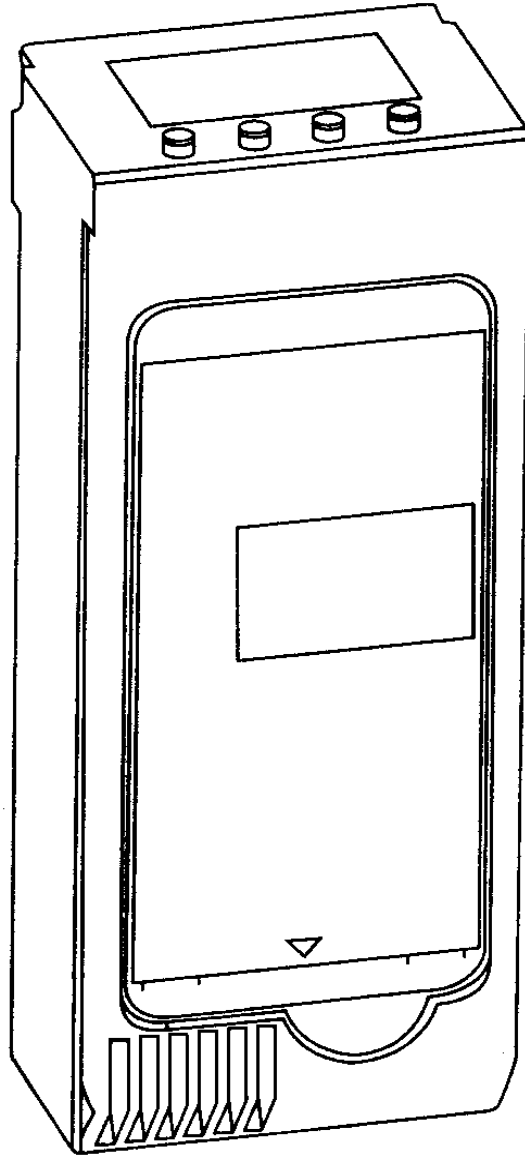


7392 ECP/RCP SYSTEM PROGRAMMER INSTALLATION AND PROGRAMMING INSTRUCTIONS



CONVECTAIR

7392 ECP/RCP SYSTEM PROGRAMMER

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7392 ECP(Transmitter)/RCP (Receiver) INSTALLATION AND OPERATING INSTRUCTIONS

WARNING: Installation of a multi-heater CONVECTAIR programming system involves some specific wiring requirements. CONVECTAIR recommends that this installation be performed and checked by a licensed electrical contractor.

1) PRESENTATION

The 7392 ECP CASSETTE is a management tool for your CONVECTAIR heating system. It allows you to maximise your energy saving while ensuring ideal comfort, by scheduling periods of heating comfort or energy saving setback.

The liquid crystal screen allows:

- to display the time, the day of the week, the program for the day and the present heating mode (comfort, economy or frost protection).
- to set time, day and programming.

The 7392 ECP CASSETTE is designed to be inserted in the control panel of CONVECTAIR heaters model number; ALTO, MEZZO, SOLO, TENOR and OPERA (7384, 7383, 7382, 7715 and 7720).

A) Operating options :

The PROGRAMMER MODULE offers a choice between :

- 7 pre-selected programs or a customized program for every day of the week.

All programs offer 2 heating modes :

- Comfort : ideal temperature for the room
- Economy : setback of 2 to 7°C (3.6° F to 12.6° F) from comfort level; -4°C (-7°F) for heaters with non adjustable setback like Jazz, Calypso and Samba.

It is also possible to bypass the current program by selecting the :

- Frost protection mode : maintains a temperature of approximately 8° C (45°F) , during long periods of absence for example.

QUICK START

A) Planning the installation :

Place all the transmitter CASSETTES in their respective compartments, let them charge up. (Aprox. 15 min).

Meanwhile, plan your installation:

One, two or tree zones?

