ISCO MODEL 6700 SOFTWARE UPDATES

REVISION 3.26
Software Release Date: 11/14/00

Corrections:

1- Inability to communicate with modules. The problems appear to have been designed in from the beginning of the product life. Due to component characteristics shift they have become severe. The communications problems arise because of two factors:

- Electronic noise causes false clocking of the data.
- The initial request from the sampler can be lost if the module power stabilizes too slowly.

2- Added delay after power turn on before attempting communications.

3- Added leading synchronization character to start of packet.

4- Added up to 2 retries if garbled packet received from module.

5- Fixed small bug that caused sampler to issue a "extra" beep a short time after keyboard entry.

Enhancements: Added support for the SST flash chip. Note that if the SST chips are used, the GENID should set the hardware rev to D0.

REVISION 3.25
Software Release Date: 09/06/00

Corrections:

1- The sampler could not actually clear an IO condition once set. Although it appeared to clear, the IO condition would remain and cause dial-outs to occur.

2- Fixed problem with bad characters being displayed when a large number of samples have been taken in the continuous sampling mode.

3- Alarm dial-outs will no longer be made when the sampler is off.

4- Fixed problems in which under certain conditions the partitions were not reset even though changes had been made to the data being stored. This led to incorrect data being reported with incorrect labels etc.

5- Fixed problem where and IO condition could be selected and then entering none for the condition.

6- Fixed problems with sampler showing area velocity conversions even though the module had been changes to 720 or 730.

7- Added time outs for Flowlink. If a valid handshake or packet is not received in one minute, the modem will hang-up even if bad characters are being received.

Enhancements:

1- Support for the 2102 wireless module. As with applications with Omega, the radio will be powered down to save power. Power up to "look" for a signal will occur every four minutes.

2- The ability to acknowledge samplers dial out alarms via a phone call initiated by the user. If the Phone command option is installed, the ability to then send phone commands to the sampler during the same call.

3- The ability (if the phone command option is installed) to send phone commands to the sampler after alarms have been acknowledged via a phone call (an alarm call) initiated by the sampler.

4- The ability to enter the login menu after connecting to the sampler through the internal modem. This allows for getting real time data using an external modem.

5- In order to meet some pressurized line applications; SPA 1279 has been added that will delay the pump operation after the event mark signal occurs so that an external valve has time to operate.

6- Addition of code to set a maximum time that the sampler will: attempt an initial handshake with Flowlink, wait for a valid Flowlink request packet, and the maximum time for receipt of valid touch-tone phone commands. This will minimize the possibility that stray "noise" will cause the sampler to wait forever on a Flowlink command or phone (touch-tone) command and prevent the sampler's modem from "hanging-up".

7- "Grouping" alarm calls. - All phone numbers will be called as quickly as the system can cycle, delaying by the user entered amount only after all of the phone numbers entered have been called. Each number will still be called 5 times. Also if more than one alarm event has happened at the time of the call, all unacknowledged alarms will be announced, and one acknowledgement will now acknowledge all outstanding alarms.

8- Any communication over the "computer" port will continue to take precedence over the modem. Connecting an interrogator cable to the sampler, (or an external modem call or a 2101 receiving transmission) will also cause any pending dial out alarm conditions to automatically be acknowledged. This change was made to prevent alarms conditions from interfering with the radio and local computer connections. It also eliminates certain potential communication lockup problems.

REVISION 3.21
Software Release Date: 01/28/00

Corrections:

1- Fixed problem with the power to the YSI port was shut off for no apparent reason. This would occur only if a module is connected.

2- Fixed problem with the interface to YSI Sondes

3- Customers have recently reported that their new YSI Sondes would not work with the 6700. It was found that changes released in YSI's version 2.10 software would not correctly process the command we use to set it to 2400 baud. In fact, it would cause the Sonde to "die", requiring that it be sent back to YSI to be revived.

4- YSI has corrected this problem and will be shipping version 2.11 software soon.

