FIREFLY® – Energy 2.8
FIREFLY® AMR SYSTEM REFERENCE MANUAL

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Regulatory Information

United States of America, FCC:

FCC ID: ODYD4300

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions;
(1) this device may not cause harmful interference, and
(2) this device must accept any interference received, including interference that may cause undesired operation.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
--Reorient or relocate the receiving antenna.
--Increase the separation between the equipment and receiver.
--Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
--Consult the dealer or an experienced radio/TV technician for help.

Caution: Changes or modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment.

To comply with FCC RF exposure requirements, the device and the antenna for this device must be installed to ensure a minimum separation distance of 20 cm or more from a person's body. Other operating configurations should be avoided.

Canada, Industry Canada (IC)

The wireless radio of this device complies with RSS 210 Industry Canada. This Class B digital device complies with Canadian ICES-003. The installer of this radio equipment must ensure that the antenna is located or pointed such that it does not emit RF field in excess of Health Canada limits for the general population; consult Safety Code 6, obtainable from Health Canada's website www.hc-sc.gc.ca/rpb

Introduction

The FIREFLY AMR System is an automated meter reading system that collects meter reading data remotely and wirelessly. This is accomplished using the Datamatic FIREFLY Meter Interface Unit that sends the radio signal to the ROADRUNNER handheld receiver unit (walk-by) or the ROADRUNNER Mobile truck mounted receiver unit (drive-by) or the Mesh Controller, Gateway.

The main benefits of using a wireless AMR system are:

- Increased speed of meter readings
- Increased accuracy of meter readings
- Safer meter reading procedure

After reviewing this training manual you should be able to perform the following functions:

- Install an electric FIREFLY
- Program an electric FIREFLY
- Set up and utilize all FIREFLY menu functions
- Read the FIREFLYs for billing
- Perform periodic audits and troubleshooting on FIREFLYs

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Equipment

Electric FIREFLY Installation Supplies

Electric FIREFLY Installation Equipment

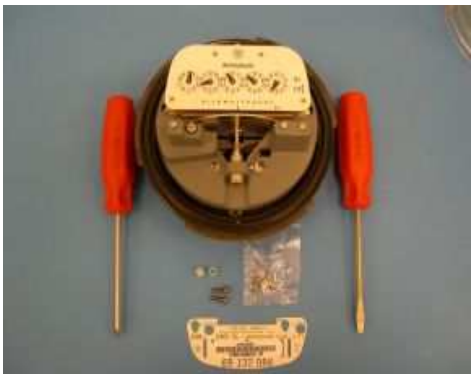
- 2-way RF ROADRUNNER.
- Phillips Screwdriver, #2 head, with 3-4" shaft. *Used for attaching FIREFLY to meter.*
- Flat Head Screwdriver, with $^{3}/_{16}$" wide head. *Used for attaching FIREFLY power supply wire clips to meter's utility side power bus.*
- Static grounding mat with wrist strap and grounding plug. *Used whenever handling the electric FIREFLY by hand, except when attached to meter.*

Electric FIREFLY Installation Consumables

- Install packet including screws and nylon spacers.
- FIREFLY CR 2032 batteries.
- Disc marking template.
- Datamatic Ltd.'s Part# D2311 paint marker. *Used for painting meter disc. The warranty on the Electric FIREFLY will NOT be honored if the Datamatic D2311 paint marker is not used on the meter disc.*

Electric Meter Install Kits

ABB
2 - .25 Nylon Spacers



Westinghouse
2 - .25 Nylon Spacers
2 – 6-40 X ½” screws

Landis & Gyr
2 – 6-32 X ½” screws
2 – Post Meter Spacers
2 - .25 Nylon Spacers

GE
2 - .25 Nylon Spacers
2 – 4-48X1/2” pan head screws

Sangamo
2 - .25 Nylon Spacers
2 - 5-40X ½” screws

FIREFLY Menu Screen

Select the F5 key on the ROADRUNNER to access these options:

F5 1	**Templates** (Use to set up the programming template)
F5 2	**Program FF** (Use to program the FIREFLY)
F5 3	**Program Indiv Param** (Use to reset individual programming parameters)
F5 4	**Current Settings** (Allows the user to view all parameters of that FIREFLY)
F5 5	**Profile Extract** (Extracts the FIREFLY's consumption history)
F5 6	**Set Reading Mode** (Use to set up how you want to read the FIREFLYs)
F5 7	**Enter AutoCAL** (Use to activate AutoCAL mode for **Water FIREFLYs**)
F5 8	**Exit AutoCAL** (Use to stop AutoCAL mode for **Water FIREFLYs**)
F5 9	**Test RF Reception** (Test mode used at Datamatic, Ltd.)
F5 A	**Test Optics** (Use to check background values for **Water FIREFLYs**)
F5 B	**Diagnostics** (Use to check AutoCAL results for **Water FIREFLYs**)
F5 C	**Options** (Use to set options for the ROADRUNNER)
F5 D	**Capture Config** (To manually capture Configuration data at any time.)
F5 E	**AutoCAL Rules** (Use to set rules for the **Water FIREFLY**)
F5 F	**Clear Tamper** (Use to clear a tamper code on the **Water FIREFLY**)

Reading an Electric Meter

Following are some basic rules on how to read “clock style” electric meter indexes. Each of the four or five dials on the meter represents one digit of the present reading. The dials move both clockwise and counter-clockwise. When the hand of one of the dials is between numbers, always take the smaller number. For example:

Residential Electric meter example

4 6 3 7 2

This reading would be 46372. To tell if a hand is past a number or not, look at the dial to the right. If the dial to the right has passed zero, then the hand is pointing to the correct number. If the dial to the right has not passed zero, then use the next smaller number.

To practice, go outside a home or business and record the readings for several days in a row. By subtracting yesterday's reading from today's reading, you can get a feel for how much energy (kilowatt hours for electric) is used each day.

When a power company representative reads a meter, they do not set it back to zero. Therefore, the dials keep turning until the next time the meter is read. By subtracting two consecutive readings, the amount of consumption is determined for the month. Utilities check to confirm that the readings each month fall within an expected range. If a reading is significantly lower or higher than expected, the meter reader can be alerted and confirm the reading is correct. This helps ensure bills are accurate each month.

This reading is 00000. Cyclometer (or odometer) style indexes are easier to read and can be found on both electric meters.

Installation Procedures

Electric FIREFLY Installation Procedures

Pre-installation Setup

- Access the FIREFLY Template from the FIREFLY Menu.
- Select the type of service for the FIREFLY you are installing such as electric.
- Then you will select a prompt type for each parameter of either Normal or Default.
  - NORMAL - this means you are going to ***enter*** *this value each time*.
  - DEFAULT - this means you are *setting it to a preset value that* ***does not change***.
    When selecting Default, an actual value must then be entered for that parameter.

#1 Set your FIREFLY Template:

Parameter	**Prompt Type**	**Value** (Recommended Value)
1. Reading	Normal	Normal
2. Register Number	Normal	Normal
3. Mode (makes the FF active)	Default	(Active)
4. System Number (area code for FFs)	Default	(100)
5. Prof. Interval (how often usage is saved)	Default	(15)
6. Transmit Interval (how often a FF sends its signal)	Default	(2)
7. Constant (dependent upon the meter)	Normal or Default	(7.2, 12, 14.4)
8. Rollover (# Of Dials FIREFLY sends)	Default	(5)
9. Prof. Scale	Default	(1)
X. Save & Exit		*To Save your Template*

#2 Set the Reading Mode

- Set the FIREFLY reading mode to **Verify Read Mode**.

#3 Check the Options Screen

Check the options screen from the FIREFLY Menu for the following:

- Capture Data – Enabled
- APD Register Number – Enabled
- Clear Prof. Data – Enabled
- Delta Warning – 2
- Show Constants – Disabled
- Comm Method – Wireless RF
- Tamper Override – Disabled