Each zone corresponds to a group of units that will follow the same timetable.
Define the group that will share the same timetable.

Where do I place the transmitter CASSETTES?

Once the transmitter CASSETTES have been charged they can be placed in any unit that contains a CASSETTE compartment.

One of the transmitters will be zone 1, another shall be zone 2 and so on. Up to, and not more than 3 zones per home.

Which program for each weekday?

The timetable for each day of the week, indicates, hour by hour (0-24h), if we would prefer comfort setting or economy setting. Seven pre-selected programs reside in the CASSETTE. Use them or create your own for each day.

Choose the day that represents day 1 and the program to run (P1 to P7) or P=. Repeat this for day 1 to day 7.

What shall my Home Code be?

For the Home code you require a four digit number. Chose a four digit number like your street address or the four last digits of your telephone number. **Write them down!**

B) The first installation (for each transmitter CASSETTE)

SET TIME AND DATE

1. Press and hold "MODE" for 2 seconds
The hours will flash...
Use the + or - keys to set the hour (0-23 h)
Then "OK" to accept
2. The minutes will now flash...
Use + or - to set the minutes (1-59)
"OK" to accept
3. Now the day will flash...
Use + or - to set the day (1 to 7)
Confirm with "OK"

C) Set the program :

1. Press and hold "MODE" for 2 seconds then press once more briefly.
Day "1" is selected along with "P1", both flashing
 2. To use a preset program use + or - to select the program of your choice. (P1 to P7)
Press "OK" to accept, then it will go to day "2" that will display "P1" and flashing.
Repeat steps 1 and 2 until day "7"
 - 2.1 For a custom (user defined) program, when your day and "P1" are flashing use + or - until you see "P="
- Press "MODE"
- Now for each hour (1 - 23) use + for Comfort setting and - for Economy setting.
Confirm with "OK" and proceed to the following day.
Repeat this step until day "7"

D) Set the HOME CODE :

1. Press "MODE" at least 4 seconds (until the ":" disappear)
Press + or - to select the first digit of your 4 digit Home code.
Press "OK" to confirm, proceed to the second digit.
Repeat this step for all digits.

E) Set receivers address :

1. Press briefly on "MODE". The transmitter CASSETTE will automatically select Zone "1"
Press "OK", if you have more than one zone select zone "2" or zone "3" then "OK".
"EMET" will appear on the screen along with the zone chosen (1 or 2 or 3)
2. Place the transmitter CASSETTE in the receptacle of the unit, assure that the mode selector is on programmer mode (clock face icon)
3. Place all of the receiver CASSETTES in their appropriate units (Fig.1A), notice the LED comes on and stays on once the receivers are installed. Place your Convectair units mode selector on (Clock mode icon).
4. On each receiver CASSETTE press and hold the addressing button for 10 seconds until the LED starts to flash, then press it again briefly until it stops flashing. This will confirm that the addressing was successful.
5. Once you are finished with all the CASSETTES in that zone, go to the Programmer CASSETTE and push "OK" to confirm. The programmer will show the Time & date.

Repeat Step E for each additional zone transmitter.


F) Test time :

- From the Programmer CASSETTE push on "-/Hgel" for about 4 seconds, then "OK". The screen will indicate "HG:01"
- During this time verify that all Convectair units are in -/Hgel (frost protection mode). The mode selection light should have switched to -/Hgel Mode. This may take up to 30 seconds.
- Return to the Programmer CASSETTE and press on the /Hgel (frost protection mode). The screen will now indicate the time and day.
- Once again verify that all Convectair units have switched back to their previous mode.

3) INSTALLATION AND CONNECTIONS

A) Installation :

The 7392 ECP CASSETTE can only be installed in the control panel of a CONVECTAIR; ALTO, MEZZO, SOLO, TENOR or OPERA (7384, 7383, 7382, 7715 and 7720).

