

**CLEARResult**

# One Hour Energy Audit

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SULT OF YEARS OF SCIENTI  
FIC STUDY COMBINED WITH  
THE EXPERIENCE OF YEARS...

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SULT **O**F YEARS **O**F SCIENTI  
**F**IC STUDY COMBINED WITH  
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1. What works for us may not work for you
2. Houses are built differently across the country
3. One hour energy audit is not for everyone
4. Opportunity Cost (Trade Off)
  1. Quality
  2. Customer Perception
  3. Money



- Reduce labor cost
- Increase production
- Standardize Process
- Better Customer Experience



## Six - eight labor hours to conduct and produce an energy audit report

- 4-6 hours to conducted the audit
  - Detailed audit
  - Blower Door test
  - Duct Blaster test
- 2 hours to produce the energy audit report
  - Detailed REMRate inputs
  - Information from REMRate was used to create a customer report

## Find the Bottlenecks



1. **Energy Reports-** information overload
2. **Duplication of Data Collection & Entry-** take off sheet/software/report
3. **Auditor Process-** different process and procedures.
4. **Customer Interaction-** too much talking
5. **Duct Blaster Test-** time consuming





## 1. Audit Report

1. Determined what customers wanted and needed
2. Created standardized report in word
3. Created report in excel

## 2. Audit Process & Procedures

1. Duct test vent covers
2. Simplified inputs (REMRate)
3. Standardize audit process

## 3. Customer Experience (control the flow of information)

1. Customer phone interview
2. Customer interview
3. Customer post interview

## 4. Audit Automation

## Direct Energy® Home Energy Audit

Audit Report



1411 MOUNTAIN  
DRIVE CRESCENT 100  
LAFAYETTE, TX 77803



## Audit Introduction

The Direct Energy® Home Energy Audit Team used the Home Energy Rating System® (HERS®) to evaluate your home's energy efficiency. HERS® is a standardized energy efficiency indexing system that allows homes to be compared with the current building standards. In other words, your home's energy efficiency is compared to itself as if it were built today using current building standards. The EPA's ENERGY STAR® program and The U.S. Department of Energy Building America Program SM each recognize HERS® standards for measuring a home's energy efficiency.

The auditor gathered your home's physical properties, appliance information, energy usage history, performed test (Blower Door and Duct Blaster), and used a home modeling software to produce your home's HERS® score. Along with the HERS® score, you may receive efficiency information concerning your home's:

- Windows
- Walls
- Lighting
- Air Conditioner
- Furnace
- Water Heater
- Attic Insulation
- Duct System
- Air Infiltration
- Appliances

This report includes our recommendations to upgrade your home to today's efficiency building standards. You will also find a breakdown of the estimated costs to make the energy efficiency improvements set forth in our recommendations. Finally, we provide you with a timetable for each improvement - showing you the amount of time you will need to recover your investment in making these improvements, with the investment being recovered by your reduced energy usage.

### THANK YOU FOR CHOOSING DIRECT ENERGY!

Please note that this Audit Report is subject to the Terms and Conditions of your invoice.

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## Home Profile

|                 |                        |                      |      |
|-----------------|------------------------|----------------------|------|
| Type:           | Single-family detached | Number of Floors:    | 3    |
| Orientation:    | West                   | Number of Residents: | 6    |
| Square Footage: | 4400 square ft.        | Foundation Type:     | Slab |

### Your Home's Estimated Annual Energy Cost, Usage, and Carbon Footprint

|                          | Estimated Annually For Your Home, As Is | Potential With Implementing Recommended Improvements |
|--------------------------|-----------------------------------------|------------------------------------------------------|
| Annual Energy Cost       | \$3,656                                 | \$1,402                                              |
| Electricity Usage        | 28052 kWh                               | 26026 kWh                                            |
| Natural Gas Usage        | 71 CCF                                  | 70 CCF                                               |
| Heating Cost             | \$930                                   | \$1,010                                              |
| Cooling Cost             | \$646                                   | \$596                                                |
| Water Heater Cost        | \$232                                   | \$232                                                |
| Lights & Appliances Cost | \$1,738                                 | \$1,438                                              |
| Service Charge           | \$120                                   | \$120                                                |
| Carbon Footprint         | 10695 lbs per year                      | 9847 lbs per year                                    |

The table above provides an estimated cost and usage of your home's current and potential energy consumption. The information is calculated by our home energy audit software that utilizes the information gathered during the physical audit of your home. For determining the estimated annual figures for your home, we have used the commodity rates for electricity (per kWh) and natural gas (per CCF) from recent bills you have provided us. The software uses basic assumptions of energy usage to calculate the information. For example, the software assumes that your thermostat is set at 78°F in summer and 60°F in winter.



