



**HGMSZ TECHNICAL SUPPORT NOTES
FOR ALL UNITS WITH SERIAL NUMBERS NT XXX AND BELOW (PRIOR TO JULY
2008)**

<4000> Zero Fault – IR Voltage out of tolerance

<4200> Zero Fault and Gain set Fault

<8000> Clipping Fault – Detector voltage out of tolerance

For both Zero Fault and Clipping Fault – Press the UP arrow key to locate the screen displaying the following-

SILENCE	ZONE TMP
SQUELCH	CAL

Place cursor on CAL – press right arrow key and ENTER at the same time.
The new screen will show the revision number. Note the revision number. Press the SILENCE/QUIT key: the next screen will display the following –

DIGIPOT	MODEL
P CAL	IR

Place the cursor on DIGIPOT – Press the ENTER key. The following screen will appear –
NOTE – To verify correct model number, put cursor on model and press enter. Standard refrigerant – 3015-4200, ammonia – 3015-4280.

DIGIPOT = XXX
IR VOLT = X.XXX

Adjust the IR reading using the up and down arrow until the IR VOLT = 4.245 volts or as close as you can get it to that reading. Press SILENCE/QUIT key until you return to the screen reading PURGE.

NOTE – The fault may not clear if the Digipot voltage is more then 0.15 volts away from 4.2 volts.

GAIN SET FAULT (CODE 200)

HGMSZ (3015-4200)

Gain set fault occurs when the Digipot setting is outside of acceptable limits.

Revision 1.2 to 1.39 acceptable Digipot readings are 150-254.

Revision 1.40 and higher acceptable Digipot readings are 120-254.

The emitter power must be 700 to 750MW with a Digipot reading between 120 and 150 to correct any version.

For the AGMSZ (3015-4280) Ammonia single zone monitor the Digipot may be as low as 20.

To increase the emitter power, go to the screen shown below by putting the curser on “IR”

The bench resistance can also be measured across the two outside pins located on the connector on the right side of the bench.

DIGIPOT	MODEL
P CAL	IR

Press the Enter key. The following screen will appear –

V=	mA=
R=	mW=

V should be 5.000 to 6.500 volts

MA should be 100 to 125

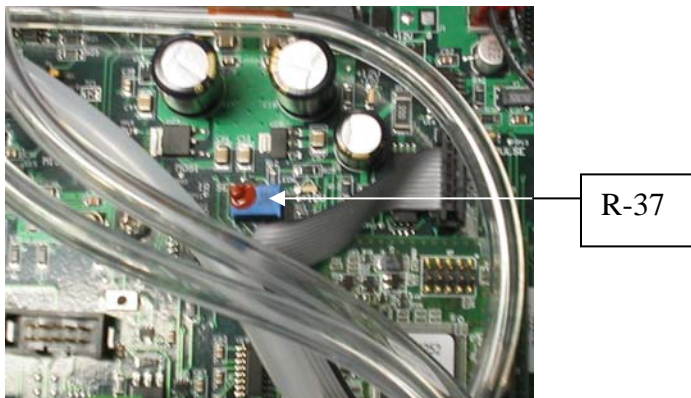
R should be 50 +/- 5 ohms (higher resistance readings could indicate the beginning of emitter failure)

MW should be between 700 and 750

Asterisks (****) in any reading could indicate an A to D failure in the main PC board.

An asterisk in the resistance reading indicates an open IR emitter.

To readjust the MW to 700, locate R-37



Observe the MW reading as you adjust R-37 until it reads at least 700MW. Once that is adjusted, return to the Digipot adjustment and reset the voltage to 4.245 volts.

Revised 3/2/09

P. M. Pape

RESET TO DEFAULT SETTINGS

Press and hold the DEFAULT button (located about one inch above the 4-20mA dc output connector), cycle power holding the DEFAULT button in. A single long “beep” will be heard. – release the button after the “beep” stops. The screen will display PURGE. The next screen will show the DIGIPOT adjusting the IR VOLTAGE to default settings. The monitor will then go into normal warm-up.

