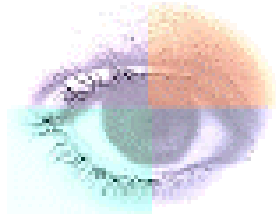


OWNER'S MANUAL AND INSTALLATION
INSTRUCTION FOR:



*The GENESIS
Device™*



AUTOMATIC BROMINE GENERATOR
FOR RESIDENTIAL SPAS

GENESIS Usage and General Information

IMPORTANT SAFEGUARDS

WHEN INSTALLING AND USING THIS ELECTRICAL APPLIANCE, BASIC SAFETY PRECAUTIONS MUST ALWAYS BE ADHERED TO. IT IS STRONGLY ADVISED THAT A QUALIFIED ELECTRICAL TECHNICIAN PERFORM INSTALLATION OF THIS DEVICE.

WARNING

- READ AND FOLLOW ALL INSTRUCTIONS CONTAINED IN THIS MANUAL AND ON THE EQUIPMENT ITSELF.
- TO REDUCE THE RISK OF INJURY, DO NOT PERMIT CHILDREN TO USE THE APPLIANCE UNLESS THEY ARE CLOSELY SUPERVISED AT ALL TIMES.
- WARNING...RISK OF ELECTRICAL SHOCK. CONNECT ONLY TO A GROUNDING TYPE RECEPTACLE PROTECTED BY A GROUND-FAULT CIRCUIT INTERRUPTER (GFCI) OR A DEDICATED CIRCUIT. CONTACT A CERTIFIED ELECTRICIAN IF YOU CANNOT VERIFY THAT THE RECEPTACLE IS PROTECTED BY A GFCI.
- REPLACE ANY DAMAGED ELECTRICAL CORD IMMEDIATELY.
- SHOULD THIS APPLIANCE BECOME INOPERATIVE, DO NOT TRY TO CORRECT THE PROBLEM BY YOURSELF. THERE ARE NO USER-SERVICEABLE PARTS INSIDE. TURN OFF, UNPLUG THE POWER CORD, AND CONTACT YOUR DEALER.

Pioneer H2O Technologies, Inc.
3265 South Wadsworth Blvd. Unit "I"
Lakewood, Colorado 80227 USA

Dear Valued Customer;

Congratulations on selecting the “*The GENESIS Device*”! You have found the smart, easy, cost-effective way to keep your spa sparkling and always inviting.

There is nothing more relaxing or enjoyable than the soothing environment that only a hot tub can provide – especially when it has the added benefit of a state-of-the-art, automatic bromine generator. So, you will be able to spend more time enjoying your spa and less time maintaining it!

Hot tubs maintained by **The GENESIS Device** are virtually maintenance free, and greatly reduce cost and aggravation by eliminating the purchasing, transporting, storing and handling of bromine tablets and other chemicals.

The GENESIS Device, while taking years to develop, is easy to understand and easy to use.

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CONTACT INFORMATION

This shipment was inspected during packaging and was sent...

IN GOOD ORDER

INSPECT ALL COMPONENTS WHEN RECEIVED

In the event that your GENESIS is received in damaged condition, please contact the location where your GENESIS was purchased.

For technical support call the GENESIS Technical Support Helpline

1-877-569-4377

For replacement parts or to order more TRU-BLU:

Call your local spa or pool dealer

Water Chemistry AT START UP

pH (7.2-7.8) : _____ **actual level in your spa.**

Alkalinity (80 – 120) : _____ **actual level in your spa.**

TDS (50-500) : _____ **actual level in your spa.**

THE TECHNOLOGY

First sodium bromide (*sodium bromide – “NaBr” - is the kissing cousin of sodium chloride – “NaCl” – otherwise known as table salt*) is added to your spa’s water. Then the dissolved bromide ions are circulated through a bromine generating contact cell located in your spa's filtration system (visit www.spapurification.com to see a multimedia presentation of The **GENESIS** Device). This converts the bromide ions into free bromine (*bromine is the recommended sanitizer for hot tubs and spas*) before reverting back to sodium bromide --- thus completing the perpetual cycle. Additional sodium bromide is only added when your water level declines due to splash out, or when you drain and refill the tub.

The GENESIS Device can go up to 12 months before a drain and fill is required, unlike non equipped spas that require it every 3 months. The reason is because The Genesis Device does not add unwanted chemical Bi-Products like traditional chemicals do.