## HERS® Index

### HERS® Index Efficiency Scales for Rated Homes



### HOW TO READ THE CHART:

HERS® (Home Energy Rating System®) is an indexing system that compares your home's energy efficiency to current home building standards. A home built to the current standards of the "American Standard Building" would receive an index score of 100. A home using 1% more energy than the current American Standard Building home will increase the HERS® score by one point; while a home using 1% less energy than the current American Standard Building home will decrease the HERS® score by one point. Therefore, the lower the HERS® score, the more energy efficient the home.

### KEY TO THE CHART ABOVE:

Current = Your current home's HERS® index score.

Potential = Your home's potential HERS® index score after implementing our recommended improvements.

Energy Star® - For a new home to qualify as Energy Star®, the home must use less than 15% energy than the current American Standard Building home.

New Home - A home built to the current American Standard Building will have a HERS® score of 100.

Typical Home - The average home has a HERS® score of 130 and uses 30% more energy than a home built to the current standards of the American Standard Building.



| Item               | Current Status (if Recommended Item Listed)                     | ENERGY STAR® Efficiency |
|--------------------|-----------------------------------------------------------------|-------------------------|
| Flooring           | Slab                                                            | Average                 |
| Wall Insulation    | R-13 wall insulation                                            | Average                 |
| Ceiling Insulation | R-10 Blown Fiberglass Insulation/ No Insulation on Attic Access | Average/Low             |
| Radiant Barrier    | No Radiant Barrier                                              | No                      |
| Windows            | Single pane with metal framing                                  | Average                 |
| Duct System        | 5 Ton Leakage- 232CFM @25Pa. 3 Ton Leakage-143CFM@25Pa.         | Average                 |
| Air Infiltration   | 3568 CFM leakage at 50 Pascals                                  | High                    |
| Air Conditioner    | Two Amana 12 SEER Air Conditioner                               | Low                     |
| HVAC Tune-up       | Two years since the last tune-up                                | Low                     |
| Digital Thermostat | Digital Thermostat                                              | Yes                     |
| Water Heater       | Two 40 Gallon State Select .62EF gas water heaters              | Average                 |
| Appliances         | Energy Star Appliances                                          | Above Average           |
| Lighting           | 0.96 of the lights are compact fluorescent                      | Low                     |

DIRECT ENERGY CAN HANDLE MOST OR EVEN ALL OF THE MAJOR IMPROVEMENTS FOR YOU! JUST ASK OUR REPRESENTATIVE!

\*Standard: 100% compact fluorescent lighting. In case of mixed lighting, 100% compact fluorescent lighting is assumed. All other lighting is assumed to be standard incandescent lighting. All other lighting is assumed to be standard incandescent lighting. All other lighting is assumed to be standard incandescent lighting.

\*\*Note: 100% of the lights are compact fluorescent. In case of mixed lighting, 100% compact fluorescent lighting is assumed. All other lighting is assumed to be standard incandescent lighting. All other lighting is assumed to be standard incandescent lighting.



## Recommendations

Our recommendations to you cover major energy efficiency improvements for your home that will have the most impact. We do not account for other possible monetary and nonmonetary benefits to you such as increasing the property value of your home, extending the life of your air conditioner and heater, and an overall increase in home comfort. The only items we address below are those items which received a "Low" or "Below Average" rating. We have also included any specific items you have requested.

