

# American Changer 1400 NW 65<sup>™</sup> Place ◆ Ft. Lauderdale, FL 33309



# "TOKENSTATION" – CHANGER

OPERATIONS MANUAL MODEL AC2207

ARL Listed STD: UL 756

Parts & Service: (888)741-9840 Service Fax: (954)917-5204 Sales: (800)741-9840

To order parts only, visit our website: <u>www.americanchanger.com</u> Service Questions? E-mail: <u>service@americanchanger.com</u>

**Revised October 2009** 

Model Number:	
Serial Number:	
Tested By:	
Date:	

## **Specifications**

Operating voltage	120VAC +10% to -15%
Power consumption	Controller: 100W
Operating temperature	0 - 120 degrees Fahrenheit
Interface to hoppers	24VDC, 2.5 amps max.
Interface to validators	24VAC, 1.5 amps max.
Hopper coin capacities	100/hopper minimum to 10,000/hopper maximum (20,000 total maximum)

## Warranty Information

#### <u>A Return Material Authorization number (RMA #) must be obtained before</u> returning a unit for repair. A copy of invoices must accompany any and all warranty work.

It is the end users' responsibility to follow cleaning and maintenance procedures as outlined in the validator manual. Any unit returned for repair requiring only a cleaning will be charged a flat rate plus shipping and handling.

## Validators

Validators are warranted for two years from date of purchase.

## Hopper(s) and/or Dispenser(s) and Logic Board

These items are warranted for one year from date of purchase.

## COVERED

• Manufacturers' defects in workmanship or materials

#### NOT COVERED

- Damage caused by shipping or physical abuse
- Misapplication
- Vandalism
- End users' attempt, on their own, to repair components
- Cleaning and maintenance
- Power surges and lightning strikes

## Table of Contents

## SECTION A: SETUP & INSTALLATION

Setup	5
Assembling the TokenStation	5
Mounting Instructions	5
Installing Coin Cup	6
Installing Bill Stacker	6
Hopper Coin/Token Sizes & General Information	7
Validator General Information	7
Power Supply/Relay Board	8
Fuse Definitions	8
Main Logic Board	9
Programming the Changer	10-16
Remote Paging Features & Error Codes	17
Data Logger Information.	18
Replacing Printer Paper	19-20
Functional Description of the AC2207 TokenStation	21
Functional Operation of the Hopper Out-of-Service Conditions	21
Condor Coin Mechanism	22
Car Wash Pay Station Schematics	23-26
Pay Station Relay & Power Supply Board Schematics	27-28

## SECTION B: MAINTENANCE

American Changer Cleaning	Kit Information	29

## SECTION C: PARTS LIST

AC2207 Parts List		30-33
-------------------	--	-------

# SECTION A SETUP & INSTALLATION

## <u>Setup</u>

Inspect for any connectors or components that may have been dislodged during shipping. The lock and keys for your changer will be inside the manila envelope along with this manual and other pertinent information. To install the lock, insert the cylinder into the hole in the middle of the T-handle and push until it stops. Turn the key until you hear it "snap." Turn the key counterclockwise 1/4 turn and remove the keys.

# <u>NOTE</u>: The only way to get a duplicate set of keys made is to save the tag that comes between the keys. This ID # starts with "AC or ACC ####."

#### CELLULAR WIRELESS CREDIT CARD SYSTEM (optional)

This feature is an optional add-on for most American Changer models. A separate maintenance manual is included in your packet. You <u>MUST</u> call American Changer technical support at (888) 741-9840 for setup and operating instructions. Prior to startup in the wireless mode, the machine will operate and validate cash transactions only.

## Assembling the TokenStation

<u>Safety Note</u>: The changer comes almost completely assembled, in a box strapped to a pallet. Care must be taken in unpacking and maneuvering the machine into place. It is not a one-man job.

## Mounting the AC2207 into a Wall

#### IF YOU ARE UNSURE IN ANY WAY IN PROCEEDING WITH THE FOLLOWING STEPS, PLEASE HIRE A LICENSED ELECTRICIAN TO MOUNT YOUR CHANGER FOR YOU!

