

BASIC Irrigation Controller

“BIC”

Version A.09

CHEAT SHEET



Main Menu:

1= AUTO 2= MANUAL
3= DIAG 4=
5= 6= SETUP
BIC A.09 23:59:59

Definitions:

FPM: Feet-Per-Minute; the speed that the Boom uses as a reference.

Idler Diameter: Diameter of the wheel that is used for the speed and motion sensing.

Acceleration: Speed setting that the Boom will “take off” when starting a programmed irrigation cycle, or as the Boom turns around to initiate another pass.

Pass: The setting that will tell the Boom what a “Pass” is and can be set to either 1 or 2. By default, the Boom goes from Home to Away, then back Home as ONE pass. If you change this setting to 1 pass, then the Boom will go from Home to Away and stop.

Proximity Sensor: Sensor used to read Speed & Motion using tics.

SW-IN: Switch Inputs. There are 4 Switch Inputs for the BIC.

Home Sensor: The external switch (magnet sensor) which when triggered by a magnet sends input to the BIC that the boom has reached the Home or Start position.

Away Sensor: The external switch (magnet sensor) which when triggered by a magnet sends input to the BIC that the boom has reached the Away or End position.

Remote Start: The BIC has the capability of being Started Remotely using a 24VAC Relay (EX16) that is linked to an Environmental Control System of the users choosing. The System can be set to start the Boom given certain parameters programmed into the Environmental System (RH, RAD SUM, TEMP., VPD, etc.).

External Switch Definitions

- **SW1 – Home magnetic sense switch. (mandatory)**

The Boom will stop at the Home position or turn around and head in the Away direction once the sensor detects this magnet.

- **SW2 – Away magnetic sense switch. (mandatory)**

The Boom will stop at the Away position or turn around and head in the Home direction once the sensor detects this magnet.

- **SW3 – Skip magnetic sense switch. (mandatory)**

This switch will be used to “sense” the Skip magnets and tell the controller when to toggle the Booms Solenoids operation On & Off. This is best used for “skipping” walkways or empty areas that the Boom will travel over.

- **SW4 – Collision Switch.** This switch input must be closed at all times to allow the Boom to run. The inputs may be connected to an object detection (IR Sensor) or Collision Switch that will open the normally closed circuit when an object is detected in the path of the boom. A simple jumper wire between the SW4 & GRD terminal connections may be used keep the switch permanently closed which will allow the boom to run.

Operations

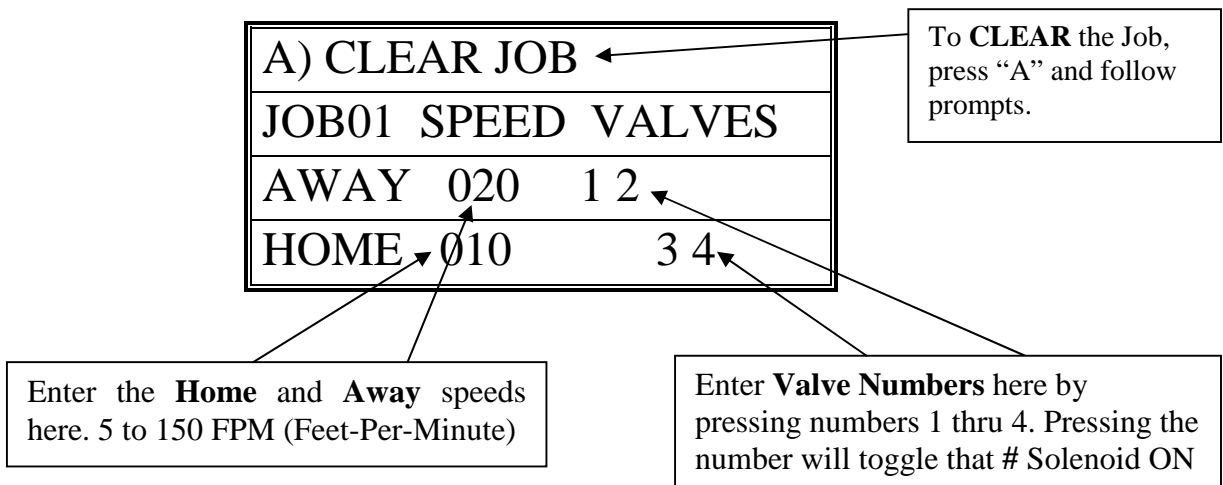
Manual Mode Programming

1. From the Main Menu press 2 for Manual. The following screen will appear:

MANUAL MODE:
ENTER 1 FOR JOBS
ENTER 7 TO BEGIN
ENTER E TO EXIT

2. Press "1" to enter the Job Programming screen.
3. The black cursor will scroll thru the screen by pressing "F" to move forward, and "D" to move back.