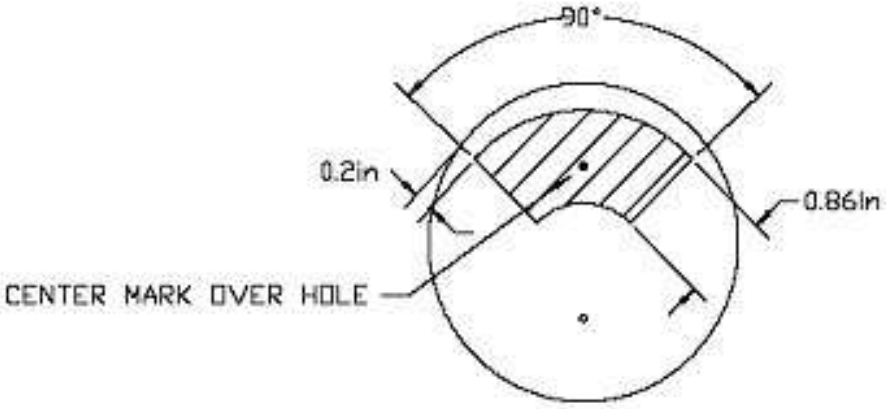
Installing the Electric FIREFLY

1. Remove the glass cover from the electric meter. Remove the break-away brass tamper seal, if equipped.

2. Remove the screws from the utility faceplate.

3. Remove the utility faceplate from the meter. Clean the disc on old meters, if necessary.

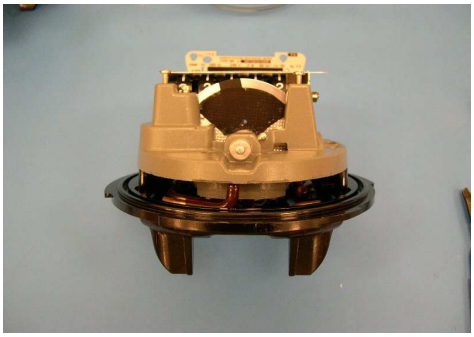
4. Place marking template over meter disc, being sure to include one calibration hole and any black painted stripe in the marking area.



NOTES:
1. USE D2310 PAINT STENCIL
2. USE DAMPNEY THERMALOX 320 PAINT PEN
3. BLACK MARKING MAY EXTEND TO OUTER EDGE OF DISK IF NOT USING D2310 PAINT STENCIL
4. ENSURE ONE OF THE TWO HOLES IS CENTERED IN THE BLACK SPOT

Note: When painting the disc, make sure that any calibration holes that do not fall within the painted area will not be positioned over the FIREFLY optics at the same time as the painted area.

5. Using the Datamatic D2311 paint marker, paint in the entire area of the template. Leave no empty spots within the template area.



Note: If the meter disc is already painted, still place template over disc to ensure the entire area is covered. If not, paint in additional area within template not already covered with paint.

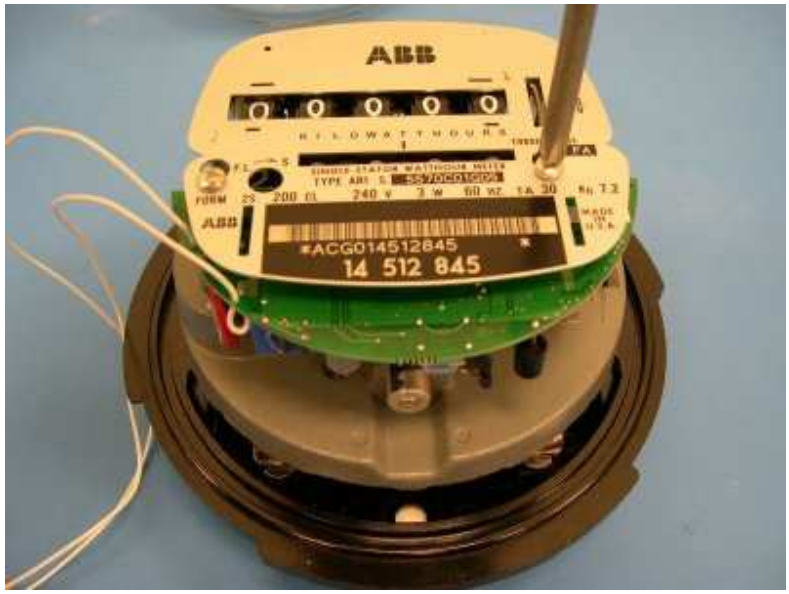
6. If required for this meter type, add metal extensions to the meter.