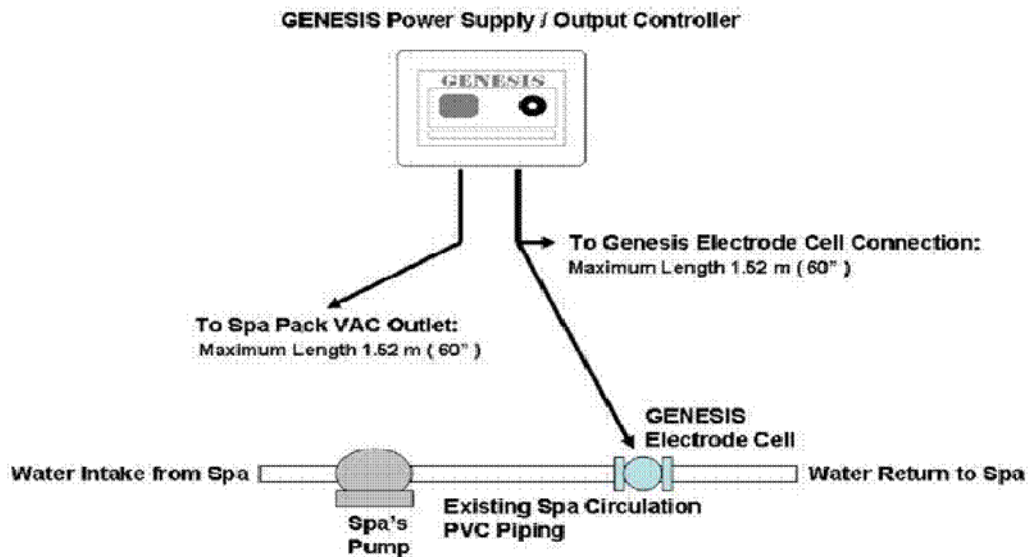
Synthetic graphite is utilized in our revolutionary electrode cell, providing a surface area far greater than available with metal electrodes. The **GENESIS** electrode is made up of 2 of these unique and powerful plates. The plates measure 1” wide by 8” long and 1/2” in thickness and fit neatly in a standard 2” Tee Fitting. The electrodes are resistant to harsh chemicals and the oxidation process; still over time, the flow of water will erode the cell.

The system fits neatly inside of any spa skirt and it takes a qualified technician just minutes to install! The electrode cell is mated to a simple (2”) slip X slip X threaded Tee fitting and is then connected to the DC-out wires of the controller. Less than 30 watts total of DC power is then digitally pulsed across the electrode cell producing bromine from bromide salt (NaBr). Electrical cost of operation at just pennies per day.

Unit Features:

- ▲ Automatic Control Center
- ▲ Fully Automatic Bromine Generation
- ▲ Digital Design and Reliability
- ▲ Automatic polarity reversal (every 4 minutes)
- ▲ Adjustable bromine output control (10 settings)
- ▲ Patent pending (maintenance free) Graphitic Electrode Cell
- ▲ Voltage: 110/220v Switch able (50-60 Cycle)
- ▲ Power Consumption: 28 Watts Total

SYSTEM DIAGRAM / COMPONENTS



GENESIS Bromine Generator - Complete System Includes

1 -Electronic controller; NEMA 4X enclosure, 10 different power settings, duty cycle control to 97% accuracy, 110/220 switched, automatic polarity reversal for maintenance free electrode cell.

1 – Bromine generating electrode cell

1– Bottle of Sodium Bromide Test Strips

5 year replacement warranty (not pro-rated)

Technical grade sodium bromide (98.9% NaBr)



C 3045191 US

The GENESIS Device is

Tested and Listed to:

ANSI/UL - Std. 1081 5th e.

CAN/CSA Std. C22.2 No .0

Health Canada – PMRA Registered Spa Sanitation System. Registration Number 27890

ELECTRICAL CONNECTIONS / LOAD SIDE PLUG INS

Warning: Operating The Genesis Device Automatic Bromine Generator without water flow through the cell can cause a buildup of flammable gasses which can result in fire or explosion.

Never attempt to make wired electrical connections yourself. Always have a licensed spa professional provide this service. (see “IMPORTANT SAFEGUARDS” at the beginning of this manual)

- 1.) Determine input voltage: 120 or 240 V AC. Set switch located on back of circuit board to proper input position (note all units are shipped with a factory preset of 240 VAC). **CAUTION: Improper voltage will damage the controller!**
- 2.) Securely mount the controller to **a vertical surface**. Make sure there is sufficient cable to accommodate wire connections between the controller, the bromine production cell and the AC power source.
- 3.) The controller must be wired to the load side of the pump or pump timer. This is extremely **IMPORTANT: The GENESIS Device** was designed to operate and produce bromine only while your pump is circulating water. *Failure to observe usage directions may result in equipment damage.*
- 4.) Use liquid tight flexible conduit between the AC power source and the controller.