5- 6700 code has been modified to look at the Sonde's software version before issuing the "change baud rate" command. If the Sonde has version 2.10 installed, the sampler will report "INCOMPATIBLE SONDE SOFTWARE! UPGRADE TO VERSION 2.11 OR NEWER". The 6700 will not allow communications to continue, thereby preventing a potential Sonde death. The user will be required to upgrade the Sonde's software before it will work with the 6700.

Enhancements:

1- Interface to YSI Sondes with SPA 1115

2- Prior to this release, the YSI Sondes needed to be set to 2400 baud before connecting to the 6700. This has been changed so that the 6700 can now communicate with Sondes set to baud rates between 1200 and 19200, with or without auto-baud selected. After communication is established, the Sonde is set to 2400 baud.

3- Modifications have also been made to allow for communications to Sondes with internal batteries (such as a 6920), without removing the batteries.

4- For Sondes programmed with the OTHER YSI SONDE option, prior versions would not differentiate between a communications error and incompatible Sonde settings. If the Sonde is setup (in PC6000 or similar program) to report data that the 6700 does not understand, a "NO SONDE PARAMETERS! PLEASE RECONFIGURE" message will be displayed. The user will be required to modify the Sonde's report settings before it will work with the 6700.

REVISION 3.20
Software Release Date: 10/08/99

Corrections:

1- TWO-PART PROGRAMs with enable conditions will now operate correctly. In version 3.10, for TWO-PART PROGRAMs, if an enable condition was entered and the program was run, the 6700 may get stuck WAITING FOR A VALID READING.

2- For foreign translations, if an option was 19 characters or more and a leading space was present, the wrong text may blink when the option is selected.

Enhancements: Update of Parameter Readings While Running a Program

1- In previous versions of 6700 code, if a program had an enable condition that used a parameter from a 700 series module or a YSI Sonde, an updated value for that parameter would be requested every 30 seconds. Thus, the response time to parametric changes was less than 30 seconds. This "quick" update was also used when the sampler was being paced by the 700 series module or the YSI Sonde.

2- In some cases, the response time is not as important as the energy expended to take the readings. To this end, an option has been added to allow the user to select how often the parameter readings will be updated. The CHECK ENABLE interval will be one of the following: 0.5, 1, 2, 5, 10, 15 or 30 minutes. If the CHECK ENABLE interval is less than the DATA STORAGE interval, additional CHECK ENABLE readings will be requested. If

the CHECK ENABLE interval is greater than or equal to the DATA STORAGE interval, the enable condition will be checked at the DATA STORAGE interval rate.

3- If the CHECK ENABLE interval is being used and the enable condition (both 'A' and 'B' for two-part programs) has reached its final value (ONCE ENABLED, STAY ENABLED), the "quick" update will no longer be requested.

4- The "quick" update has been removed for FLOW PACED programs. For FLOW PACED programs that calculate flow volume from the 700 series module's or YSI Sonde's level reading, the flow rate is adjusted only at the DATA STORAGE interval rate (assuming no programmed enable conditions that require the CHECK ENABLE interval exist). The calculated flow volume is still updated every second, but the flow rate from which it is calculated, is now updated at the DATA STORAGE rate.

5- As always, if the display's backlight is on, the update rate will be every five seconds regardless of the settings for the CHECK ENABLE interval or the DATA STORAGE interval.

REVISION 3.10
Software Release Date: 06/16/99

Corrections:

1- The delay-to-start, after enable condition becomes true, now works for any value entered. Problem in previous version occurred when this value was greater than 547 minutes.

2- After a BOTTLE FULL indication, if the pacing parameters were met, an extra sample would be taken. This anomaly has been corrected.

3- For composite samplers, the sample volume range for programs that are to be RUN CONTINOUSLY is now the smaller of the bottle volume or 9990 ml. Previous versions had volume limits that had been calculated from a previously entered samples-per-bottle value.

4- YSI-Conductivity and YSI-Specific Conductance can now be used fore enable conditions. In 3.00 these values were off by a factor of 1000.