- To install the MODULE, use the point of a screwdriver to press down on the clip (**Fig. 1A**), then remove the cover. Insert the CASSETTE in its compartment. Allow 15 minutes for the 7392 ECP CASSETTE to be fully charged.
- OPERA model : please consult installation manual for the OPERA 7720
- On the thermostat control panel, turn the mode selector to program setting ()(**Fig. 1B**) to allow the heater to receive the CASSETTE's signal.

B) Connections :

A Convectair equipped with one 7392 ECP CASSETTE can control up to **20 CONVECTAIR heaters** (equipped with a 7392 RCP CASSETTE) for a maximum wire length of 90 to 100 feet. (33 meters)

C) Basic principle :

CONVECTAIR recommends that all electric heaters be installed in accordance with applicable local and national codes and by a qualified electrical contractor.

The Programmer system requires the installation of at least one CASSETTE 7392 ECP transmitter and at least one or more 7392 RCP CASSETTE on each unit to be controlled.

It is important to respect the phases from one circuit to the next. (Make sure that the circuit has 0 volts between all red wires (white in U.S.) and 0 volts between all black wires located on the main panel.

It is also possible to control bathroom units that are compatible with a system programmer but have no compartment to accept a CASSETTE. This is done by the use of a pilot wire connecting the bathroom unit to a nearby unit that is controlled by a 7392 RCP CASSETTE.

To do this, first we must connect the compatible bathroom unit to a controlled unit, by means of a pilot wire. Depending on the installation this may require specific wiring, such as:

NMD 12/3 (The white wire shall be marked and connected to the purple wire of each Convectair unit; the red and black wires will be reserved for electrical power).

WARNING:

■ **Do not use the ground wire as a communication wire. Do not ground this white communication wire.** (Canadian Electrical Code 10-200, U.S National Electrical Code 1999 artical 250)

NMD 14/2 and FAS 105 18/2 (Only one wire will be used and connected to the purple wires of each Convectair unit; the rest shall not be used).

The 7392 ECP CASSETTE can control up to 20 Convectair units per Zone, it is essential that the phases and loads be respected, for instance 3750 W per 20 A circuit.

■ **IMPORTANT:** If using a pilot wire : communication wires carry 120V. Since a zone may have several circuits, **switch the circuit breaker to the “OFF” position in the service panel for all circuits in the zone before accessing the junction box of any heater.**

WARNING:

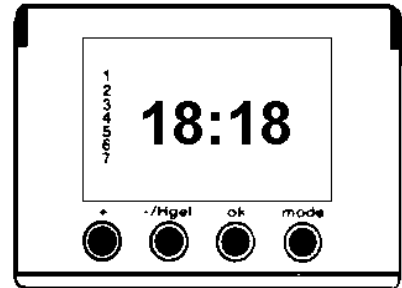
- You must not install 2 PROGRAMMER MODULE in the same zone
- It is imperative to respect the connection polarities of all convectors of one zone.
- The communication wire must not be grounded.

4) OPERATION:

NOTE:

- The PROGRAMMER MODULE is equipped with a capacitor that allows programmed information to remain stored up to 1 hour in case of a power failure. There are no batteries to replace.

- The PROGRAMMER MODULE can be programmed directly on the CONVECTAIR heater (under tension) or out of its socket after being completely charged.



- During the charging period (approximately 15 minutes), the signal through the communication wire is comfort. No other signal can be transmitted until the PROGRAMMER MODULE is fully charged.

A) Setting the clock :

Note: Two instruction labels (English and French) are provided with the PROGRAMMER MODULE. Stick the desired version directly on the PROGRAMMER MODULE.

Make sure the PROGRAMMER MODULE is fully charged (the screen will display a blinking “00:00”)

- Hold “ **mode**” key for 2 seconds
- Set the hour with “+” or “-” key and confirm with “**OK**”
- Set the minutes with “+” or “-” key and confirm with “**OK**”
- Set the day with “+” or “-” key and confirm with “**OK**”
(ex. Monday=1, Tuesday=2... Sunday=7)

B) Assigning programs :

7 pre-selected programs are detailed on the instruction label and memorized for life in the PROGRAMMER MODULE. Temperature mode (comfort or economy) is recorded in 1 hour increments.