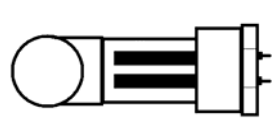
PLUMBING AND PLACEMENT INSTALLATION DIAGRAM

NOTE: THE “T” FITTING PARTS MUST BE GLUED PRIOR TO INSTALLATION TO AVOID LEAKAGE. TEFLON TAPE SHOULD BE WRAPPED ON THE THREADS OF THE ELECTRODE CAP FOR THE SAME PREVENTATIVE MEASURE.

INSTALL CHAMBER HORIZONTAL TO THE FLOOR

Installation of the contact cell must be horizontal at 180 degrees.

EXAMPLE: pointing to either 3:00 or 9:00 on a clock. **NEVER INSTALL IN AN UPRIGHT or Vertical POSITION.**



CORRECT



INCORRECT

DANGER: NEVER install the contact cell in an upright position

CAUTION: THE BROMINE PRODUCTION CELL PRODUCES CONCENTRATED BROMINE. TO AVOID DAMAGE, THE CELL SHOULD ALWAYS BE INSTALLED AFTER THE HEATER!

DANGER: THE GENESIS DEVICE SHOULD NEVER RUN OR PROVIDE POWER TO THE PRODUCTION CELL UNLESS THE PUMP IS RUNNING. THIS CAN CREATE A BUILD UP OF DANGEROUS GASES AND MAY CAUSE DAMAGE TO HEATERS.

PROPER WATER CHEMISTRY PRIOR START-UP

ATTENTION INSTALLER: PRIOR TO INSTALLATION OF THE **GENESIS** DEVICE ON A HOT TUB, IT IS ESSENTIAL THAT THE FOLLOWING WATER CHEMISTRY PARAMETERS HAVE BEEN ESTABLISHED AND VERIFIED!

TDS (TOTAL DISSOLVED SOLIDS): must be less than 500 PPM (ideal range 50-300 ppm) prior to adding the TRU-BLU sodium bromide bank to the tub's water. (NOTE: Addition of TRU-BLU at a rate of 2 lbs for every 100 gallons will raise TDS approximately 1900-2100ppm. It is recommended to use a carbon block spa pre-filter when filling your spa with any water from a non municipal water source.

pH: must be between 7.2 and 7.8 with 7.4 to 7.6 being optimum.

Total Alkalinity: should be between 80 and 120 PPM.

NOTE: If water is not within recommended range skip to Adjusting Water Chemistry prior to starting up the GENESIS.

START - UP / OPERATING INSTRUCTIONS

Caution: It is important that you read and understand the START-UP instructions prior to proceeding with action. It is important that you follow the hot tub manufacturer's instructions on start-up preparations and initial start-up of the hot tub itself. Then you can proceed to the step-by-step GENESIS instructions below:

Make sure the "DECREASE / INCREASE" dial on the face of the **GENESIS** unit is turned to the "OFF" position.

2. Test water for "TDS" (Total Dissolved Solid– various organic and inorganic matter present in you water content). This can be done by your spa dealer or with purchased test strips. The ideal range for your start-up TDS is between 50 and 300 ppm. If your starting TDS is above 500 (or water is from a "well" or "non-municipal source") a metal remover or Carbon Block spa pre-filter should be used to reduce TDS and metals. **DO NOT FILL SPA WITH WATER FROM A "SALT WATER SOFTENER"**.
3. Fill your spa with water up to the level recommended by the hot tub manufacturer.
4. Balance the spa water to recommended levels:

pH:	7.2 - 7.8
Total alkalinity	80 -120 ppm
Calcium hardness	150 - 200 ppm
Phosphate level	Less than 100 ppb

****Refer to page 14 for tips on balancing your water.**

5. **Shake each bottle of TRU BLU vigorously to break up any lumps prior to adding to the spa.** With the jets running on high speed, add **one 2lb bottle of TRU BLU sodium bromide per 100 US gallons of water** evenly over the surface of the water. Allow jets to run for 15 minutes on high speed for the **TRU-BLU** to totally dissolve prior to proceeding to the next step.