5- The partition name for YSI pH will now be correct for foreign languages after proper translations have been performed.

6- While in the COMMAND DRIVEN mode, if PERIODIC SERIAL OUTPUT strings had been previously specified, these strings would be output continuously if a standard interrogator cable was being used. This is no longer the case. In addition either the interrogator cable or the periodic serial output cable can now be used in the COMMAND DRIVEN mode (state of the sense line no longer matters).

7- Pressing the OFF key while in the PAUSE menu or the ENTER PASWORD screen will now shut the sampler off without delay.

8- The algorithm used to parse YSI readings from OTHER YSI SONDEs has been modified to accept negative level and negative ORP readings.

9- The WAIT FOR PHONE CALL start option will no longer show up unless SPA 1109 has been turned on.

Enhancements:

1- Increased the dial out number length from 17 to 26 digits.

- A "backspace" feature has been added to be able to erase numbers that are no longer needed.
- Select keys, not found on the keypad may be inserted into the telephone number by pressing the DECIMAL POINT key. This function allows for entry of ', '#', and '*' characters.

2- The Extended hardware option to test for bottle full has been made part of the program. This option will need to be checked when changing to a different Extended program.

3- Errors during a GRAB SAMPLE, will no longer record as an error in the running program.

4- 'More' indication in the Manual Pause menu. A left arrow has been placed at the upper left of the display and a right arrow has been placed at the lower right.

5- Clock/Calendar Start time Delay. Clock time start times can now be entered up to a year in advance.

6- Default settings for REPORTS has been changed to FLOWLINK REPORT. The elimination of the daily summary report for module data will make RTD transfers quicker.

7- The PUMP COOLDOWN mode has been removed.

8- Flow Calculations will no go to zero, if an error persists for more than 5 minutes. Previously the most recent valid data was used indefinitely.

9- Negative flow volumes are no longer used in the flow-to-next sample calculation for flow paced sampling programs, which use module data.

10- FR Temperature Sensor: This option connects the Rain/YSI port and uses I/O3 to transmit temperature readings. Temperature updates every 2.5 seconds.

11- 'A' DONE: Two part programs may now be set up where part 'A'DONE is part or all of the enable setup for part 'B'

12- I/O CONDITIONS: The I/O conditions may be used to set up an enable function, or used in a combination while in the extended mode. *Note: the date of the I/O lines is not defined while the sampler is OFF.*

13- Dialout Alarms: The phone number list tat is to be used for alarm conditions has been added to the SAMPLING REPORT. Acknowledgements occur while program is running.

14- Software Options: Information on which software options are currently enabled can be viewed in the VIEW REPORT, SYSTEM ID's screens.

15- SPA 1199: Switch to a new bottle set at enable.

16- YSI 6820 Turbidity Wipes: Must have the SPA 1115. The wiper on a 6026 turbidity sensor is now activated each time the Sonde is powered up. In the case of continuos readings, the wiper is activated after 60seconds has elapsed from the time the last wipe was completed.

REVISION 3.00
Software Release Date: 07/1/98

Corrections:

1- Flowlink is now sent the correct RAIN units information.

2- The RAIN partition is now properly created, for EXTENDED programs with no module attached, at the initial power-up time.

3- The I/O outputs now function properly.

Enhancements:

1- Reset of the Sample Event Partition. The sample event partition is reset only when the site description changes. In previous versions, the sample event partition was rest each time a program was RUN.

2- Combined YSI report. The YSI report can incorporate the possibility of more than 4 parameters. Instead of fixed locations for each parameter, the new report utilizes 7 columns for each parameter selected.

3- The number of entries in the event log is now 1004. The information at the start of the program now consumes four log entries (previously 3 entries were needed) This leaves 1000 for sample event, disables, power losses, etc. When a YSI Sonde is used it now takes two log entries at each sample event. So no more than 500 sample events can be logged.