- 1. Disconnect any and all AC power going to the changer. (Unplug AC line cord from the Power Module Board and from the wall.)
- 2. Slide the hopper out of the cabinet.
- Note: You will need to verify with the building code to see if it is allowable to plug the changer into a 3-prong grounded outlet. If it is not, there must be 120VAC run through conduit or other means to meet local codes to the changer. If it is not required, proceed to step #6.
- 4. Have the electrician run the conduit, install the new breaker, wire and help decide how the wiring will enter the changer (from the side or the bottom). This will affect the mounting location.
- 5. After the conduit has been installed, proceed with the mounting.
- 6. Find an appropriate wall into which to bolt the changer. The wall should have studs or be constructed of concrete.
- 7. NOTE: SECURING THE CHANGER FROM FEWER THAN THE FOUR BOLTS OR WELDED ANGLE IRON MAY BE DANGEROUS. EACH HOLE NEEDS A BOLT THROUGH IT TO SECURELY MOUNT THE CHANGER INTO THE WALL. MOUNTING THE CHANGER IN ANY OTHER WAY MAY RESULT IN THE CHANGER BEING TORN FROM OR FALLING FROM THE WALL, RESULTING IN PERSONAL OR CUSTOMER INJURY ALONG WITH ELECTRICAL SHOCK.
- 8. Choose a height to mount the changer, keeping in mind that a handicapped person in a wheelchair should still be able to insert a card into the card reader and/or a bill into the bill validator. (We recommend no higher than 4 feet above the ground.)

- 9. Have someone hold the changer into the wall while someone else marks the holes. <u>CAUTION:</u> THE CHANGER WEIGHS 91 POUNDS; DO NOT EXERT YOURSELF SO THAT YOU MAY CAUSE AN INJURY.
- 10. <u>BEFORE DRILLING THE MARKED HOLES, ENSURE THAT THERE ARE NO ELECTRICAL WIRES,</u> <u>TELEPHONE LINES, GAS OR WATER LINES BEHIND THE WALL</u>.
- 11. After drilling the holes, put the changer's back into the wall. Thread and tighten bolts.
- 12. Verify that the machine is securely mounted.
- 13. If the changer is permanently connected through a conduit, proceed to step #16.
- 14. Plug the power cord back into an AC wall outlet and into the Power Supply, if necessary. *Do not use an extension cord unless allowed by the building electrical code*.
- 15. Installation is completed. Proceed to the "Programming the Changer" section.
- 16. In order to continue, you will need to purchase numerous electrical components. We highly recommend hiring a licensed electrician to perform the following:
  - a. Install the conduit box on the conduit entering the cabinet in the lower left side of the cabinet.
  - b. Secure the 3 wires (hot, neutral and ground) to the AC wall outlet; the ground wire should also be directly attached to the cabinet ground terminal.
  - c. Connect the AC line cord into the bottom of the Power Supply.
  - d. Plug the male end into the AC outlet just installed.
  - e. Properly fold the line cord to avoid sharp corners and any other damage.
- 17. Proceed to the "Programming the Changer" section.

## Hopper Coin/Token Sizes & General Information

The hopper will automatically adjust to dispense coins/tokens in size from 20-30 mm in diameter and 1.25-3.5 mm in thickness. There is an option available to dispense smaller coins.

A nickel is approximately 21 mm, a quarter is approximately 25mm, and a dollar coin is approximately 28mm in diameter.

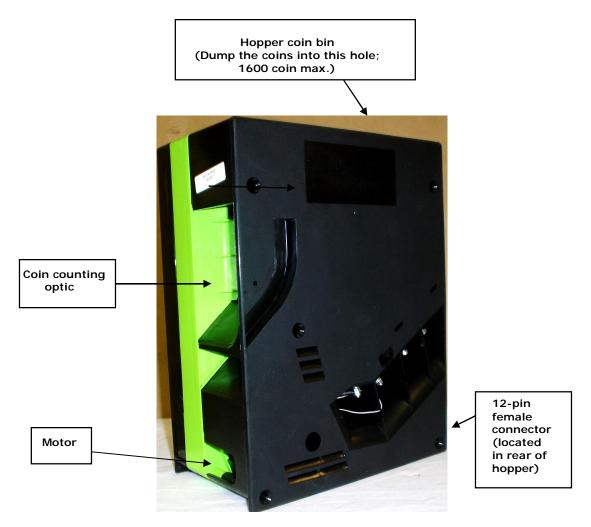
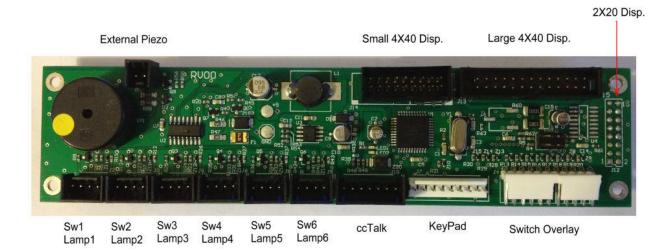