NOTE: Time is shown using the 24 hour system :

0h 2h 4h 6h 8h 10h 12h 14h 16h 18h 19h 20h 22h 24h
0am 2am 4am 6am 8am 10am 12am 2pm 4pm 6pm 7pm 8pm 10pm 12pm

- Press the “**mode**” key and hold for two seconds, then press again.
- Using the “+” and “-” keys, choose the desired program for each day (starting with day 1) using any of the standard programs (P1 to P7), or a customized program (P=).

* If using a standard program; press “**OK**” to confirm your selection and to go to the next day.

- * To build your customized program; - Press “**mode**” key again
- For each hour, choose comfort with the “+” key or, economy with the “-” key.
- After completing the 24 hour cycle,press “**OK**” to go to the next day.

NOTE:

- It is possible to assign a different customized program for each day of the week.
- To return to the clock setting, you must complete the full 7 day programming cycle. Simply press “OK” if no change is required.

WARNING: Heaters switching from economy to comfort mode may become very hot to the touch. Please keep children away from heaters at all time. Once the room reaches the comfort temperature, heaters will begin to cycle again at a more moderate level.

5) OTHER FEATURES

A) Frost protection mode :

To go into frost protection mode, press the “-/Hgel” key for 4 seconds. With the “+” or “-” key, select the number of days desired and confirm with “OK” (from 01 to 99)

All CONVECTAIR in that PROGRAMMER MODULE’s zone will go into frost protection mode **with no possibility of bypassing.**

Note : If you have more than one zone, “Zone 1” will initiate -/Hgel on all units, in all zones. The -/Hgel can be dis-activated by any one of the other ECP programmer from any other zone.

Countdown starts immediatly and the original program will resume at midnight when the selected number of days is over.

To cancel the frost protection mode at any time, press the “-/Hgel” key again. The clock display will reappear and normal programming will resume.

B) Manuel bypass :

WARNING: Depending on the type of construction and the location of water pipes in the house, we recommend that you not use the frost protection mode during extended periods of below freezing temperature.

It is also possible to bypass a program temporarily on any individual convection heater by turning the dial of the mode selector on the unit itself (Fig. 1, B)

- comfort mode----- mode selector on
- economy mode----- mode selector on
- frost protection mode----- mode selector on
- Shut off ----- mode selector on “F”

To cancel the bypass and to return to the original program, turn the dial of the mode selector of each unit back to the program setting .

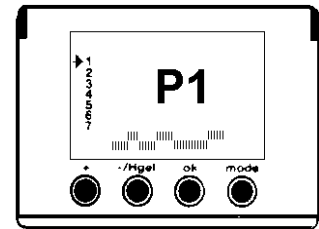
C) In case of power failure :

- In the event of a power failure exceeding 1 hour the PROGRAMMER MODULE may loose its charge.

Only a few seconds are necessary to reajust the time and day. The programs, standard or customized, are protected at all times. The screen will display a blinking "00:00". Simply readjust the time and day of the week (See 4A above).

6) LOCKING THE PROGRAMMER MODULE

A special screw is provided with the PROGRAMMER MODULE which, when installed properly, makes it impossible to extract the module from its socket. Take out the screw from the module (Fig 3A), replace the module in the socket and fasten the screw through the protruding lug on the side of the unit corresponding to the hole in the module, (Fig 3B).



7) PROGRAMMING EXAMPLE

A) Setting the time and day:

It is Friday, and it's 6:18 pm (18:18 hours)

Press "mode" for 2 seconds

The hours are flashing,

Using the "+" or "-" key, set the hour display to 18

Confirm with "OK" and go to the minutes

The minutes are flashing,

Using the "+" or "-" key, set the minutes display to 18

Confirm with "OK" and go to the day

The day is flashing,

Using the "+" or "-" key, set the day display to 5 (Monday = 1, Tuesday = 2, ...Friday = 5)

Confirm with "OK"

The PROGRAMMER MODULE is now set for Friday at 6:18 pm (18:18)

Now, start the actual programming.