| Feedback less than 10 years                              | Estimated Cost | Annual Savings  | 10 Year Savings** | Payback** |
|----------------------------------------------------------|----------------|-----------------|-------------------|-----------|
| We Recommend: AC Tune Up (2)                             | \$140          | \$201           | \$2,528           | 0.7       |
| We Recommend: Upgrade to Compact Fluorescent Light Bulbs | \$250          | \$226           | \$2,843           | 1.1       |
| We Recommend: Seal Your Ventilation Ducts                | \$395          | \$100           | \$1,258           | 3.7       |
| We Recommend: Radiant Barrier                            | \$957          | \$107           | \$1,348           | 7.6       |
| We Recommend: Attic Test                                 | \$195          | \$19            | \$239             | 8.5       |
| We Recommend:                                            |                |                 |                   |           |
| Feedback More than 10 years                              | Estimated Cost | Annual Savings  | 10 Year Savings** | Payback** |
| We Recommend: Solar Screens                              | \$1,410        | \$64            | \$805             | 15.2      |
| We Recommend:                                            |                |                 |                   |           |
| We Recommend:                                            |                |                 |                   |           |
| We Recommend:                                            |                |                 |                   |           |
| Future Measures (Replace when equipment fails)           |                | 10 Year Savings | Annual Savings    |           |
| HVAC- 16 SEER A/C Systems                                |                | \$2,400         | \$191             |           |

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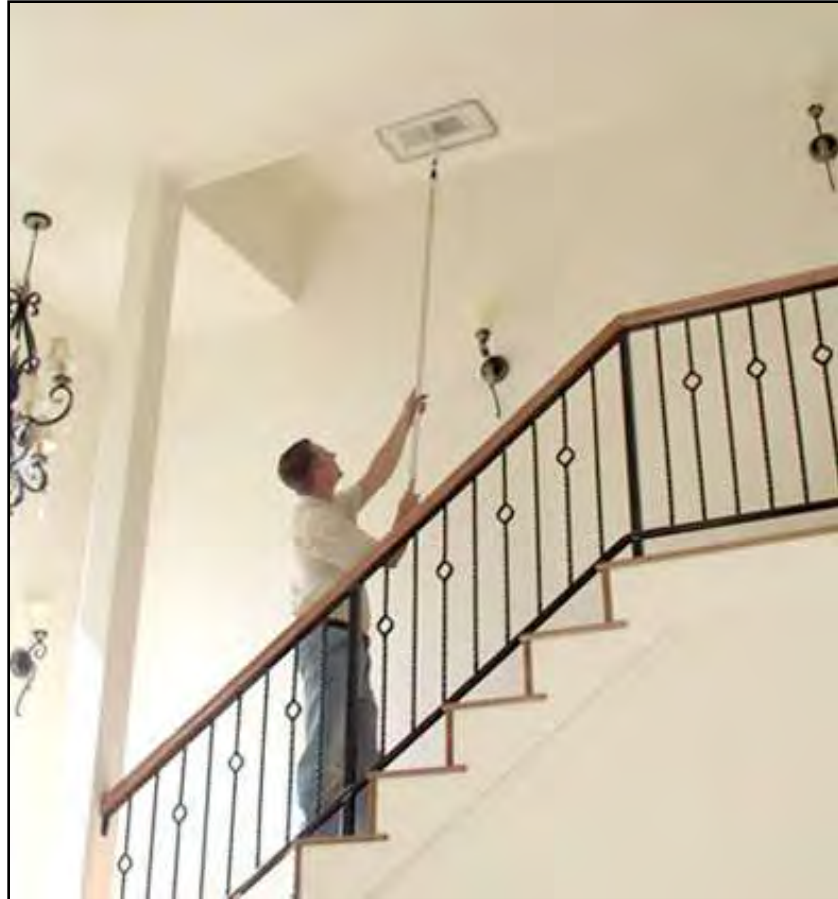
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## 4. Audit Automation

# Duct Covers

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## Features

- Wireless cards
- Built in camera
- Built in credit card reader
- Car docking station with printer
- Touch screen