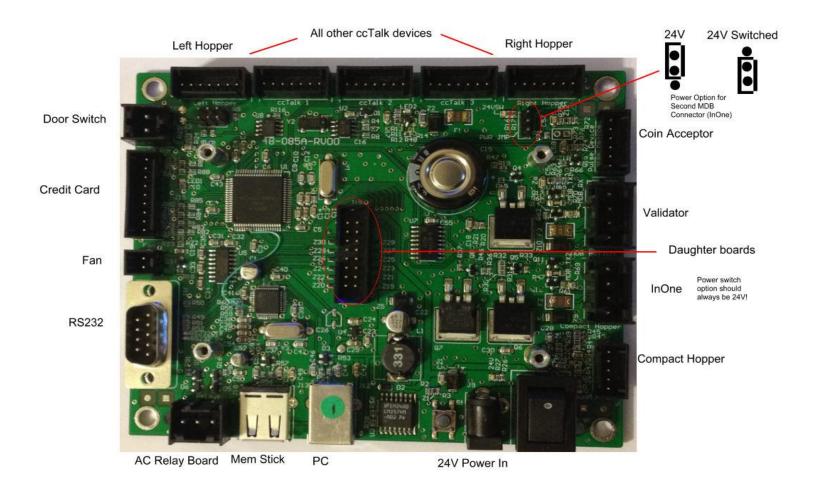
Figure 7 – Hopper

## Validator General Information

A validator user manual is included as part of your information packet. Please use this as your reference guide to address any questions you may have.



### Figure 8 – AC8001-FLXIOB Flex I/O Board



#### Figure 9 – AC8001-FLEXBD Main Logic Board

## Programming the AC2207 TokenStation

The configuration menu can be accessed only if the door is open.

Pressing the select switch on the Flex board (Fig. 9) will bring the display to show "EnterMenu".

Pressing the select switch again will get the user out of the menu mode.

Use the keypad to enter the menu number or press the **Back/Next** button to step through the menus.

All the menus work the same:

**No/Yes:** Selects status **Back/Next:** Selects the item

**Exit**. Exit the setup menu

#### 01- Print Help Menu

Prints the menu index

Menu Index

01 = Print Help 02 = System Information 03 = Button Price 04 = Button Payout 05 = Enable Bill O6 = Payout Per Bill 07 = Enable Hoppers 08 = Hopper Coin Value 09 = Enable Coin Acceptor 10 = Change Payout 11 = Promo-Token Payout 12 = Dump Hoppers 13 = Audit Information 14 = Vend Item Name 15 = Date Setup 16 = Time Setup 17 = Machine Number 18 = Marquee Timer 19 = Zipcode Enable 20 = Access Code21 = Key Beep Enable 22 = Location Name

#### 02- System Info

Prints the payout information and configuration settings. The following information is also included on the System Info Printout.

Software Revision Coin Acceptor Status Credit Card Status Printer Status Temperature

Validator Status Zip Code Option Status Hopper #1 Status Hopper #2 Status

#### **03--** Button Price

Select the value for selection 1 thru 4

#### **04- Button Payout**

Setup payout count for the 4 selection buttons

#### 05- Enable Bills

Selects which bills to accept and reject. This will only display bills the validator can accept.

#### 06- Payout Per Bill (Only used for Quick Pay Option)

Only bills enabled in menu 05 will be available in this menu. Enter the number of items to be paid for each bill type.

## 07- Enable Hoppers

Enable left and/or right hoppers

#### **08- Hopper Coin Values**

#### Use only for different value coins in each hopper.

Hopper 1= Left hopperSet value of coin to be dispensed from \$000.00 to \$999.99Hopper 2= Right hopperSet value of coin to be dispensed from \$000.00 to \$999.99If the same coins are to be dispensed from both hoppers press the "\*" on the keypad for both hopperselections.

#### **09- Enable Coin Acceptor**

Enable/disable the coin acceptor

#### **10- Change Payout**

Set the payout for coins accepted

#### **11- Promo Token Payout**

Enter the # of items paid for each token type by using the keypad.

#### **12- Dump Hoppers**

Dumps the coins from both hoppers

#### **13- Audit Information**

Prints a summary of all the sales. There are separate counters for credit cards and items/change dispensed from hoppers 1 and 2.

