTED ALWAYS JUMP TO THE COOL CYCLE IMMEDIATELY -- DON'T WAIT FOR THE 10 MINUTE GRAIN TIMER
4) IF YOU ENTER THE PROGRAM TEMPERATURE MODE AND DON'T DEPRESS EITHER THE PROGRAM OR INC / DEC SWITCHES FOR ABOUT 30 SECONDS -- EXIT THE PROGRAM MODE.

0.22   Released OCTOBER 22, 1996
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1) FIXED THE PROBLEM WHERE IF YOU SET IN 3.2 HOURS -- THE HOURS IMMEDIATELY WENT TO .32 WHEN YOU EXITED THE PROGRAM
    MODE
2) *CLEARING OF THE NOVRAM IS NOW ACCOMPLISHED BY POWERING UP WITH THE PROGRAM SWITCH HELD DOWN (LOWER LEFT *
    *SWITCH) -- WHEN THE " 0 " COMES UP -- ENTER A " 7 " WITH THE INCREMENT SWITCH -- THEN PUSH THE PROGRAM SWITCH AGAIN *
    *" - - - " COMES UP -- YOU HAVE 2 SECONDS TO DEPRESS THE INC DEC SWITCHES AT THE SAME TIME TO CLEAR THE NOVRAM   *

0.21   Released OCTOBER 2, 1996
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1) FIXED THE PROBLEM THAT I CREATED IN VERSION # 0.20 WHERE THE ERROR 3 CAME ON -- SPARE TEMPERATURE OPEN
2) WHEN IN TOP DRY MODE THE CYCLE FLAG IS ALWAYS SET TO CYCLE NO MATTER HOW YOU SET IT. TO CYCLE YOU HAVE TO SET
THE HIGH LIMIT AND CYCLE SET POINT FOR THE SAME TEMPERATURE.

0.20   Released SEPTEMBER 12, 1996
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1) CREATE A NEW MODE THAT WILL MAKE IT SO THAT BOTH THE GRAIN TEMPERATURE MUST EXCEED THE LIMIT AND THE DRY TIME
    MUST BE EXCEEDED BEFORE ADVANCING TO THE COOL CYCLE ON THE TOP DRY
2) IF THE GRAIN TEMPERATURE GETS TO 200 -- ALWAYS ADVANCE TO THE COOL CYCLE -- IN ALL MODES OF TOP DRY, ---> IF THE 10
    MINUTE GRAIN TIMER HAS GONE TO 0.
3) FIXED PROBLEM (I THINK) WHERE THE TEMPERATURE WOULD MOMENTARILY JUMP UP TO 275 DEGREES -- WHEN THE THERMISTOR
    SWITCH-OVER OCCURED ON THE BOARD

0.19   Released JUNE 8, 1996
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1) HUMIDITY SOFTWARE

0.18   Released MARCH 13, 1996
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1) DON'T ADVANCE TO COOL CYCLE IN TOP DRY MODE FOR 10 MINUTES AFTER STARTING THE DRYER
    -- ALLOW THE GRAIN TEMPERATURE SENSOR TO STABILIZE
2) WHEN THE SLAVE POWERS UP WITH THE FAN ON -- THERE WAS A LOT OF DISPLAY FLICKER -- CORRECT THAT PROBLEM

0.17   Released OCTOBER 17, 1995
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1) FIXED THE PROBLEM WITH THE TOP DRY MASTER NOT SHUTTING THE FAN OFF WHEN THE SLAVE GOT AN ERROR
2) WHEN GETTING ONE OF THE LIMIT ERRORS, ETC -- THAT JUST DISPLAYS A LEGEND -- ON THE MAIN DISPLAY INSTEAD OF DISPLAYING
    TEMPERATURE -- DISPLAY: 0 0 0
                                          ERROR
0.16   Released OCTOBER 16, 1995
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1) Raised the Error 12 Voltage Limit from >155 to >195 volts for 120 volt systems. <155 volts still the error 12 limit for 240 volt systems.

0.15   Released OCTOBER 14, 1995
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1) CORRECTED THE PROBLEM WHERE WITH CERTAIN ERRORS YOU COULD NOT VIEW THE AMOUNT OF TIME THE DRYER HAS BEEN
    DOWN DUE TO ERROR CONDITION
2) IF THE " STANDARD DRYER " (NOT TOP DRY) FINDS A SLAVE INCONSISTANCY ERROR -- ERROR # 9, 10 O 11 -- IT WILL TRY
RESTARTING
    THE SLAVE FOR 5 SECONDS BEFORE IT GIVES UP
3) CORRECTED THE BUG IN VERSION 14 SOFTWARE WHERE THE REMAINING HOURS WERE NOT STORED FOR DRY AND COOL TIME -- ALL
    VERSIONS BEFORE 14 -- THIS FEATURE WORKED

0.14   Released OCTOBER 3, 1995
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* 1) WHEN SETTING IN THE COOL AND DRY TIME WHILE RUNNING -- PUSHING THE INC AND DEC SWITCHES AT THE SAME
    TIME WILL CAUSE THOSE NEW TIMES TO BE LOADED.
* 2) HOLDING THE INC SWITCH DEPRESSED WHILE DEPRESSING THE START SWITCH WILL FORCE CONTINUOUS HEAT CYCLE -- HOLDING
    THE DEC SWITCH WILL CAUSE CONTINUOUS COOL CYCLE -- THE DISPLAY SHOWS 99.9 HOURS FOREVER -- POWER DOWN IS THE ONLY
    WAY OUT.