4- Flowlink 4 requires a unique SITE DESCRIPTION from each sampler to avoid mixing data. The default SITE DESCRIPTION has therefor been changed from "FACTORY "to "FACTORY___" where the "___" is the last three digits of the sampler's id.

5- SPA 1066 has been modified to work with the liquid detector shut off.

6- Internal Modem: 2400 Baud rate, Factory installed for U.S. customers. The modem can't be installed if an internal analog output is in place. There is not enough room for both inside the 6700. *NOTE*: modem features are active only if there is no cable connected to the interrogator port.

7- Alarm Dial outs: At the transition to the TRUE state, any programmed I/O output can cause the sampler to dial-out to warn of the "alarm condition. Up to 3 phone #'s can be entered. Each telephone number will be tried in succession until an acknowledge is received. An acknowledge is accomplished by keying in "*__", on a touch-tone telephone, after answering the sampler's call. The three-digit sequence matches the last 3 digits of the sampler's id, and is repeatedly spoken by the voice modem at dial-out time. An acknowledgment is spoken after a successful acknowledges has been completed. For each alarm condition,, the sampler will attempt each phone number entered a maximum of five times.

8- Flowlink Interrogation: The sampler bay be interrogated at any time over a phone line.

9- SPA 1108 Program Lock: This feature is added for security. The password must be entered to make any changes in the program or run time. You will be able to view reports and interrogate while the program is locked. The password defaults to "6700" and may be changed in the HARDWARE. This function can only be changed in the Extended mode but works in basic, and extended.

10- SPA 1109 Phone Commands: Several commands are available for users wishing to control the sampler remotely. After the 6700 has answered, a command is entered using a touch-tone phone by keying in a"X#" command sequence, where:

0# = START This command will start immediately any program that has been RUN and is currently waiting-to-start.

1# = This command will load program 1 as the sampler's current EXTENDED program, rest partition data if the storage interval has changed, and RUN the program. RUN1 will also run the current program then in STANDARD PROGRAMMING. RUN1 is valid at the standby screen and when waiting-to-start.

2# = RUN 2

3# = RUN3

4# = RUN4 -- These commands are available for EXTENDED PROGRAMMING only. As with RUN1, they will load the designated program, reset partition data if the storage interval has changed, and RUN the program. RUN2, RUN3, and RUN4 are valid at the standby screen and when waiting-to-start.

5# = PHONE DISABLE -- This command is similar in functionality to pin_F low. Command 6# must be used to re-enable. PHONE DISABLE is valid while a program is running. At RUN time, the sampler starts with the telephone enable enabled.

6# = PHONE ENABLE -- This command is used to re-enable a PHONE DISABLEd sampler. PHONE ENABLE is valid while a program is running.

7# = PHONE SAMPLE -- This command causes the sampler to take a sample. The sample is treated as one of the program's samples and is placed in the current bottle (PART A's current bottle for concurrent programs). PHONE SAMPLE is valid while the program is running, after the start time, but not when in the MANUAL PAUSE screens.

You will have five seconds to begin entering a command. (If no touch-tone is received in five seconds, the 6700 will assume a modem has called it and initiate the modem connect sequence.) After the command is entered, the 6700 will respond with "*x, please acknowledge*" to report that the command is valid and ask for verification. You must then enter "x" to verify the command. The sampler will respond with "x acknowledge" to confirm the verification. If a command is entered that is not valid, a response of "x beep+beep+beep" will sound. Multiple commands can be entered during a phone conversation. The sampler will wait for ten seconds of quiet time before hanging up.