B) Programming example with pre-selected programs :

(using P1 for Monday to Wednesday and P2 for Thursday and Friday).

Press "mode" for 2 seconds; the time is displayed ; press once again quickly, to get to day 1(Monday).The P1 program is now flashing;

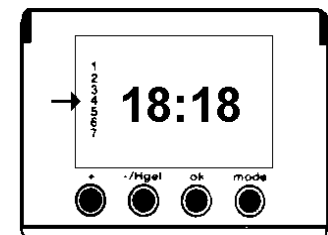
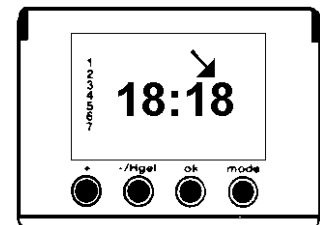
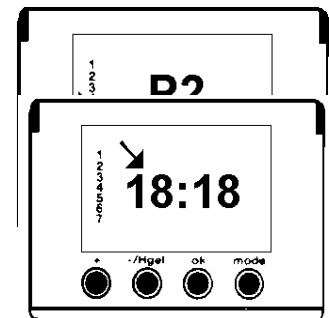
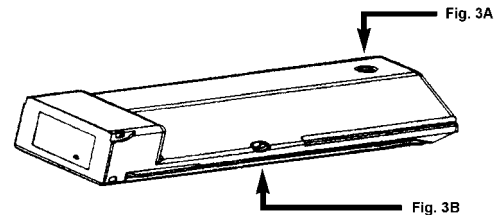
Using the "+" or "-" key, choose the standard program desired for Monday.

Assign program P1 for Monday

Confirm with "OK" and go to the next day

For Tuesday (2) and Wednesday (3), choose the same program as for Monday (1)

Press "OK" to confirm P1 for each day and go to Thursday (4)



P1 is now flashing
 Using the “+” or “-” key, choose P2
 Confirm with “OK”

Friday will be set the same as Thursday
 Confirm with “OK” and go to Saturday to customize a program.

C) Choose a customized program (for the weekend).

Saturday (6) is automatically selected following the last entry.
 Using the “+” or “-” key, go to P= (a)
 Press “mode”
 The first cursor of the program is flashing (b)
 Assign either a comfort or economy setting for each hour of the day using the “+” or “-” key
 After completing the 24 hour cycle, confirm with “OK” and go to Sunday
 For Sunday, use the same procedure as above, confirm with “OK” and go back to the original screen.

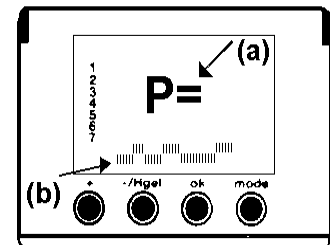
The programming schedule is now complete for the entire week

D) Individual programming :

Neither pilot wire nor the 7392 RCP CASSETTE are necessary to control a single Convectair heating unit. A single 7392 ECP programmer CASSETTE transmitter, can simply be installed in it’s compartment (see Fig. 1A)

E) Example of a programmable zone configuration :

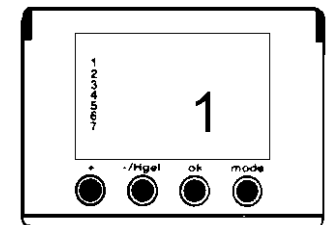
The programmable zone will enable us to link a 7392 ECP CASSETTE programmer to one or more RCP receiver CASSETTES. We can create 3 distinct programmable zones with 20 heater units each.
 To protect your control system from outside and neighboring transmitters, the Convectair 7392 ECP programmer transmitter is equipped with a four digit Mother Code.