***NOTE:** It is recommended to add less than the required amount of **TRU BLU** when starting up the tub. Example: if your spa is 400 gallons you should add 3 bottles of **TRU BLU**. **The required amount of Sodium Bromide in your water is 1,900 -2,100 ppm** and it is recommended that you do

not exceed 2,100 ppm of Sodium Bromide. Please see page 11 for maintaining the proper Sodium Bromide Level.

It is important to note that sodium bromide is only one contributor to the TDS count in your water. Over time, the TDS count in your water will rise (from such things as residuals from other chemicals and minerals, and un-filterer-able material). It is advisable for you to test the TDS every few months to make certain it stays within range.

6. Turn the “DECREASE / INCREASE” dial clockwise until the LED display (to the left of the dial) reads “10”. **If using a two-speed pump system, set the daily circulation time to a minimum of 8 hours per day.** (NOTE* **GENESIS** will only produce Bromine during low speed circulation on a two-speed pump. The lights or power on the **GENESIS** Controller will only appear during these times. If using a 24 hour circulation pump, the unit will produce bromine 24 hours / daily.

***NOTE:** The controller will have a “+” or “-” sign to the left of the power setting (1-10) and will reverse every 4 – 6 minutes. This is normal and indicates that the electrode is reversing polarity during its self-cleansing process.

7. Keep the dial set at 10 unless your bromine level rises above 5 ppm. If your bromine level exceeds 5 ppm turn the dial down one setting, then test the bromine level after 24 hrs. If still too high, repeat the process (turn down one setting, test after 24 hrs) until your “maintenance” setting is achieved. *Turning the dial down more than one setting at a time can result in a dramatic drop in the bromine level.*

- The appropriate setting for The **GENESIS** Device will depend on how often you use your spa. A spa with a higher-than-average bather load will require a higher setting on the **GENESIS** unit. This simply means that **GENESIS** needs to produce more bromine to maintain the level between 3 and 5 ppm.
- It is good spa management to test the bromine level in spa water daily and always before spa use.

***NOTE:** *It can take several days for the bromine level to stabilize because the water that you put into your spa contains impurities that need to be neutralized, thereby using up the initial bromine that is generated. You can expedite this process by “shocking” the water with a non-chlorine shock.*

****NOTE: NEVER USE CHEMICALS OR CLEANERSRS THAT CONTAIN PHOSPHONIC ACID WHEN CLEANING YOUR FILTER OR OTHER SPA COMPONETS.**

ADJUSTING BROMINE LEVEL

As discussed earlier in this manual, desired bromine levels vary between spas, mainly due to different bather loads and circulation time. You will quickly determine the right level for your particular spa. Of course we know that if we have bromine readings that are lower than desired, we can just turn up the “DECREASE / INCREASE” dial on the face of The **GENESIS** Device. Likewise, if you find that the bromine level is higher than you want, you can simply turn down the same dial. The bromine level will then gradually reduce to the production rate required to suit your needs.

The **GENESIS** Device requires a minimum of 8 hours of circulation per day. If the spa is not circulating your **GENESIS** is not generating Bromine. If you find that you are having trouble maintaining the desired level make sure the spa is circulating the required amount.

SODIUM BROMIDE LEVEL

TRU BLU sodium bromide is 98.9% pure.

Tru Blu is 98.9% technical grade Sodium Bromide (NaBr). This is the dead sea salt that is added to your spas water that comes in contact with the **GENESIS** electrode and is converted perpetually from Sodium Bromide into Bromine by The **GENESIS** Device.

There is a very good chance that your dealer will offer you a Sodium Bromide (NaBr) product other than **TRU BLU**. Sodium bromide comes under many different labels and brand names and it is sold for many different uses. If this sounds like your store, make sure you read the label. You will likely find that the majority of NaBr products on the market today are not 98.9% pure like **TRU BLU**.

When adding Tru Blu to your water it is important to add the correct dosage to your spa. **The spa must be dosed with 1900-2100 ppm** of Sodium Bromide. Sodium bromide needs to be added at a rate of 2lbs. for every 100 gallons of spa water. This should give you the correct dose for your spa. It is recommended when starting your spa to add less Sodium Bromide to your spas water to ensure that you do not overdose and exceed the correct dosage(1900-2100 ppm). Some spa manufactures might overstate the water capacity of their tubs which may alter the amount of actual Sodium Bromide required for your tub.

You will normally find that over the weeks and months that you are enjoying the use of your tub, the water level will decrease for several reasons. One is evaporation. The other is a result of water “removal” (splashing, exiting bathers, etc). The first cause of water loss – evaporation – will not reduce the sodium bromide that is available in your tub, because it does not evaporate. The second cause – water removal – will, however, result in loss of some sodium bromide.