**Reset:** Prints 2 copies of all the audit values and resets all the "**Resettable Counters**" to 0. Every time **Reset** button is pushed the audit sequence number increases by one. **Print :**Pushing the **Print** button prints all the audit values without resetting. All the values are max 99,999 except for the **Total Cash** value which is \$100,000.00.

#### 14- Vend Item Name

Choose from Items, Tickets or Tokens

#### 15- Date Setup

Enter the date in this format YY-MM-DD

#### 16- Time Setup

Enter the time in this format: HH:MM. 24 hour format.

#### **17- Machine Number**

Use the keypad to enter the machine number.

#### **18- Marquee Timer**

Setup the time to turn on/off the marquee.

### 19- Zip-code Enable

Enable or disable the zip-code verification feature

#### 20- Access Code

Reset the access code for entering the program function.

#### **21- Key Beep Enable**

Enable/disable beep when keys are pressed.

#### 22- Location Name

Set the name of the location to be printed on the credit card receipt.

### Audit Print Definitions

		• - Audit d -Time – hr: mm: ss	
	Sequer		
	fetime m	nachine counters.	
Total Cash:	\$	######.##	
Quarters: Dollar Coin:		###### ######	
Ones:		######	
Fives:		######	
Tens:		######	
Twenties:		#####	
Fifties:		######	
Hundreds:		#####	
CreditCards:		###,###.##	
Paid Hopper 1:			
Paid Hopper 2:	####	##	
== Resettable	Counter	~s ==	
Resettable lifetin		-	
Total Cash:	\$	######.##	
Quarters:		######	
Dollar Coin:		#####	
Ones:		######	
Fives:		######	
Tens:		#####	
Twenties:		#####	
Fifties:		#####	
Hundreds:		######	
Total Bills:	\$	###,###.##	
Visa:	\$	###,###.##	
Master Card:	\$	###,###.## ###_###_##	
American X: Total CC:	\$ \$	###,###.## ###,###.##	
Total CC.	φ	<i><b>πππ, πππ. ππ</b></i>	
Promo Token 1			
Promo Token 2	:####	##	
Promo Token 3	:####	##	
Promo Token 4			
Free Play Note			
5		ers chose each of the	
credit card butto	ns for pr	0	
Selection 1: Selection 2:		###### ######	
Selection 2: Selection 3:		###### ######	
Selection 3:		#######	
Selection 4.		######	
Paid Hopper 1:	####	##	
Paid Hopper 2:			
Paid Total:	####	##	
== STATUS ==			
Hopper #1:		ОК	
		T Hopper	
	OK		
		GHT Hopper	
Validator: OK		Acceptor	
	Status of Bill Acceptor		
	OK	EDIT CARD Operations	
Jian			

Machine #: (	000 Information
	dd hh mm ss 08 12:10:32
	y Out =======
1 Quarter :	0
2 Quarters :	0
3 Quarters :	0
Ones :	
Fives : Tens :	
Twenties :	
Fifties :	0
Hundreds :	
Hopper Type1:	(Argen)
Hopper Type2:	
Sel1=\$001.00:	004
Sel2=\$005.00:	020
Sel3=\$010.00:	040
Sel4=\$020.00:	090
IDX #1 Value:	0
IDX #2 Value:	0
IDX #3 Value:	0
IDX #4 Value:	0
Software Rev:	
Coin Accept.: Zin Code	
Zip Code : Hopper #1 :	Ok
Hopper #2 :	
Validator :	OK
Credit Card :	OK
Printer :	Head Up
Temperature :	18deg C

## Replacing the Printer Paper

Before the printer paper runs out, you might wish to contact your Distributor and order more Printer paper. The part number is **AC7071-01**, and it is a special brand which is hard to find. Most AC6007 problems occur from the printer. Either the operator buys the wrong paper or has trouble loading the paper. Please follow the steps of either Method #1 or Method #2 below to properly load your thermal printer with new paper.

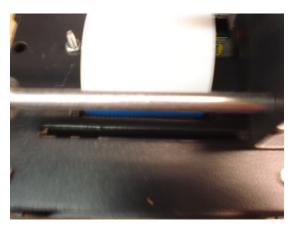


Figure P1: AC7084 Printer – Rear View

#### Method #1 - Automatic Feed:

NOTE: This method must be performed with the board power ON.

1. If there is paper remaining on the previous roll, it must be removed before proceeding. Move the "Paper Feed Lever" from the DOWN to the UP position (refer to Figure P2), and then pull out the remaining paper from the rear of the printer and discard the roll.