7. Position the FIREFLY on top of the nameplate posts.

8. Mount the unit flush on top of the nameplate posts with the spacer and nameplate above it.

9. Thread the mounting screw through the faceplate, the nylon spacer and FIREFLY into the faceplate post holes.

10. While applying pressure perpendicular to the disc plane, tighten down screws into faceplate post holes.



11. Make sure FIREFLY is parallel with the meter disc; adjust if needed. Ensure the meter disc moves freely.

12. Attach fuse clips on FIREFLY wire ends to the meter 240 VAC terminal posts on the top of the meter. This is the city's side of the meter. Avoid placing clips next to lightening arrestors.

Note: Do not attach the fuse clips to any painted area on the meter posts.

13. Replace the glass cover on the meter, making sure the FIREFLY wires do not get pinched between the meter and the cover.
14. *Optional:* Test meter and calibrate on a test bench.
15. Install the meter into the 240V socket on a house or business, being careful to not jar the meter to prevent loosening the FIREFLY batteries.

Note: All work on Electric FIREFLYs needs to be done taking static grounding precautions. Failure to use a grounded static mat and wrist strap when handling or retrofitting the FIREFLY to an electric meter could result in static discharge damage to the electronics. Units found to be damaged in this manner will not be covered by Datamatic warranty. See picture of static mat below:

Electrostatic Discharge (ESD) Warning

Electrostatic Discharge (ESD) Warning

Electrostatic Discharge (ESD) is the enemy of electronic devices. You should always take precautions to eliminate any electrostatic charge from your body and clothing before touching any semiconductor device or card by using an electrostatic wrist strap and/or rubber mat.

Static electricity can harm system boards. Perform installation at an ESD workstation and follow proper ESD precautions to reduce the risk of damage to devices. Datamatic strongly encourages you to follow proper ESD procedure, which can include wrist straps and smocks, when servicing equipment.

You can also take the following steps to prevent damage from electrostatic discharge (ESD):

- When unpacking a static-sensitive device from its shipping carton, do not remove the device's anti-static packaging material until you are ready to install the device. Just before unwrapping the anti-static packaging, be sure you are at an ESD workstation or grounded.
- When transporting a sensitive device, first place it in an antistatic container or packaging.
- Handle all sensitive devices at an ESD workstation. If possible, use anti-static floor pads and workbench pads.
- Handle devices and boards with care. Don't touch the devices or contacts on a board. Hold a board by its edges or by its metal mounting bracket.

Programming the Electric FIREFLY

Note: The FIREFLY requires 240VAC during programming to write settings to its memory.

1. Optional: Do the Meter Exchange Procedure. (F1 – D)
2. Power the meter with 240VAC (place the meter into the 240V socket).
3. Select Program FIREFLY from the FIREFLY Menu. (F5 – 2)
4. Select the addressing method by choosing #2. Serial Number.
5. Enter the 8-digit FIREFLY serial number located on the capacitor.
6. The ROADRUNNER begins initializing.
7. Select the meter brand you are installing the FIREFLY on. If the meter brand is not listed (but qualified by Datamatic) use "Other" and type in brand name.
8. Enter the register number from meter (if not automatically populated with correct meter number from account).
9. Enter the visual reading for all 5 visible dials.
10. At the View Current Settings screen, check normal values entered on template. Press the 'FNCTN' and 'End' keys to accept the values.
11. Select Save and Exit.
12. When the ROADRUNNER has returned to the route, **take a Walk-Away Reading** in Verify Read mode by Interrogating the FIREFLY (press **I**).
13. Initial installation and programming of FIREFLY is complete.

Notes:

- If you do not receive an RF message or signal for an extended period of time, one of two issues may have occurred:
  - FIREFLY was mis-programmed (**usually the Meter# being incorrect**).
  - The FIREFLY is not putting out an RF signal.

- To exit the interrogation screen, press the 'FNCTN' and 'End' keys. You receive a screen to either select:

  1. Skip Meter – then enter a Skip code.

  2. Exit Install Read – takes you back to the route screen.

  Select #2, Exit Install Read. Go back to Step #2 to reprogram the FIREFLY once more.
  Troubleshooting Electric and FIREFLYs

Reports are generated from Installation and RV data that is sent to Datamatic. These reports are processed and then e-mailed back to the customers for review. These reports are used to identify which FIREFLYs need Troubleshooting. Examples of FIREFLYs in need of Troubleshooting include No RF signal and Delta values outside of specified range.