F) Home code programming :

- You select the mother Code.
1. Press on “MODE” for 4 seconds
 2. With the + or - keys select your digits (0 - 9)
 3. Press “OK” to accept
 4. Press “MODE” for next

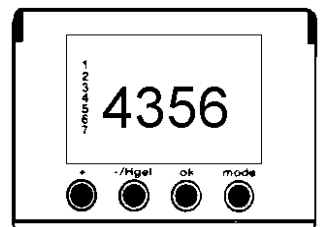
When all 4 digits have been accepted, press “Mode” and go to the next screen.
 (Assigning a zone)



G) Assigning a zone :

At the Transmitter 7392 ECP

Assigning will enable us to define the series of Convectair heater units (with



their receivers) which will receive and execute orders coming from a 7392 ECP programmer CASSETTE.

1. The screen will indicate Zone "1" or "2" or "3". *
2. With the + or - keys select the zone for that this ECP unit is to control. (Zone 1, 2, 3)
3. Press "OK" to confirm.
4. The screen will display the word "EMET" and the zone selected, (Being 1, 2, or 3).
5. Press "OK" to accept..

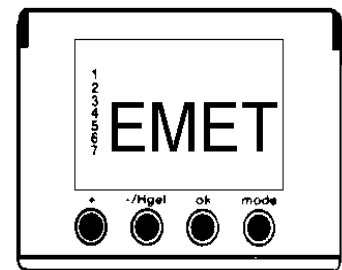
*** Note : If using a single zone (Single 7392 ECP transmitter)
You must use Zone 1 one only**

At the CASSETTE 7392 RCP Receiver.

Insert each receiver in it's compartment (Fig.1A)

Each receiver will correspond to the heater unit you wish to control. Make sure that all units you have installed the receivers are switched to programming mode (Clock mode on selector)

1. Press and hold the addressing button for 10 seconds until the LED starts flashing. At this time the receiver has memorized the codes associated with the transmitter that is in EMET mode.
2. Press briefly again until the LED stops flashing. This will confirm that the addressing was accepted by the RCP CASSETTE.
3. Repeat this procedure for all the RCP CASSETTES in the same zone. Remember the cassettes are addressed only when the transmitter is on "EMET" mode.
4. Repeat for each zone only when the transmitter for that zone is in "EMET" mode.



H) Example of a configured zone :

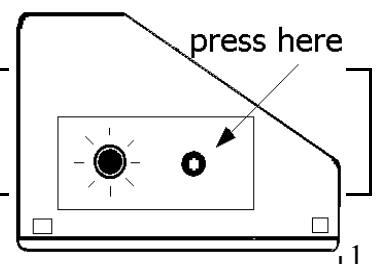
The 7392 ECP CASSETTE Programmer transmits a signal over your homes electrical network. This signal is the picked up by the RCP receiver CASSETTES. (See Fig. 2B) When the RCP receiver gets this signal it will set heater MODE. If this heater is linked to other heaters (Via pilot wire) the signal will be re-transmitted over the pilot wire to the other heaters in that zone. Comfort, economy or frost protection will control the selected zone. On the heaters themselves, comfort and setback are the only settings that need to be set individually.

Fig. 2A : This setup shows 2 ECP CASSETTES (2 zones) and 7 RCP receivers, one RCP per heater unit. Note : some are configured for zone 1 and some for zone 2.

Fig. 2B : This setup shows 2 ECP CASSETTES (2 zones) and 2 RCP receivers with 11 heater units. Note : The RCP heaters are linked with other heaters (Via pilot wire).

Notice: The bathroom heaters are linked via pilot wire to the RCP heater, this will enable them to receive the programers orders.

Warning :
Never use more than one 7392 RCP CASSETTE programmer on units that are linked together with the same pilot wire. Remember to respect the phases for



all heaters in the same zone.