Since it is impossible to know how much water loss results from evaporation, and how much from removal, it is necessary to determine your sodium bromide level when adding water to the tub. GENESIS Sodium Bromide test strips are available through all authorized GENESIS Device dealers. Use of these strips will help you determine how much, if any, **TRU BLU** to add. (NOTE: These test strips have a limited shelf life– they come 5 to a bottle – so make sure you don’t purchase more than one bottle at a time).

The correct amount of TRU BLU to add to your spa is 1,900-2,100 PPM and should not exceed this amount.

To top off the TRU BLU level, use the (two ounce) bottle cap. One level cap full will increase the TRU BLU level by 70 PPM (mg/L) per 100 US gallons (370 liters).

****NOTE: TRU BLU-“SODIUM BROMIDE” IS NOT BROMINE. BROMINE IS PRODUCED BY THE GENESIS AND IS THE ACTIVE SANITIZER. Use Bromine test kits provided by your spa store to test your water for Bromine.**



TRU BLU should be available where you purchased your spa, or to find an authorized dealer contact:

PIONEER H2O TECHNOLOGIES Inc.
3265 South Wadsworth Blvd Unit “T”
Lakewood, Colorado 80227

Toll free: 1-877-569-4377

Ask your dealer for TRU BLU brand Sodium Bromide

MAINTAINING THE GENESIS DEVICE

It is important to always keep your tubs water in balance. Maintaining the pH and the Alkalinity is part of being a spa owner. It is important to test for bromine prior to using the spa with a Bromine Test kit provided from your local pool or spa dealer.

The GENESIS Device requires you to determine your power setting based upon your circulation time and your spa usage. Remember that the GENESIS is only generating Bromine when the tub is circulating on low speed. A tub that is frequently used will require a higher power setting than a tub that is less frequent.

Shocking your tub is recommended after heavy bather load.

The GENESIS can go up to 12 months before a drain and fill is required, unlike non equipped spas that require it every three months. The reason is because Genesis does not add unwanted chemical Bi-products like traditional chemicals do.

It is recommended to shower prior to entering any pool or spa. This will help prevent phosphate contamination and reduce the demand on the bromine.

Keeping your filter clean is important when maintaining your spa. Do not use a filter cleaner

ADJUSTING WATER CHEMISTRY

pH (Ideal range 7.2 – 7.6)

pH stands for hydrogen power. This test determines the acid content of your pool water. As the pH rises above 7.6 there is a reduction in the capacity to. This test should be done weekly and adjusted accordingly.

REMEMBER: ALWAYS ADD CHEMICALS TO WATER, NEVER WATER TO CHEMICALS.

** if pH is above 7.6. ...lower through use of muriatic acid* or sodium bisulfate**

** if pH is below 7.2. ...raise by using a base (baking soda or soda ash*)*

(*Visit your dealer to purchase these products)

COMPLICATIONS WHICH MAY OCCUR FROM HIGH pH:

- INABILITY FOR SANITIZER TO KILL ALGAE AND BACTERIA
- SOLIDS MAY COME OUT OF SOLUTION
- WATER MAY GET CLOUDY
- CALCIUM MAY COME OUT OF SOLUTION AND CAUSE SCALE .EYE IRRITATION

COMPLICATIONS WHICH MAY OCCUR FROM LOW pH:

- WATER BECOMES ACIDIC; EYE IRRITATION
- DAMAGE TO SPA AND SPA EQUIPMENT

RAIN OR ADDITION OF FRESH WATER MAY CAUSE A CHANGE IN pH!

TOTAL ALKALINITY (Ideal range 80- 120 ppm)

Total Alkalinity is a test done monthly to determine the amount of alkaline material in the water. It also measures the water's ability to neutralize acid and acts as a buffer against sudden pH changes.

**if Total Alkalinity is high. ...add small amounts of sodium bisulfate* or muriatic acid* over a period of 3 days. Follow the label instructions based on your tub size.*

**if Total Alkalinity is low. ...add bicarbonate (baking soda)*

(*Visit your dealer to purchase these products)

CALCIUM HARDNESS (Ideal range 80-150 PPM)

Calcium hardness is a test done yearly to determine the total amount of calcium that is in solution in the spa water. If the level is too high it can lead to scale, calcium deposits, cloudy water and difficulty in controlling pH. If the level is too low it can lead to surface damage to the tub and a fluctuating pH.