Troubleshooting Field Procedure

The following steps should be taken to troubleshoot FIREFLY issues while in the field:

- Perform a Walk-Up RV (see Read and Verify Procedure section of this manual).
- If walk-up RV is accurate, proceed to the next meter on the Troubleshooting report.
- If the FIREFLY is inaccurate or has any Trouble Codes then proceed with Troubleshooting.

Troubleshooting Details

Check the following before troubleshooting the FIREFLY:

- The dials are not stuck or malfunctioning.
- Make sure the FIREFLY has no visible damage.

Receiving no RF signal from a FIREFLY

When Interrogating a FIREFLY from a ROADRUNNER and no radio read can be made, check the following:

- Check Current Settings to verify the register # on the meter, ROADRUNNER, and FIREFLY match.
- Verify that in Current Settings of the FIREFLY, the Mode is showing to be 'Active'.

Inaccurate Under-counting FIREFLY

Electric FIREFLY:

- Check connection of FIREFLY to power posts. Reconnect using the proper technique if needed.
- Confirm there are no reflective unpainted areas within the painted area of the disc.
- Check meter disc speed; excessive disc spend can cause under-counting. Continually undercounting deltas usually mean the account has an under-sized meter, making both the meter and FIREFLY miss counts.

Sample Datamatic FIREFLY Reports

Installed Report

Here are the Variables and Fields that are included on an Installed FIREFLY report:

Variables:	**Fields included:**
Utility	G/S – Gray/Skip indicator
Installer	Date
Include Utility (Yes/No)	Address
Include Admin Installer (Yes/No)	Meter ID
Cycle	Register Model
Start Date	Register Size
End Date	Manf Serial #
Route	FF Version
	P2
	Thresh
	Mode
	Constant
	Transmit Interval
	Profile Interval
	Rollover
	Scale
	Sensor Type
	Pulse Ratio
	Encoder Interval
	Walkway Delta
	Security Tag
	Trouble Code
	Skip Code

Example of an Installed FIREFLY report:

Installed Report (NEW)

Report Date: 2/2/2005 10:50:29 AM

Other Report Links
Installed and Ready to Verify
Install Re-Check
Install Skip

Utility :
Installer : *ALL*
Date Range : *01/15/05 - 2/2/2005*
All Meters : *131 - Clear: 84, Gray(G): 47, Skip(S): 0*
Codes : *95 - #CM#:42, 260:5, BACL:43, CHNG:4, FTAM:1*

Cycle : *01*
Route : *0106*
Meters : *10 - Clear: 10, Gray(G): 0, Skip(S): 0*
Codes : *10 - #CM#:4, BACL:6*

G/S	Date	Address	MeterID	Reg Model	Reg Size	Mfr SN	FF Ver	P2	Thr	Mode	Cnst	Xmit	Prof Intvl	Roll	Scale	Sens Type	Pulse Ratio	Encdr Intvl	W/A Delta	Sec Tag	Trbl Code	Skip Code
-	1/17/2005 2:00:17 PM	1316 PALANTI	0203487	Neptune	10	30626605	0210	129	15	2	1	2	60	6	1	1	-	0	-	0203181	BACL	-
-	1/17/2005 2:15:59 PM	1412 COUNTRY	0412182	Neptune	10	30626606	0210	113	15	2	1	2	60	6	1	1	-	0	-	0203191	BACL	-
-	1/31/2005 2:03:47 PM	9777 TRAIL R	0413310	Neptune	10	31132727	0211	125	15	2	1	2	60	6	1	1	-	0	-	0199292	#CM#	-
-	1/17/2005 2:33:40 PM	9737 TRAIL R	0412180	Neptune	10	30626607	0210	107	15	2	1	2	60	6	1	1	-	0	-	0070329	BACL	-
-	1/31/2005 2:10:43 PM	9729 TRAIL R	0411604	Neptune	10	31001283	0211	132	15	2	1	2	60	6	1	1	-	0	-	0106106	#CM#	-
-	1/31/2005 2:27:37 PM	9769 DERBYHI	0411450	Neptune	10	31131074	0211	131	15	2	1	2	60	6	1	1	-	0	-	0199247	#CM#	-
-	1/17/2005 3:06:39 PM	9760 DERBYHI	0412181	Neptune	10	30626608	0210	115	15	2	1	2	60	6	1	1	-	0	-	0231715	BACL	-
-	1/17/2005 3:14:32 PM	9760 LOST CO	0412185	Neptune	10	30626609	0210	130	15	2	1	2	60	6	1	1	-	0	-	0203175	BACL	-
-	1/31/2005 2:20:55 PM	9740 LOST CO	0411454	Neptune	10	31128906	0211	123	15	2	1	2	60	6	1	1	-	0	-	0199228	#CM#	-
-	1/17/2005 3:36:48 PM	9845 LA VID	0412185	Neptune	10	30626614	0210	116	15	2	1	2	60	6	1	1	-	0	-	0203187	BACL	-