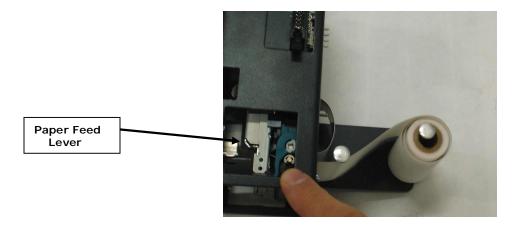


Figure P2: AC7084 Printer - Side View, with Paper

2. Move the "Paper Feed Lever" back to the DOWN position. Slide a new roll of paper onto the "Roll Holder," oriented so the paper comes off on the side toward the printer (refer to Figure P3 for the correct placement).



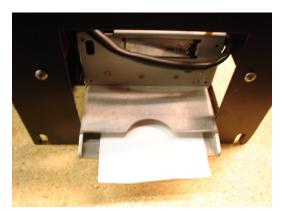
#### Figure P3: AC7084 Printer – Side View, Showing Proper Roll Placement

- 3. Wrap the paper under the "Paper Guide" and begin to feed it into the "Paper Slot." You do not need to fold or cut the paper in any way; it should be left square in the front. At a certain point as the paper is being fed in, the printer will detect it and automatically feed it to the printing position. When done, the setup should look like Figure P3.
- 1. **IMPORTANT!** Turn OFF the Main Board power, and turn it ON again after a few seconds. *Note:* The printer will not work until the power has been cycled!
- 2. Enter the Setup Mode and perform a Printer Test. Make sure the printer prints all of the lines of text and cuts off the paper.

#### Method #2 – Manual Feed:

NOTE: This method can be performed with the board power ON or OFF.

- 1. If there is paper remaining on the previous roll, it must be removed before proceeding. Move the "Paper Feed Lever" from the DOWN to the UP position (refer to Figure P2), and then pull out the remaining paper from the rear of the printer and discard the roll.
- 2. With the "Paper Feed Lever" still in the UP position, slide a new roll of paper onto the "Roll Holder," oriented so the paper comes off on the side toward the printer (refer to Figure P3 for the correct placement).
- 3. Wrap the paper under the "Paper Guide," and begin to feed it into the "Paper Slot." You do not need to fold or cut the paper in any way; it should be left square in the front. Continue to feed the paper into the slot, through the print head, until it passes out through the front of the machine (refer to Figure P4).
- 4. Move the "Paper Feed Lever" back to the DOWN position. The printer is now ready to print.
- 5. Enter the Setup Mode and perform a Printer Test. Make sure the printer prints all of the lines of text and cuts off the paper.



#### Figure P4: AC7084 Printer – Front View, Paper Fed Through Functional Description of the AC2207 TokenStation

After the TokenStation has been installed and the computer programming complete, the machine is ready to operate. Exiting the "Program" mode will bring up the main Pricing screen.

Insert cash for immediate token payout. This ends your Cash transaction section. For credit card transactions, select one of the four arrow buttons to prompt the credit card menu. YOU MUST SELECT AN ARROW PAYOUT FIRST BEFORE THE TOKENSTATION WILL BEGIN ANY TYPE OF CREDIT CARD TRANSACTION.

Once the amount of the token transaction has been selected, the TokenStation will send alternating pulses to the hoppers to distribute the tokens evenly. As the transaction ends, the following occurs:

- 1. The "bills inserted" counters increase the appropriate slots and all other associated audit features.
- 2. The "hopper" total counter is incremented by the appropriate tokens paid out.

#### Functional Operation of the Hopper Out-of-Service Conditions

In a two-hopper system, the other hopper will work as a backup or give change as needed. In a one-hopper system there is no backup.

There are 4 instances that will shut down a hopper:

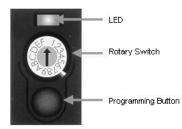
- 1. Low Coin This is the most common occurrence. This shutdown occurs when the coins in the hopper fall below the gold plates, which conduct low voltage between them. The hopper will dispense coins from the other hopper when the TokenStation reads the signal. Once the first hopper is read to have "low coins," a call over the phone line is placed to the pager/Cellphone that one hopper is down. The machine will now dispense all coins from the full hopper. If the other hopper runs out of coins, THE TOKENSTATION WILL CONTINUE TO DISPENSE COINS FROM EITHER HOPPER UNTIL BOTH HOPPERS ARE EMPTY (80-100 COINS WILL REMAIN IN THE HOPPERS). At this time, the machine will page out again to notify the pager/Cellphone that the second hopper is now empty.
- 2. Security Failure There are 2 cases that will cause a security failure.
  - a. The hopper is missing. The hopper is not slid into the hopper plate connector.
  - b. There is a foreign object or coin lodged in the coin counting window. Remove the side of the hopper with 5 screws and look in the area where the coins exit the hopper. Check the slot for foreign matter and remove it from the slot.
- 3. Jammed or Timeout Failure This failure occurs when the hopper is told to dispense coins and, after 45 seconds, no coin has been dispensed. This failure is present when the hopper coin belt is jammed or the hopper has run out of coins. If the coin belt is jammed, repair or replace unit.
- 4. Over-Pay Failure This is the error that occurs when the hopper pays out more coins than told to dispense. A very dirty exit sensor most often causes this error.

#### Condor Coin Mechanism

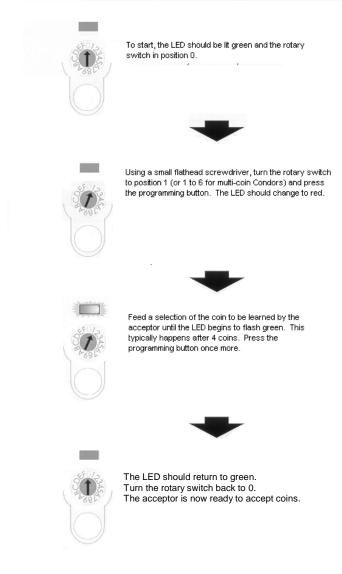
The condor must be programmed for USA with the Quarter into the #1 slot and the dollar coin in the #4 slot. If you notice a poorer than acceptable coin acceptance rate, you can turn back the Condor's security setting and increase your acceptance rate by turning the rotary dial (shown below) while in the "RUN" mode counterclockwise 1 or 2 "clicks" from setting "0" to "F" or "E."

# SECTION B MAINTENANCE

## A full-size version of the cleaning kit instructions is included in your



To Teach and Run a coin or token into Condor follow this procedure:



## information packet.





Insert the soap & water-cleaning card as shown. (Card can be used until dry.)





Cycle the power on and off quickly until the stacker for the bill acceptor coasts into the out position. Using the can of air, blow out all of the following places.

Step 5.



This completes all maintenance

procedures.

www.americanchanger.com

=== 19 ===

# **Remote Loading Software to the Flex Board**

### 1 What you need

Computer with a USB port running Windows USB flash drive (Make sure that the flash drive has no files in it.)

#### 2 Transferring the file into the USB flash drive

- 2.1 The software is in a zip format and will be sent as an attachment to an email.
- 2.2 Save the zipped file and then unzip it.
- 2.3 Do not change the name or the file extension!!!
- 2.4 Copy the program file to the empty flash drive.

#### 3 Loading the file from the USB flash drive to the controller board

## Note: All system settings will be erased once software is updated!!!

We recommend to make a print out of the settings before doing a software update.

- 3.1 Turn power off to the controller board.
- 3.2 Plug in the USB flash drive into the correct USB port labeled as J18 on the board.
- 3.3 Turn power on.
- 3.4 The display will show the software name to be loaded.
- 3.5 Follow the steps on the display.

17. Below are some of the display messages:

1.	Update: xxxx-xx-xxx	<b>xxxx-xx-xxx</b> denotes the software name. After 5 seconds and if the
	Yes	YES button has not been pressed, the system will go to the regular running software.
2.	File Error! Verify File on Drive	Wrong file is loaded into the flash drive. Load the correct file. Try again.
3.	System Settings will be Erased if Updated	This reminder will stay on for a few seconds as a double check.
4.	Begin updating? Start Exit	Press <b>Start</b> to load the software. Press <b>Exit</b> to cancel.
5.	Computing CRC! Please wait	System is checking for any errors.
6.	CRC Error! Update Required!	V:XXX There is a problem loading the software. The Red LED (LED1) on the Flex board will blink two consecutive times a second if CRC is bad. Turn power off. Remove USB flash drive. Check that the correct file is loaded into the flash drive. Try again.
7.	CRC OK, Initializing Please Wait V:XXX	System is getting ready to update.
8.	Do Not Remove Drive Updating Software!	Software is being updated.
9.	Update Ok! Remove Drive & Cycle Power	Software is successfully updated! Turn power off. Remove drive. Turn power on.