**if Calcium is too high. ...partially drain the tub and refill with fresh water*

**if Calcium is too low. ... add calcium chloride following label directions*

TOTAL DISSOLVED SOLIDS

Ideal range prior to adding **TRU-BLU**: 50-500 ppm

After addition of **TRU-BLU** at a rate of 2 lbs of **Tru Blu** for every 100 gallons: 2,500 ppm (approximately)

If your spa has been filled with well water or with water from a non-municipal source, ancillary chemicals to remove metals and or chemical contaminants will more than likely be required. Ask your dealer for advice!

PHOSPHATES

PHOSPHATES– A contaminant that promotes algae growth and inhibits Bromine production. Phosphates are introduced to your spa through several sources (fertilizers, hygiene products such as soaps shampoos and lotions). Some spa chemicals such as spa filter cleaners contain Phosphates and should not be used.

**If you are unable to maintain a Bromine reading test your water for phosphates by taking a water sample to your spa product supplier.

- **Phosphate level should be less than 100ppb**

Test that the Phosphate level in your spa water is within acceptable parameters by using a paper test strip or by taking a water sample to your spa product supplier.

Phosphates that exceed 100ppb. need to be treated with a Phosphate remover (Phos Out, Phos Free). It is recommended that you treat the spa for 4-5 days and clean the filter daily until Phosphates are eliminated.

ADJUSTING PH TO 7.2 WITH SODIUM BISULFATE

pH reading prior to chemical addition:	Sodium Bisulfate to add (500 gallon spa):
7.8- 8.0 PPM	1.0 OZ.
8.0- 8.2 PPM	1.5 OZ.
8.4 + PPM	2.0 OZ.

RETEST spa's pH value after allowing 2 hours to pass and repeat above steps if required. pH is closely affected by your spa's total alkalinity. Test your spa's pH value at least twice every month. The correct range for pH is 7.2 -7.8 PPM. The lower the pH value, the more effective bromine is in spa water sanitation. ***CAUTION:** if the water becomes acidic (pH below 7.2) damage to spa surfaces and equipment may occur.* If water becomes basic (alkaline - pH above 7.8) this may cause scale buildup on the bromine producing electrode cell and to spa surfaces, and can damage other spa equipment.

pH HAS A DIRECT EFFECT ON BROMINE'S EFFECTIVENESS AT SANITIZING YOUR SPA'S WATER!! pH HAS A DIRECT EFFECT ON BATHER COMFORT. IMBALANCE CAN RESULT IN EYE IRRITATION.

ADJUSTING pH TO 7.2 WITH MURIATIC ACID

pH reading prior to chemical addition:	Muriatic Acid to add (500 gallon spa):
7.8- 8.0 PPM	4.0 TSP.
8.0- 8.2 PPM	1.5 TBSP.
8.4 + PPM	3.0 TBSP.

TROUBLE SHOOTING GUIDE

Low or No Bromine Reading:

Is the Power On and the Unit Connected? Double Check the **GENESIS** Device to make sure that the digital display lights up when the spa is circulating. **Keep the GENESIS at a power setting of “10”** unless the bromine residual exceeds desired level. Also, check the connection to the electrode to ensure that the lead wires are secured to the electrode posts. Verify that the electrode assembly is positioned horizontally ONLY (3:00 or 9:00 o'clock position).

Is the spa set for sufficient Circulation Time? Two Speed Systems: Ensure the spa is circulating on low speed at a minimum of 8 hours per day. Above average bather load or adverse water conditions will require increased circulation time.

Appropriate Amount of Tru Blu? Using the *GENESIS Sodium Bromide Test Strips*, make sure your **Tru Blu** reading is between 1,900 –2,100 ppm or (7.8 - 8.0). If Salt reading is greater than 8.4 adjust by a partial drain of the spa (drain 4 to 8 inches and then refilling the water back up to the Spa's water line should be adequate in most circumstances).

Is your spa water in balance? Ensure that your water chemistry is correct. The pH needs to be between 7.2 – 7.8. The Alkalinity needs to be 80 – 120. Calcium Hardness needs to be 150 – 200 ppm. Check with your spa dealer for corrective measures.

Is your Filter Clean? Make sure that you are cleaning your filter or back washing weekly if needed.

Are you Shocking your water? Oxidizing or “shocking” is required weekly, and in some cases daily, to oxidize waste, reduce demand on bromine and restore spa water's sparkle and clarity. See *GENESIS User Manual* for dosing instructions.