Read and Verified Report

Here are the Variables and Fields that are included on Read and Verified FIREFLY report:

Variables:	**Fields included:**
Utility	Date/Time
Installer	Meter ID
Include Utility (Yes/No)	Address
Include Admin Installer (Yes/No)	Sequence #
Cycle	Name
Start Date	Reader
End Date	RR Version
Route	FF Read
	Meter Read
	Delta
	Consumption (since last set date)
	Mode
	FF Ver
	Trouble Code
	Skip Code

Example of a Read and Verified FIREFLY report:

Read And Verified Report

Report Date: 2/3/2005 3:19:21 PM

Utility :
Installer : ALL
Date Range : 01/20/05 - 2/3/2005

Cycle : 27
Route : 2703
Meters : 34 - Clear: 34, Gray(G): 0, Skip(S): 0
Codes :

Other Report Links
RTA
RV Re-Check
RV Skip

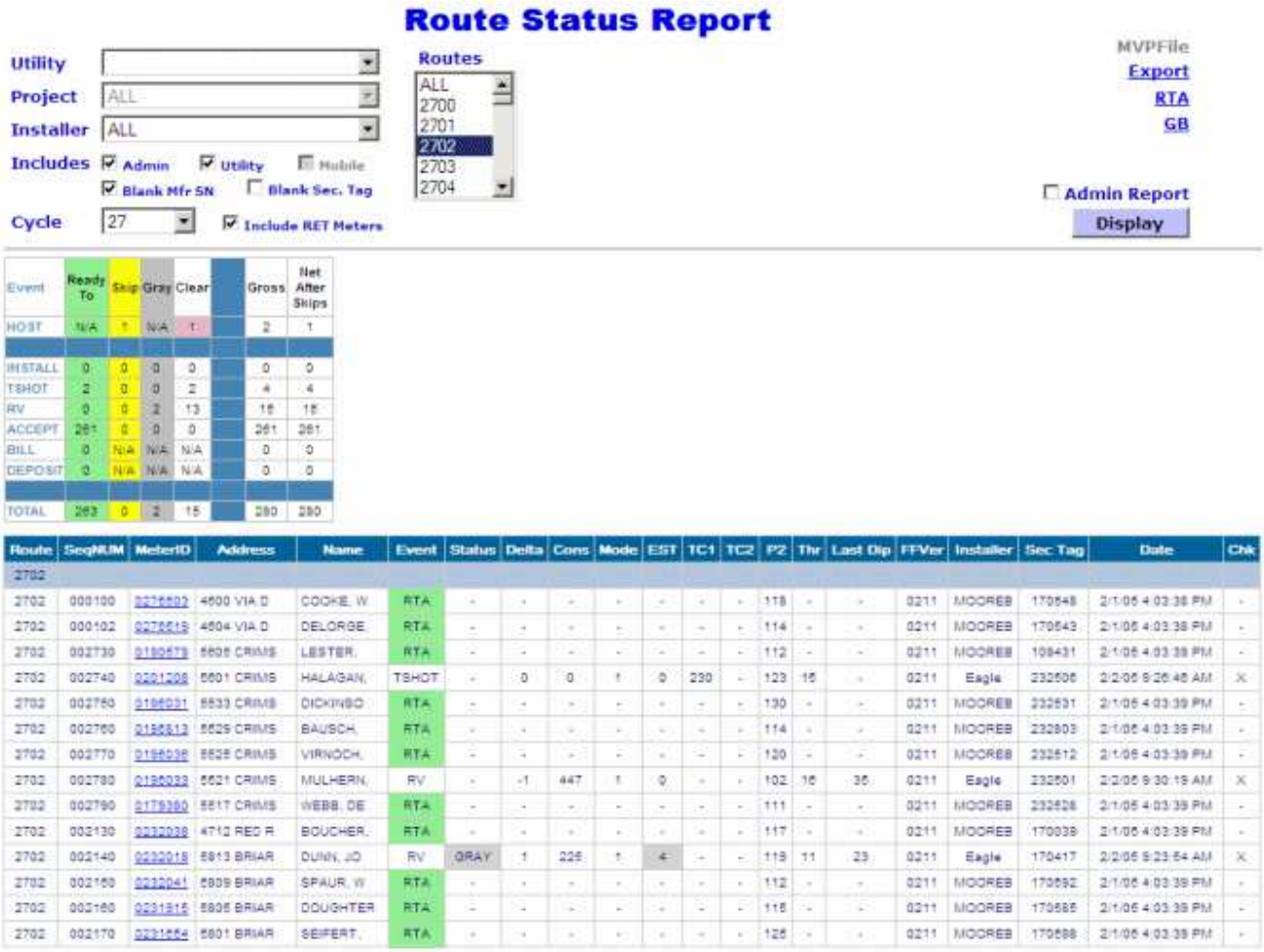
Date	Meter ID	Address	SEQ Num	Name	Reader	RR Ver	FF Read	Mtr Read	Delta	Cons	Mode	FF Ver	Trbl Code	Skip Code
1/20/2005 7:46:39 AM	0265532	4513 SAVIN CIR.	000126	MOSTACHETTI,	JL	020802	115885	115885	0	106	1	0211	-	-
1/20/2005 7:48:25 AM	0274200	4513 NORTE CIR.	000230	DOSS, JAMES	JL	020802	70022	70021	1	61	1	0211	-	-
1/20/2005 7:49:52 AM	0274520	4501 FLORENTINE	000270	ARCHIBALD, J	JL	020802	102510	102511	-1	117	1	0211	-	-
1/20/2005 7:53:03 AM	0186900	4517 PLANO DR.	001060	ALDRICH, LIN	JL	020802	488629	488629	0	79	1	0211	-	-