11- SPA1115 – YSI 6820 and YSI 600XL Support

SPA1115 will allow the 6700 to be interfaced to a YSI-6820 Sonde or a YSI 600XL Sonde. The following options are supported (Subject to availability on the YSI Sonde):

Parameter	Range	Resolution	Storage bytes
Temperature	-5 - 45 °C	0.1 °C	2
Conductivity	0 - 100 mS/cm	0.01 mS/cm	2
Specific Conductance	0 - 100 mS/cm	0.01 mS/cm	2
Total Dissolved Solids	0 - 90 g/l	0.01 g/l	2
Salinity	0.- 70 ppt	0.1 ppt	2
Dissolved Oxygen	0 - 20 mg/l	0.1 mg/l	1
pH	0 - 14	0.1	1
ORP	-999 - 999 mv	0.1 mv	2

Parameter	Range	Resolution	Storage bytes
Level	0 - 30 ft	0.0001 m	2
Ammonium-Nitrogen	0 - 200 mgN/l	0.1 mgN/l	2
Ammonia-Nitrogen	0 - 200 mgN/l	0.1 mgN/l	2
Nitrate-Nitrogen	0 - 200 mgN/l	0.1 mgN/l	2
Turbidity	0 - 1000 NTU	0.1 NTU	2
Chloride	0 - 1000 mg/l	0.1 mg/l	2

If the YSI Sonde is connected and communications are successfully established, the selections will include only those that the Sonde is configured for. You must configure and calibrate your Sonde external to the 6700 using PC software provided by YSI. Your calibration procedure will include "wipe frequency" for Sondes equipped with 6026 turbidity sensors. You will be able to select up to eight parameters. Serial communications must be set to 2400 baud, 8 data bits, 1 stop bit, and no parity.

When using the proper sensor combination, the level readings from the YSI will be compensated for dissolved solids. This will be especially helpful in coastal applications where the measurements are taken in seawater.

If level is one of the measured parameters and no flow module is connected, the YSI level readings will be used to calculate flow. The Y-FLOW values can then be used to pace the sampler or as part of an enable condition. When generating a YSI combined report, if Y_FLOW is calculated, it will show up on the chart along with the total volume since the start of the program, if there is room on an 80-column chart. Flow rate takes seven columns and is put on after the selected YSI parameters. Flow volume takes 15 columns and will be the last entry in the chart.

Note: FlowLink 3.0 can not handle reports longer than 40 columns! If you are using FlowLink 3.0 to get your reports, you must limit the number of YSI parameters used to three (level can not be one of these three if flow rate and flow volume are calculated from the YSI level reading).

A flow-thru chamber (available from YSI), which will allow a YSI Sonde to be continuously wetted even in storm applications, will be supported as follows:

- One of the I/O lines can be used to control an external pump. The external pump is used to refresh the liquid in the flow-thru chamber. If selected for this purpose, the signal on the I/O line will be high when the sampler requires YSI Sonde readings. The signal will become high a user specified time (0-120 seconds) before the readings are taken, and remain high until all readings have been taken.
- To conserve power, the reading interval will always be the data storage interval. (The 30 second rate if a YSI reading is used in an enable condition will be ignored.)

For those of you who use the serial output option, additional codes have been added/modified to support the YSI parameters.

Identifier	Parameter	Units
YTE	YSI temperature	C°
YCO	YSI conductivity	milliseimens per centimeter
YSP	YSI specific conductance	milliseimens per centimeter
YTD	YSI total dissolved solids	g/l
YSA	YSI salinity	parts per thousand
YDO	YSI dissolved oxygen	mg/l
YPH	YSI pH	none
YOR	YSI oxidation reduction potential	mV

YLE	YSI level	meters
YMM	YSI ammonia-nitrogen	mg nitrogen/l
YNI	YSI nitrate-nitrogen	mg nitrogen/ l
YTB	YSI turbidity	nephelometric turbidity units
YCL	YSI chloride	mg/l
YFL	YSI flow rate	m^3 /sec
YVO	YSI flow volume	m^3

12- SPA1116 – 5 Hour and 10 Hour Rain Intervals: When using RAIN as an enable condition, the 15 minute and 30 minute options have been replaced by 5 hours and 10 hours. When turning this SPA on or off, no program change is made until you step through the program and come to the RAIN INTERVAL selection screen.