Does the GENESIS have Flashing Dots on the Controller? Check the TDS (Total Dissolved Solids). Flashing dots indicate that TDS is becoming too high. A partial drain & fill will typically correct this problem.

Does the GENESIS have Solid Dots on the Controller? This indicates TDS is at a level above that in which GENESIS can function. The power to the electrodes has been disabled and the system is not producing bromine. The TDS must be lowered. A complete drain and refill will typically solve the problem.

NOTES ABOUT TDS: TDS (Total Dissolved Solids) is a combination of metals, minerals and other organic material. GENESIS requires that the TDS from the fill water be in the low range of 0-500 ppm. Municipal water sources in most cases are typically in the acceptable range. Well water is typically high in TDS (500 – 1200 ppm). **Before filling from a high-TDS source, a carbon block pre-filter is highly recommended.** A metal remover can sometimes reduce TDS sufficiently. **NOTE:** **Do not fill spa with water from a salt water softener!**

Is the Phosphate Level High? A contaminant that promotes algae growth and inhibits Bromine production. Phosphates can be introduced to your spa in many ways (via domestic water sources, fertilizers, hygiene products such as soaps shampoos and lotions). Some spa chemicals (including some spa filter cleaners and some metal sequestering agents) contain phosphates and should not be used. Phosphate test strips are available that can determine if level exceeds the maximum acceptable level of 100 ppb. Treatment with a phosphate remover (Phos Out, Phos Free etc) for 4-5 days with a follow-up filter cleaning is recommended to remedy this problem.

Do you have a Broken/Cracked Electrode? If the GENESIS is not producing desired bromine level and a black coloring is visible in the filter or at the water line, there could be a cracked or broken electrode. Call the Manufacturer's Helpline at 1-877-569-4377 for assistance.

NON-USE of Spa: If spa will not be in use for an extended period of time, turn down the power setting to ½ the normal maintenance setting to prevent elevated bromine residual.

GENESIS only creates bromine when the water is circulating past the electrodes.

GENESIS Controller's display numbers are only "ON" during low speed circulation on a two-speed system but they will be on continually with a 24 hour circulation system

GENESIS is only capable of creating bromine not chlorine.

GENESIS will deliver 4 to 9 volts to the electrodes when numbers are displayed. The amp draw will be less than .5 amps

Dial Settings

- #1 = 20 millisecond pulse volt delivery
- #2 = 40 millisecond pulse volt delivery
- #3 = 60 millisecond pulse volt delivery
- #4 = 80 millisecond pulse volt delivery
- #5 = 100 millisecond pulse volt delivery
- #6 = 120 millisecond pulse volt delivery
- #7 = 140 millisecond pulse volt delivery
- #8 = 160 millisecond pulse volt delivery
- #9 = 180 millisecond pulse volt delivery
- #10 = Constant power to electrodes

<p>PROBLEM:</p> <p>1.) Low or No Bromine Reading:</p> <p>CAUSE:</p> <ul style="list-style-type: none"> A.) Using old or wrong test kits B.) The controller is set to low C.) The circulation run time is low D.) Heavy bather load E.) Low Tru-Blu Level F.) TDS above MAX limit (above 3000 PPM G.) Possible phosphate contamination 	<p>SOLUTION:</p> <ul style="list-style-type: none"> A.) Use OTO liquid bromine test B.) Increase power on controller C.) Set to a min. 8 hrs per day circulation D.) Shock water (see instructions below E.) Test Tru-Blu level add as directed... 1 gram = 1000 mg/L-2100 mg/L) F.) Have TDS tested / lower by doing a partial drain and refill G.) Have water tested for phosphates and use phosphate remover as directed by your dealer
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2.) Flashing or Solid Decimals on Digital Display:

- A.) High TDS – means no power to electrodes
- B.) Debris build up in bromine generating cell
- A.) Follow steps in “F” – above
- B.) Requires cell removal and cleaning

3.) White Flakes in Water and or Water Line Scale

- A.) High calcium or mineral content in water
- B.) Chemical water imbalance
- A.) use a dealer directed scale inhibitor/ metal remover (phosphate free)
- B.) Insure pH and Total Alk. are correct

Note: Well water or any non-municipal resource will likely cause any of the above listed problems

THE WHEN, WHY AND HOW TO SHOCK YOUR SPA:

Although spas utilizing **The GENESIS Device** do not require “SCHEDULED weekly” shocking, they may from time to time (bather load dependent) require a supplemental chemical shock.