2/2/2005 9:55:14 AM	0188006	5736 MANITO CIR.	001180	MANN, RICHAR	JL	020802	270435	270434	1	183	1	0211	-	-
1/25/2005 12:18:04 PM	0186770	5729 MANITO CIR.	001260	MOYERS, REVA	RB	020802	286596	286595	1	136	1	0211	-	-
1/20/2005 7:59:18 AM	0186722	5721 MANITO CIR.	001300	CASTOIRE, JO	JL	020802	513269	513269	0	98	1	0211	-	-
1/20/2005 8:00:57 AM	0181472	5717 LA COMA WY	001500	BOND, ROBERT	JL	020802	456933	456933	0	88	1	0211	-	-
1/20/2005 8:01:45 AM	0182274	5705 LA COMA WY	001560	MARTIN, STAC	JL	020802	279810	279809	1	137	1	0211	-	-
1/25/2005 12:24:03 PM	0196045	4429 DIEZ DR.	001600	HAVALDA, JOZ	RB	020802	113884	113885	-1	89	1	0211	-	-
1/20/2005 8:29:40 AM	0206023	4440 CRIMSON LE	001860	FULLER, BETT	JL	020802	98558	98557	1	120	1	0211	-	-

Route Status Report

Here are the Variables and Fields that are included on a Route Status FIREFLY report:

Variables:	**Fields included:**
Utility	Route
Include Admin Installer (Yes/No)	Sequence Number
Cycle	Meter ID
Route	Address
Include Retired Meters (Yes/No)	Name
Admin Report (For Administrators Only)	Event
	Status
	Delta
	Consumption
	Mode
	Extended Status
	Trouble Code 1
	Trouble Code 2
	P2
	Thresh
	FF Version
	Installer (* Installer will be name of Admin if Include Admin Installer is checked and Admin was the last record)
	Security Tag
	Date
	Chk (* for engineering purposes only)