8) TESTING THE SYSTEM

In order to check that the PROGRAMMER MODULE signal reaches all heaters in a zone, follow these simple steps:

- STEP 1: Make sure all heaters are ON (240 - 208 volts) and that the PROGRAMMER MODULE is fully charged.
- STEP 2: Set the time and day on the display screen of the PROGRAMMER MODULE and place it in its compartment.
- STEP 3: Turn the dial of the mode selector of each heater to the program setting “ ”.
- STEP 4: Check that the indicator light of each heater matches the signal transmitted by the PROGRAMMER MODULE (, , according to time of day)
- STEP 5: Set the PROGRAMMER MODULE to frost protection (“-/Hgel”)
- STEP 6: Check that the frost protection indicator light “ ” of each heater is on.
- STEP 7: Press on -/Hgel again to return to the proper mode.

This test ensures that all the CONVECTAIR in the programming zone receive the signal transmitted by the PROGRAMMER MODULE.



9) TROUBLE SHOOTING



- **No display:** Check power supply to heater
Make sure the PROGRAMMER MODULE is fully charged
- **No signal / Wrong signal:** Make sure that you have the same wire phase from one heating circuit to the other. Check in the main panel to ensure that there is zero volts between all red wires and zero volts between all black wires.
- **Blinking “00:00”:** May be caused by a power failure. Simply re-set the time and day.
- **Display flashes and timer can not be adjusted:** Exit the existing mode by pressing “OK” to return to the beginning of the programming sequence.

10) ERROR CODES:

If your unit has a problem it will show up as an error code on the display :

- DEF 1 RAM Error.
- DEF 2 Eprom Error.
- DEF 3 CPL bus outside carrier transmission.
- DEF 4 Transmitter Error two transmitters on the same zone.
- DEF 5 Zone Error configuration, zone does not exist.
- DEF 6 Energy manager Error
- DEF 7 Energy Counter Error.
- DEF 8 Telephone Center Error.

Please make note of the code before calling Convectair or your electrician. To erase the codes simultaneously push on “MODE” and “OK” for 60 seconds.

11) WARRANTY

2 years against all defects

This CONVECTAIR unit is covered by a 2-year warranty on all parts against material and manufacturing defects. This protection is valid from the date of purchase (keep your sales receipt) in accordance with the terms of the warranty included with each heater.

12) REPAIR CENTERS

For the location of the nearest repair center, please contact CONVECTAIR:

Canada and USA: 1-800-463-6478
Fax: 1-877-434-3166
E-mail: support@convectair.ca

13) FAQ's

How many transmitters and receivers can I have in each zone?

One transmitter and up to 20 receivers per zone. Do not exceed 90 to 100 feet of wire between the transmitter and the furthest receiver.

Can I use a combination of pilot wire and current carrier in my system?

Yes, you may do so, this type of combination can be used to program bathroom heaters. The ECP will transmit to the RCP and it will transmit over the pilot wire to the bathroom heater.

Why is it that the units with the pilot wire switch instantly while the units with the RCP's take longer?

If you are using a pilot wire your units shall switch to -/Hgel immediately once -/Hgel is engaged. However, units using RCP receivers will take up to 30 seconds. -/Hgel takes priority over all other modes. If your unit is in another mode it will be overridden and the unit shall switch to -/Hgel mode. The units cannot be individually taken out of -/Hgel mode, this prevents accidental dis-activation frost protection for a prolonged period of time.

How far does the 7392 ECP transmit?

The 7392 ECP programmer transmitter transmits over 90 to 100 feet of wire on the homes electrical network. The more heaters you have the less it will transmit.

I would like to know what type of protocol the 7392 ECP programmer uses (like x-10 etc.). If you use your own protocol is there a conflict with others?

The protocol used in the 7392 ECP transmitter is X2D similar to X-10 protocol. This protocol cannot conflict with others, each 7392 ECP programmer uses the home code to prevent this type of interference.