0.12   Released AUGUST 24, 1995
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* 1) WHEN A SHUT DOWN (WHILE DRYING) OCCURS DUE TO AN ERROR CONDITION -- BY DEPRESSING THE DECREMENT SWITCH -- YOU
    CAN VIEW THE HOURS THAT HAVE PASSES SINCE THE SHUT DOWN BEGAN. MAX NUMBER OF HOURS = 218 HOURS (9.1 DAYS)
2) ADDED ERROR NUMBER 13 ==>> + 11 LIMIT SHORTED
3) LIMIT MAX TEMPERATURE SETTING TO 230

0.11   Released AUGUST 16, 1995
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1) MAKE THE SPARE RELAY ACT THE SAME AS THE FAN RELAY -- BOTH OPEN AND CLOSE AT THE SAME TIME

0.10   Released July 12, 1995
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1) If the Heater shuts down due to a " Illegal Flame " Sensing problem – Flame on when no gas valves are on →Error 7. Leave the Fan on till that problem goes away. When the Heater Control detect No Flame – The Fans are Shut Down.

The Fans are left in the State they were in when the error was detected. That is – If the Error 7 occurs on the Power Up – Don't turn the Fans on – That must be due to some other problem.

In a Master / Slave heater – Only the Heater with the Flame since problem keeps it's fan on.

In the Timed Shut Down Modes the Fans are left on till it is confirmed that the Flame has gone away. This is for Top Dry and Regular Fan and Heater.

In the Top Dry when the Grain Temperature excedes the limit – The Fans are left on till it is confirmed that the Flame has gone away.

0.09   Released May 27, 1995
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1) In all test modes shut the outputs off.
2) ON May 31, 1995 -- changed the flash decode bytes to program the entire chip rather than the first 256 k bits -- left the version at 0.09

0.08   Released April 18, 1995
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1) Fixed the problem where when the humidity was too high or the grain temp was to high the display flash real fast.

0.07   Released Good Friday in the Year of Our Lord 1995
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1) Fixed the problem with the error not being displayed on the top dry remote.
2) Allow the remote to reset the Cool and Dry timers if the Inc and Dec switches are depressed at the same time.

0.06   RELEASED 3/23/95
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1) IF THE HUMIDITY INPUT IS SHORTED TO + 11 VOLTS ADVANCE TO THE COOL CYCLE
2) IF THE HUMIDITY IS TO HIGH TO BEGIN WITH -- THE D_RH AND D_PERCENT FLASH ON AND OFF FOR A FEW SECONDS

0.05   RELEASED 3/23/95
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1) ADDED WATCH DOG SOFTWARE

0.04   RELEASED 3/06/95
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1) FILTER THE FLAME PRESENT INDICATOR
2) FILTER THE ERROR 12 -- WRONG VOLTAGE ERROR

0.03   RELEASED 12/05/94
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1) IN THE TOP DRY MODE WHEN AN ERROR OCCURS WHILE RUNNING -- EITHER COOL OR DRY TIME -- THE TIMER IS SAVED AND AFTER
    POWER OFF AND ON AND CORRECTING THE ERROR THE TIMER RESUME WHERE IT LEFT OFF.
2) YOU CAN CLEAR THE TIMER BY DEPRESSING THE INC AND DEC SWITCHES AT THE SAME TIME.
3) EVERY 10 MINUTES THE TIME IS STORED AWAY IN CASE A POWER OUTAGE OCCURS -- IT WILL RESUME TO THE LAST 10 MINUTES.

0.02   RELEASED 11/19/94
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1) FIXED BUG IN GRAIN HIGH TEMPERATURE ON THE TOP DRY -- GRAIN TEMPERATURE JUMPED UP REAL HIGH MOMENTARILY
2) ALLOW DRY TIME TO BE SET TO .0 HOURS -- WHAT THIS ACTUALLY DOES IS CAUSE THE DRY TIME TO BE .01 HOURS -- 36 SECONDS
3) ON POWER UP ON THE TOP DRY IF THE FAN IS DETECTED TO BE ON -- DON'T ALLOW BYPASS -- SINCE THE TOP DRY CONTROLS THE
    FAN NOW -- IT KNOW THE FAN IS OFF -- AND THAT THE FAN SWITCH MUST BE BROKEN -- DON'T ALLOW BYPASS
* 4) POWER UP WITH THE " PROGRAM DRY / COOL TIMES " AND " PROGRAM TEMPERATURES " SWITCHES DEPRESSED TO GET THE
*
    PROGRAMMABLE DELAY FOR TOP DRY FANS
              *
 The dry time and cool time " carrots " on the display both flash indicating -it is in the program delay time mode.--- NOTE: THIS CAN BE DONE ON THE MASTER

0.01   RELEASED 10/11/94
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1) ADDED MODE TO ALLOW TOP DRY TO HAVE REMOTE PLUS 2 SLAVES
2) ADDED ERROR # 12 -- WRONG VOLTAGE ERROR
3) PUT REVISION LEVEL ON POWER UP SCREEN
* 4) IF THE START SWITCH IS HELD IN THROUGH THE POWER UP SCREEN -- TILL AFTER THE VERSION NUMBER DISPLAY -- ALL SEGMENTS
    LIGHT TO ENABLE EASIER DECAL ALIGNMENT.   *

ORIGINAL RELEASE 9/29/94