Example of a Route Status FIREFLY report:



Route Status Report

Utility
Project ALL
Installer ALL
Includes ☑ Admin ☑ Utility ☐ Mobile
☑ Blank Mfr SN ☐ Blank Sec. Tag
Cycle 27 ☑ Include RET Meters

Routes: ALL, 2700, 2701, 2702, 2703, 2704

MVPFile
Export
RTA
GB

☐ Admin Report
Display

Event	Ready To	Skip	Gray	Clear		Gross	Net After Skips
HOST	N/A	1	N/A	1		2	1
INSTALL	0	0	0	0		0	0
TSHOT	2	0	0	2		4	4
RV	0	0	2	13		15	15
ACCEPT	261	0	0	0		261	261
BILL	0	N/A	N/A	N/A		0	0
DEPOSIT	0	N/A	N/A	N/A		0	0
TOTAL	263	0	2	15		280	280

Route	SeqNUM	MeterID	Address	Name	Event	Status	Delta	Cons	Mode	EST	TC1	TC2	P2	Thr	Last Dip	FFVer	Installer	Sec Tag	Date	Chk
2702																				
2702	000100	0275502	4600 VIA D	COOKE, W	RTA	-	-	-	-	-	-	-	118	-	-	0211	MOOREB	170545	2/1/06 4:03:38 PM	-
2702	000102	0275515	4604 VIA D	DELORGE	RTA	-	-	-	-	-	-	-	114	-	-	0211	MOOREB	170543	2/1/06 4:03:38 PM	-
2702	002730	0190573	5605 CRIMS	LESTER,	RTA	-	-	-	-	-	-	-	112	-	-	0211	MOOREB	108431	2/1/06 4:03:39 PM	-
2702	002740	0201208	5601 CRIMS	HALAGAN,	TSHOT	-	0	0	1	0	290	-	123	16	-	0211	Eagle	232506	2/2/06 9:26:46 AM	X
2702	002750	0196031	5633 CRIMS	DICKINSO	RTA	-	-	-	-	-	-	-	130	-	-	0211	MOOREB	232531	2/1/06 4:03:39 PM	-
2702	002760	0196513	5629 CRIMS	BAUSCH,	RTA	-	-	-	-	-	-	-	114	-	-	0211	MOOREB	232503	2/1/06 4:03:39 PM	-
2702	002770	0196036	5628 CRIMS	VIRNOCH,	RTA	-	-	-	-	-	-	-	120	-	-	0211	MOOREB	232512	2/1/06 4:03:39 PM	-
2702	002780	0196033	5621 CRIMS	MULHERN,	RV	-	-1	447	1	0	-	-	102	16	36	0211	Eagle	232501	2/2/06 9:30:19 AM	X
2702	002790	0179390	5617 CRIMS	WEBB, DE	RTA	-	-	-	-	-	-	-	111	-	-	0211	MOOREB	232526	2/1/06 4:03:39 PM	-
2702	002130	0232038	4712 RED R	BOUCHER,	RTA	-	-	-	-	-	-	-	117	-	-	0211	MOOREB	170039	2/1/06 4:03:39 PM	-
2702	002140	0232018	5613 BRIAR	DUNN, JO	RV	GRAY	1	225	1	4	-	-	119	11	23	0211	Eagle	170417	2/2/06 9:23:54 AM	X
2702	002150	0232041	5609 BRIAR	SPAUR, W	RTA	-	-	-	-	-	-	-	112	-	-	0211	MOOREB	170592	2/1/06 4:03:39 PM	-
2702	002160	0231515	5605 BRIAR	DOUGHTER	RTA	-	-	-	-	-	-	-	116	-	-	0211	MOOREB	170585	2/1/06 4:03:39 PM	-
2702	002170	0231554	5601 BRIAR	SEIFERT,	RTA	-	-	-	-	-	-	-	126	-	-	0211	MOOREB	170588	2/1/06 4:03:39 PM	-