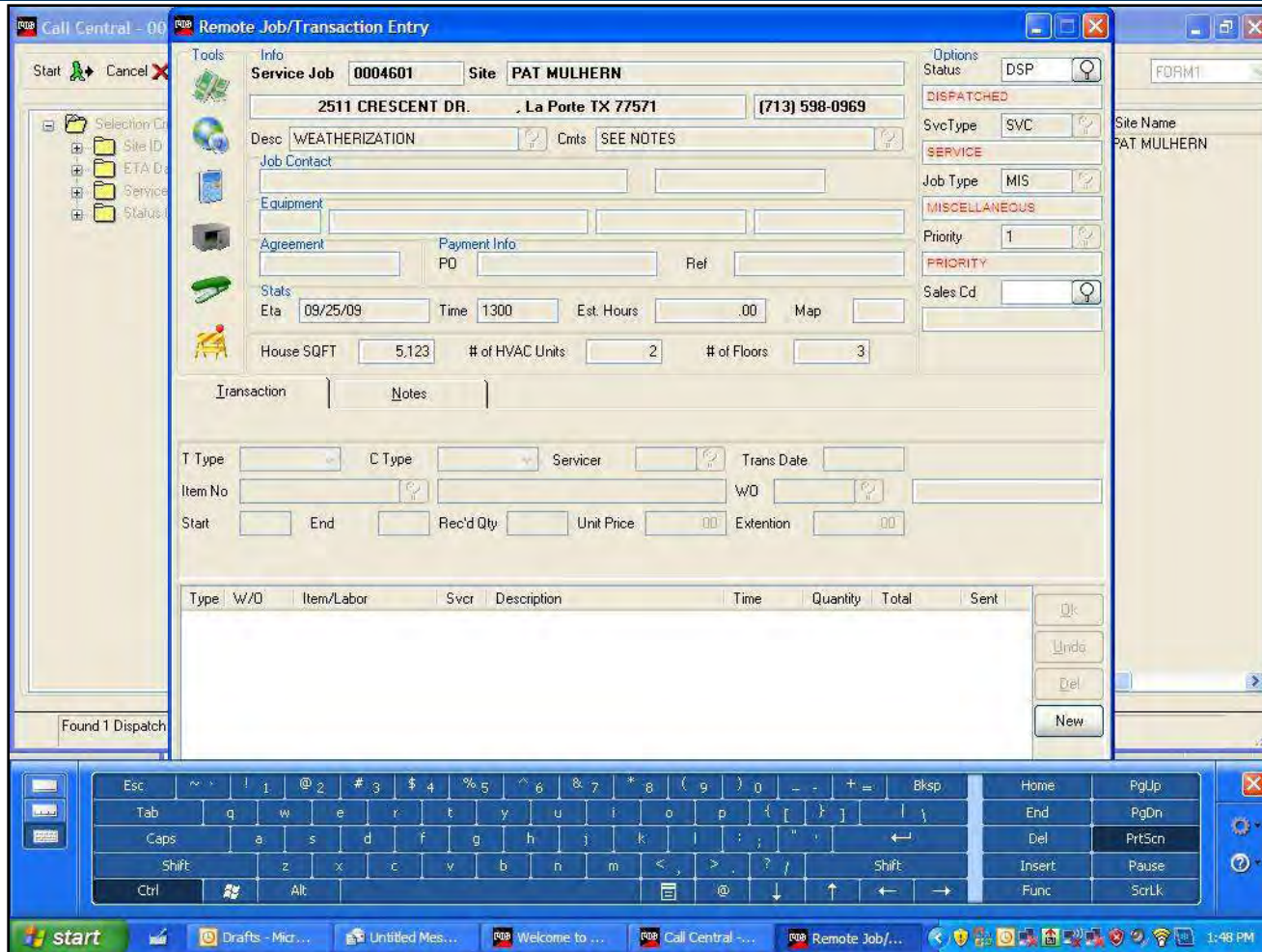
# Imported Customer Info

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The screenshot displays the REM/Rate v 12.71 software interface. The window title is "REM/Rate v 12.71 - Pat Mulhern.btg". The menu bar includes File, Building, Extras, Libraries, Reports, Tools, Options, and Help. The main area contains a form with the following fields:

- Building Name: 0004601
- Property Information:
  - Owner's Name: PAT MULHERN
  - Property Address: 2511 CRESCENT DR.
  - City: La Porte
  - State: TX (dropdown) Zip: 77571
  - Phone Number: (713) 598-0969
- Builder Information:
  - Builder's Name: (empty)
  - Builder's Address: (empty)
  - Builder's Email: (empty)
  - Phone Number: (empty)
  - Model Name/No: (empty)
  - Development Name: (empty)

At the bottom of the window, there are two hand icons. The status bar shows "Simplified", "Houston, TX", and "10/12/09". The taskbar at the bottom includes the Start button, a search icon, and several open applications: Drafts - Mid..., Untitled Mes..., REM/Rate v..., Welcome to..., and Call Central ... The system tray shows various icons and the time "1:52 PM".