TO CLEAR ALL FAULT CODES

From the measure screen – press the right arrow key and enter key at the same time. A single long “beep” will be heard and all previous fault codes will clear.

TO CONVERT FAULT CODES FROM NUMERIC TO ENGLISH

From the fault screen press enter. Use the up and down arrow keys to scroll through the fault list. Those items in fault will have the English translation on the bottom right side of the screen.

IR BENCH RESISTANCE READING

To verify the IR bench resistance place the cursor on IR in the DIGIPOT screen and press the ENTER key. R is the IR bench resistance reading. The reading should be about 50 ohms.

V-X.XXX	mA-XXX.X
R-XX.X	mW-XXX.X

4 TO 20 Ma dc OUTPUT TEST

Remove the jumper from the 4-20 output connector. Connect a multi-meter set for mA to the contacts. The output should be a nominal 4 mA except for reading an actual gas concentration. Scroll through the screens until the screen displaying LOOP is located: enter the LOOP function by placing the cursor on LOOP and pressing ENTER. The setting should be 0.016mA.

HGMSZ NOTES

To clear faults – From measure screen press right arrow and enter key at same time.

To read fault codes – From fault screen press enter. Use down arrow key to run through fault list. Those items in fault will have the English translation on the bottom right of screen.

If the monitor will not retain its settings through a power cycle, verify that the battery is properly installed.

PRESSURE READINGS FOR THE HGMSZ

Codes 800, 1000 and 1800

FIRST DIAGNOSTIC SCREEN

4.26500V	<0000>
24.5Cd	14.00psi

← Zone Pressure (0.5 psi below ambient) Maximum 1.2 PSI

Press left arrow key

4.26500v	<0000>
24.5cD*	14.3psi

← Purge Pressure (0.2 psi below ambient)

↑
Look for asterisk

Press left arrow key until asterisk clears. Then press bottom arrow key. This will stop the pump. Take the pressure reading with the pump off then press the bottom arrow key to restart the pump. DO NOT LEAVE THE PUMP OFF FOR A LONG PERIOD OF TIME.

4.26500v	<0000>
24.5cD	14.50psi

← Ambient Pressure (pump off)

Locate the screen the shows as below.

P-CK	CUST K2
CUST K1	CUST K3

Place the cursor on P-CK and press ENTER.

The next screen shows as below.

14.32 *	AMB 14.42
0.11 DIF	<0000>

Place your finger over the intake of the charcoal filter. The DIF reading should go to 2.00 or greater. If this does not occur then the pump is defective.

Note: Asterisks (****) in V, MA and MW indicate an A to D failure on the main PC board.
Note – Left arrow toggles valve. * equals purge pressure, no * equals zone pressure.

WHOM TO CALL AT THE FACTORY FOR REFRIGERANT GAS LEAK MONITOR ASSISTANCE

PHONE NUMBER: 770-486-8219

FAX NUMBER: 770-486-8222

E-MAIL:

Peter Pape: peterp@MyBacharach.com
Bacharach, Inc., help@MyBacharach.com

SHIPPING ADDRESS:

BACHARACH, INC.
621 HUNT VALLEY CIRCLE
NEW KENSINGTON, PA 15068

WARRANTY HIGHLIGHTS

- PLEASE REVIEW COMPLETE WARRANTY CONDITIONS.
- PARTS: 2 YEARS AFTER SHIPMENT FROM FACTORY UNLESS OTHERWISE NEGOTIATED.
- DRILLING INTO THE TOP OF THE HGM300 OR RDM800 CASE VOIDS WARRANTY.
- ANY WATER FOUND IN THE INFRARED DETECTING BENCH VOIDS WARRANTY.
- ANY OBVIOUS DAMAGE VOIDS WARRANTY.
- CALL ANYONE LISTED ABOVE FOR WARRANTY QUESTIONS OR CLAIMS.