NEVER USE A STORE BOUGHT CHLORINE SHOCK ! INSTEAD...USE ONE TEASPOON OF A NON-CHLORINE SHOCK PROVIDED BY YOUR DEALER OR A TWO OUNCE JIGGER (DOUBLE SHOT GLASS) OF ORDINARY LAUNDRY BLEACH * Spas on 24 hour circulation may need to adjust power downward to avoid over bromination**

LIMITED WARRANTY

PIONEER H2O TECHNOLOGY, Inc.

Believing THE GENESIS DEVICE

To be of exceptional quality, hereby warranties said equipment to the original purchaser only against defective parts and workmanship for a period as stated:

5-year warranty – electronic controller

5-year warranty – electrodes

This warranty begins at the time the equipment is installed and is contingent upon the return of signed owner registration card to the manufacturer.

This systems warranty is only valid if purchased and installed by a pool or spa professional. Any system installed or purchased through the internet voids manufacture warranty.

This warranty does not require replacement of the entire unit. Manufacturer will repair or replace (at its option) any part that proves to be defective in material and/or workmanship during the warranty period under normal use and service. If the equipment does not perform properly, refer to your owners manual and water chemistry before requesting service from the dealer that sold you the system.

This warranty does not cover labor charges and does not cover installation, removal, reinstallation, transportation, or any other claims or torts including but not limited to damage caused by abuse, neglect, freezing, fire, lightning, staining, vandalism, failure to maintain proper water chemistry or other abnormal conditions beyond the company's control.

This warranty gives you specific legal rights and you may have other rights that vary from state to state or province to province. You also have implied warranty rights. This warranty is void if equipment is not installed and operated according to the owner's manual including, but not limited to, maintaining proper water chemistry level at installation and thereafter. Service provided by technicians other than **PIONEER H2O TECHNOLOGY, Inc.** or other authorized agents may void this warranty.

CORPORATE OFFICE:

3265 South Wadsworth Blvd., Lakewood Unit I, CO 80227.

REGISTER ON LINE AT www.spapurification.com

Or mail to:

Pioneer H2O Technologies, Inc.

3265 South Wadsworth Blvd. Unit "I"
Lakewood, Colorado 80227 USA
1-877-569-4377

THE GENESIS DEVICE

Warranty Registration Card

(Return Within 30 Days of Purchase)

Owners Name: _____

Street Address: _____

City: _____ State/Prov: _____ Zip/Postal: _____

Phone: _____

Date of Purchase: _____ Supplier: _____

Serial Number _____

“ + ” or “ - ” - The system switches polarity at the electrode approximately every 4 minutes (cleaning cycle).

Bromine – is the chemical that is the active sanitizer. **GENESIS** converts Sodium Bromide into Bromine.

Bromine Test Kit – Use Bromine test kit to check Bromine level (available from your local pool or spa store).

Electrode - The electrode cell is the active part of The Genesis Device where NaBr is converted into Bromine. It is fitted into a PVC T located underneath the spas skirt.

Flashing Dots- The TDS is too high or there are metals in the water or both.

Genesis Control Head - Control unit that adjusts the power setting from the off position to a power setting of 1-10. If the unit is properly installed the system should only register power if the spa is circulating on low speed. The spa should circulate a minimum of 8 hours a day to ensure to ensure that the Genesis produces enough bromine.

PHOSPHATES – A contaminant that promotes algae growth and inhibits Bromine production. Phosphates are introduced to your spa through several sources (fertilizers, hygiene products such as soaps shampoos and lotions). Some spa chemicals such as spa filter cleaners contain Phosphates and should not be used.

Sodium Bromide Test Kit - This test kit tests for the amount of Sodium Bromide (kissing cousin of Salt) in the water. This test does not show the amount Bromine (active sanitizer) in the water. Use designated liquid or paper test kits to test for Bromine in water (available at any pool or spa store).

Solid Dots - system has excessive TDS and GENESIS is not sending power to the electrode cell.

TDS - Total Dissolved Solids in the water; varies depending upon water.

Trouble Water - water that is high in TDS, metals, usually from well water, lake water, or river water and occasionally municipal water (always seek dealer assistance if your water comes from other than a municipal resource).

TRU BLU - Sodium Bromide is the kissing cousin of Salt. Sodium Bromide is the salt that is converted into Bromine by THE GENESIS Device. Sodium Bromide is not Bromine. The spa needs one 2lb bottle of TRU-BLU for each 100 gallons of water (7.8-8.0 on NaBr test kit).

“ + ” or “ - ” - The system switches polarity at the electrode approximately every 4 minutes (cleaning cycle).