13- Hardware and Software Revisions on Reports: To eliminate ambiguity, the hardware and software revisions for the sampler, as well as any attached module, has been added to each of the 6700's reports. If the report includes YSI Sonde information, the Sonde's software revision will be included.

14- Parking the Distributor: For refrigerated samplers, the distributor's position upon completion of the sampling routine can cause difficulty when removing the bottle rack. To alleviate this concern, the distributor is now moved to the back of the refrigerator upon completion of its sampling program. Since the 6700 does not know that it is on a refrigerator, the distributor is "parked" upon completion of any multi-bottle sampling program.

15- Fuel Gage: The fuel gage option that was added in version 2.30 as an option off the main menu has been added to the MANUAL PAUSE options.

16- Copyright Protection: A copyright message has been added to protect Isco's 6700 software. This message appears on the display for four seconds when the power source is connected, if no program is running.

REVISION 2.30
Software Release Date: 9/6/96

Corrections:

1- Fixed the problem with the 750 module from not turning off.

2- When the user programs the sampler with once enabled stay enabled, and the sampler is disabled at start. The previously programmed interval controls are still in affect, even though the user has no way to change them as long as once enable stay enabled is programmed. The software now forces the interval controls to disable countdown while the unit is disabled.

3- Maximum level entry up to 30 ft.

4- Non uniform time interval "quantity @ interval"

5- Sample reporting will read as " sample one of one"

6- Rain Partition is no longer created for the standard program. You must be in Extended/Hardware

Enhancements:

1- The unit can now support up to 3 internal analog outputs

2- Serial Data Output is in comma separated value format. Only those values that the sampler is set up to measure will be output.

3- Command Driven Mode – The unit can now be controlled by an external device via the RS-232 Communications port.

REVISION 2.20
Software Release Date: 9/6/96

Corrections:

1- A new start date has been added to extended mode CLOCK TIME option to allow the user to enter a start date.

2- The Auto Re-run has been removed.

3- The "**?**" functionality key has been removed. This was used to display the sample event log information.

4- I/O Run Error. This output signal has been changed from "continuos" to pulse, with a nominal duration of 5 seconds. A pulse will occur each time and error occurs. Making our SPA Alarm Boxes re-triggerable.

Enhancements:

1- The Pause and Resume can now be used for more than one day Each Pause and Resume has ad day of the week associated to it..

2- The switch times are now relative to the FRST SWITCH TIME> the switch time occurs regardless of the state of the sampler.

3- The Sample event log will now hold the program run and start information regardless of the duration of the program.

4- Added Features

- Time switched bottle/sets
- Sample at Disable
- Display of module and YSI readings
- Continuos sampling

5- Manual Paused Operation:

- Stop program
- Resume program
- View data
- Grab sample
- Pump tube alarm
- Calibrate volume
- Cal/Adj. parameters
- adjust pacing
- Adjust volume
- Adjust enable
- Adjust suction head
- Flow pacing with external flow meter
- Flow dependent sample volume
- Low profile A/V probe support

REVISION 2.13
Software Release Date: 9/6/96

Corrections:

1- Fixed a problem that would result in the sampler aborting a sample taking operation with a no liquid detected error, when programmed for multiple bottles per sample event.

2- When the user programs the sampler with once enabled stay enabled, and the sampler is disabled at start. The previously programmed interval controls are still in affect, even though the user has no way to change them as long as once enable stay enabled is programmed. The software now forces the interval controls to disable countdown while the unit is disabled.

Enhancements: None.

REVISION 2.12
Software Release Date: 6/14/96

Corrections:

1- Fixed power is now applied to the YSI probe during probe test.

2- Fixed bug that would result in incorrect operation of enables using conductivity or specific conductance (there was a units disagreement in the software).

3- Fixed a problem that would result in the unit performing short rinses with suction line greater than 20 ft.

4- Fixed a problem that would prevent enabling of sampler when programmed using rain and a less than condition.

Enhancements: Made changes to software that would facilitate letting foreign dealers control the text that is displayed by the controller.