# Recommendations

CLEAResult

Energy Efficient Improvement Measures to Consider

Load Measures From: Library Previous Run Both

|     | Element           | Existing            | Proposed             | Measure Cost       |
|-----|-------------------|---------------------|----------------------|--------------------|
| * 0 | Infiltration:     | 2390-3584/2390-3... | 1500.0/1500.0 As ... | Reduce Air Infi    |
| * 0 | Infiltration:     | 1855-2783/1855-2... | 1000.0/1000.0 As ... | Reduce Air Infi    |
| * 0 | Infiltration:     | 2240-3360/2240-3... | 1600.0/1600.0 As ... | Reduce Air Infi    |
| * 0 | Infiltration:     | 2516-3774/2516-3... | 1500.0/1500.0 As ... | Reduce Air Infi    |
| * 0 | Infiltration:     | 2292-3438/2292-3... | 1500.0/1500.0 As ... | Reduce Air Infi    |
| * 0 | Leakage 1:        | Tot 120-180 CFM25   | Tot 60 As Specified  | Reduce Duct L      |
| * 0 | Thermostat:       | FALSE/FALSE         | TRUE/TRUE            | Install Digital Pi |
| * 0 | Perf Adj 3: COOL: | 95.0 - 100.0        | 100.0 Units As Sp... | Have HVAC Tc       |
| * 0 | Perf Adj 4: COOL: | 95.0 - 100.0        | 100.0 Units As Sp... | Have HVAC Tc       |

New Disqualify Disqualify All Enable Disable UnGroup

Existing  
Measurement Type: Blower door test  
HS Infiltration Value Range: 2390 to 3584  
CS Infiltration Value Range: 2390 to 3584 CFM @ 50 Pascals

Proposed  
HS Infiltration Value: 1500  
CS Infiltration Value: 1500 Units As Specified

Measure Costs  
Reduce Air Infiltration

OK Close Help

Simplified Houston, TX 01:54 PM

start Drafts - Mic... Untitled Mes... REM/Rate v... Welcome to ... Call Central ... 1:54 PM

# Printing Report

CLEARresult

The screenshot displays the CLEARresult software interface. The main window is titled 'Remote Job/Transaction Entry' and shows details for a service job. A 'Dispatch Card Print' dialog box is open in the foreground, allowing the user to print a dispatch card for the selected job.

**Remote Job/Transaction Entry Window:**

- Menu: Start, Cancel, Maintenance, New, Remote Job
- Selection Criteria: Site ID
- Table:

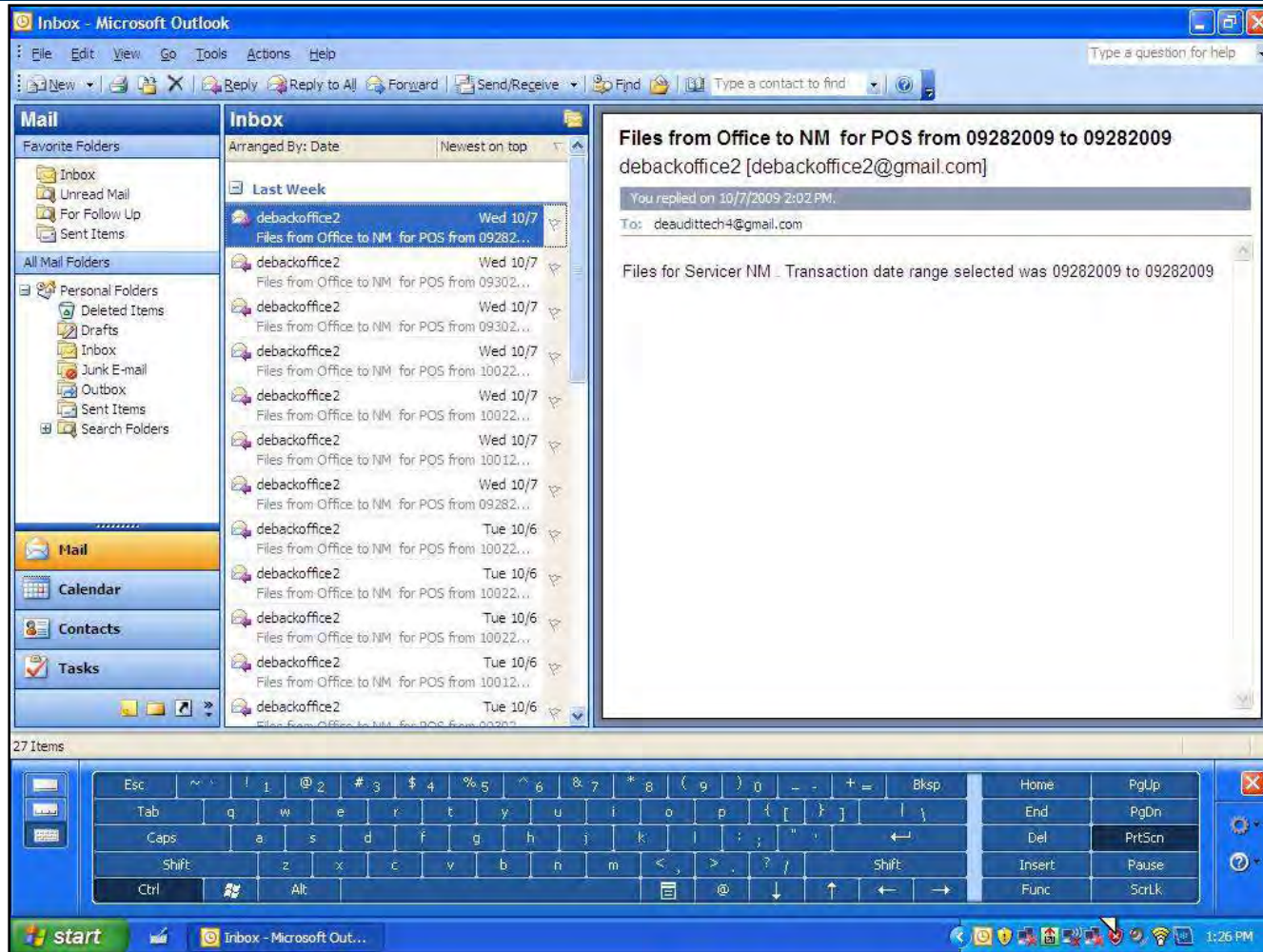
| ETA Date | ETA Time | Job No  | Description    | Status | P |
|----------|----------|---------|----------------|--------|---|
| 09/25/09 | 1300     | 0004601 | WEATHERIZATION | DSP    | 1 |
- Info: Service Job: 0004601, Site: PAT MULHERN, Address: 2511 CRESCENT DR., La Porte TX 77571, Phone: (713) 598-0969
- Desc: WEATHERIZATION, Cmts: SEE NOTES
- Options: Status: DSP, DISPATCHED, SvcType: SVC, SERVICE, Job Type: MIS, MISCELLANEOUS, Priority: 1, PRIORITY, Sales Cd

**Dispatch Card Print Dialog Box:**

- Show Price on Receipt:
- Print A/S Transactions:
- Dispatch Form Code: 1
- Job Name: DIRECT ENERGY
- Printer: Canon iP100 series
- Buttons: Print, Cancel, Printer Setup

# Report is E-mailed to Customer & Back Office

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1. Follow Up

1. Reduced labor cost
2. Lower equipment cost
3. Increase in capacity (audits)
4. Increased in post audit sales
5. Increase in referrals
6. Fewer customer complaints
7. Electronic storage of customer data



1. Measuring software
2. Do not perform duct blaster if the home is tight or visual inspection shows ducts are leaky
3. Use REMRate default duct blaster settings
4. Use the homes square footage from the county tax collector website



# Thank You

Ryan Hatch

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