REVISION 2.10
Software Release Date: 3/14/96

Corrections:

1- Fixed problem with level-to-flow and level-to-area conversion tables, they were off by up to one index value. Errors would have been most noticeable at low levels.

2- In all printable reports, the '□' is replaced by a ' '. This resolves a problem with varying ASCII codes for use with different fonts.

3- Fixed problems with incompatibilities with hardware Rev A00001 and A2.

4- Fixed problem with bottle numbers being output incorrectly.

5- Fixed problem with going from a two-part program to a one-part program. If PART-A had only one bottle, the one-part program was stuck in the COMPOSITE mode even though there were multiple bottles.

6- Fixed the problem with the internal battery's 5-year timer caused with version 2.03.

7- Fixed the problem with the bottle full algorithm tripping when the post purge began to purge air into the sample source.

8- Fixed problems with not being able to log negative temperature data for pH modules in the sample event log.

9- Fixed problem with switched power to the YSI port will coming up ON.

10- Fixed problem with time intervals greater than 65535 seconds (18.2 hours) not being correct.

11- Fixed problems with samplers which have CONFIGURED REPORTS for no PROGRAM SETTINGS and/or no SAMPLING RESULTS not properly responding to Flowlink requests.

12- Fixed problem when the YSI DATA report is not configured to print, the screen would display "PRINT:" instead of "YSI DATA".

13- Code to download software to modules has been corrected.

14- Fixed problem with 8-bottle refrigerated samplers, the bottle-1 position has been moved for easier positioning of the bottle rack in the FR.

Enhancements:

1- Added support for the 0750 A/V module.

2- Summary Reports are now derived from partition data. The format for the report is slightly different -- headings are more like that for the Combined Reports. As partitions fill, report generation will slow down noticeably.

3- An Event Mark for "complete samples only" is now available.

4- An ENABLE BOTTLE FULL DETECT option has been added in EXTENDED programming. For STANDARD programs, this option is disabled.

5- Added messages for doing baud rate tests for YSI probes.

6- The maximum standard composite bottle volume has increased from 15.0 liters to 20.5 liters.

7- Two part programming is now an option for 1-bottle samplers.

REVISION 1.32
Software Release Date: 10/25/95

Corrections:

1- Fixed problem with "disable countdown" while inhibited.

2- Fixed problem with resetting sample interval at enable.

Enhancements: None.

REVISION 1.20
Software Release Date: 6/16/95

Corrections:

1- Fixed problem with the message "NO LIQUID DETECTED!" being reported if some liquid was detected.

2- Fixed the "BOTTLE FULL" detection for composite setup.

3- Fixed conversions for H-flumes larger than 1.0'.

4- Fixed the problem with one blank screen showing up when stepping through the review report screens.

5- Auto rerun will now restart at bottle 1, regardless of the start bottle selected.

Enhancements:

1- Because of the switch to the lithium backup battery, the internal battery life timer has been changed from 3 years to 5 years.

2- The unit will now stop sampling when the liquid count is above a predicted value when pumping slugs. The predicted number is based upon previous head or max head.

3- Totalizer is now in new 9 significant digit format with implied rollover points.

4- "REPORT CONFIGURATION" was added.

REVISION 1.16
Software Release Date: 4/3/95

Corrections:

1- Fixed problem with "Program Done" or "Program Stopped" being displayed if a power failure occurs at the right time and the program is set for "Auto-Rerun".

2- Fixed the problem with the distributor not resetting if the power fail occurred while the distributor was moving.

3- Fixed the problem where after several timely power fails, the 6700 would lock up when the "ON" button was pressed. It would not re-allocate memory that had not been de-allocated.

Enhancements: None.

REVISION 1.12
Software Release Date: 3/17/95

Corrections: Fixes a bug that fails to completely stop a sampling program after 5 consecutive power fails when taking a sample.

Enhancements: Added a feature that displays "LOW BATTERY" when the sampling program is stopped due to 5 consecutive power fails.