Exploded view of the Manual Mode Programming Screen:



4. Program the Job as desired per the user application and press "F" to scroll thru the screen, changing Speed and Valves as needed. Then **press "E" to go to the Pass Count menu.**

ENTER PASS COUNT
THEN PRESS THE
F KEY TO ENTER
TOTAL PASS COUNT 005

5. Enter the Number of **Passes** that the Boom needs to run over the crop. Remember that a Pass is defined by the user in the Set-Up menu. The actual number of Passes that the Boom will make back and forth is effected by the users definition of a "PASS".
The **Pass Count** can be set from 001 to 099 passes. Depending on the application, it is common to assign 2 to 10 passes to saturate the crop below the Boom.
6. Press "F" to Save and Exit back to the Manual Mode main menu.

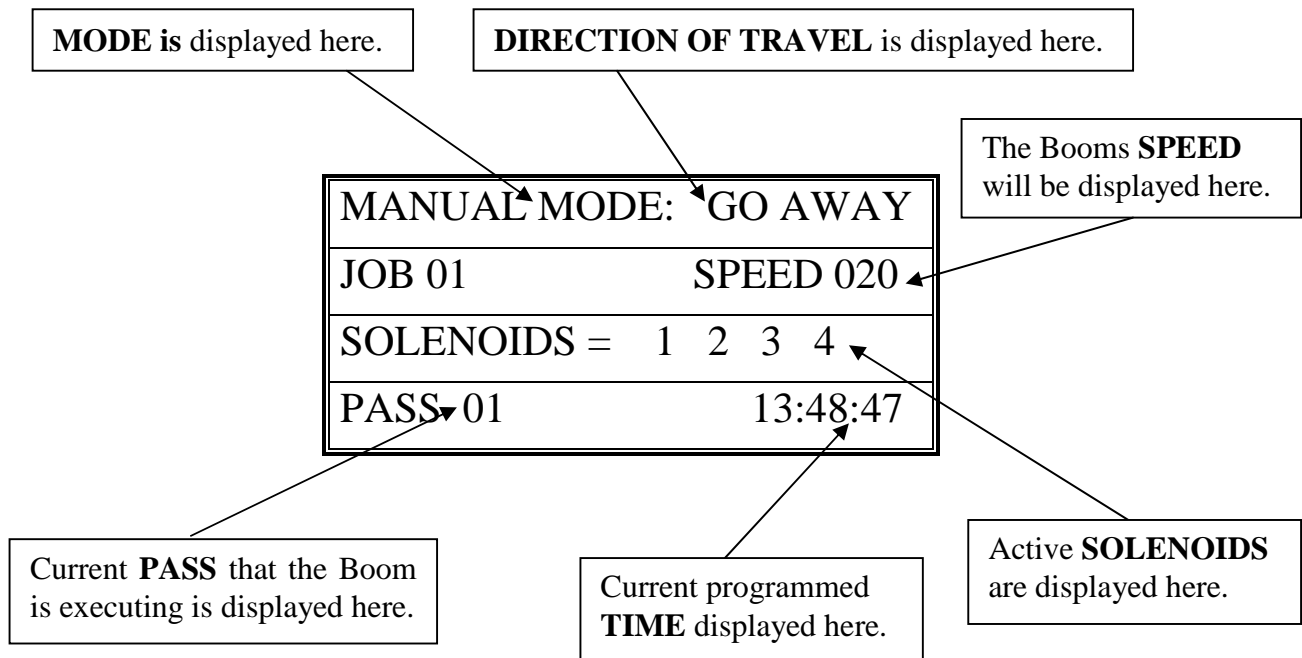
Manual Mode Run

1. From Main menu press 2 for Manual. The following screen will appear:

MANUAL MODE:
ENTER 1 FOR JOBS
ENTER 7 TO BEGIN
ENTER E TO EXIT

2. Make sure that the Boom is started (BEGIN) when the *Home Magnet Reader* is under the Home Magnet. To locate the boom at the home position, go into the Diagnostics menu and send the Boom Home, the Boom will stop under the Home magnet, ready for its next command.
3. Press “7” to **BEGIN** the *Manual Mode Run*. The screen will show the following information during the Irrigation Cycle:

Exploded view of the Manual Mode Run Screen:



4. Press “0” to **SUSPEND** the Booms Manual Mode Run.
Press “0” again to **RESUME** the Booms operation.
5. Press “E” to **STOP** the Boom and Exit to the Manual Mode menu.

Auto Zones (Time Activated Programming)

Auto Zone = A specific period of time that will activate the Booms operation as programmed.

Job = What the programmed Auto Zone will execute.

Start Time = Time that the Boom will Start this Zones Auto Program execution.

Stop Time = Time that the Boom will Stop this Zones Auto Program execution.

Interval = Amount of minutes between Pass execution.

Pass = Starts at Home, goes to Away, then turns around and comes back Home.

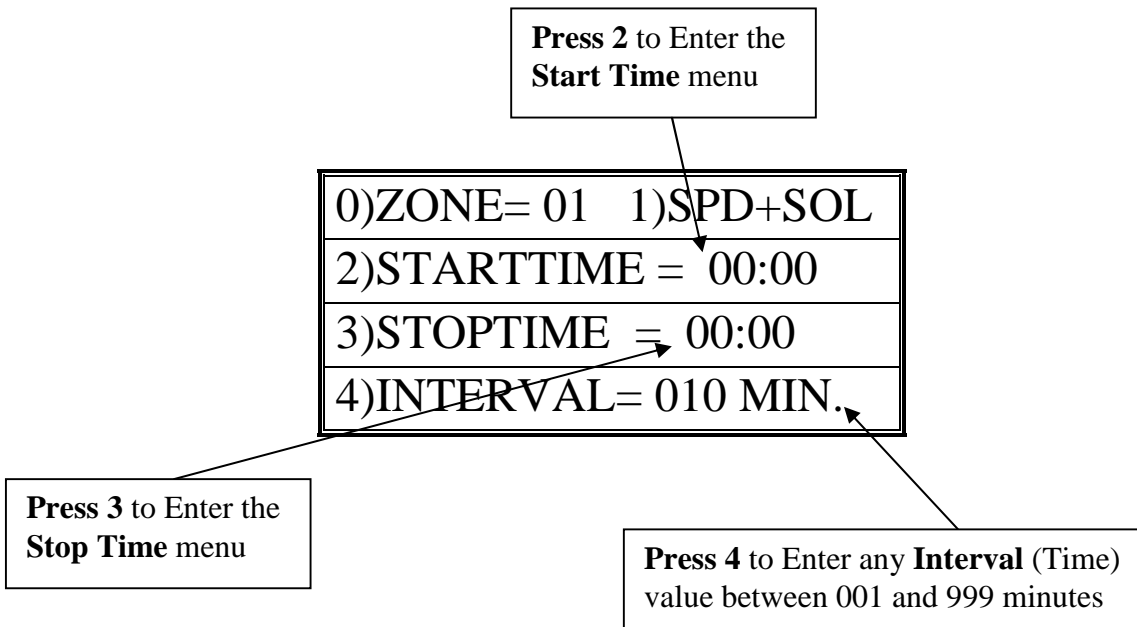
** Unless programmed differently by the user under the Set-Up menu.*

1. From the Main Menu Press 1 (AUTO)

ENTER AUTO ZONE NUMB
1 THRU E TIME ZONE #
TO ENTER AUTO MODE
PRESS THE F KEY

2. Enter the Auto Zone Number 1 thru E (14 Zones total) to be programmed.
The following screen will appear:

Exploded view of the Auto Zone Main Menu:



- Press “2” to program a Start Time and then press “3” to program a Stop Time for this Auto Zone. Program time in 24 hour format.

The following programming screen will appear:

TIME VARIABLE = 00:00
ENTER 24 HOUR FORMAT
F = ENTER NEW TIME
NEW TIME VAR. = 17:43

- Press “F” to Save and Exit to the Auto Zone menu.
- Press “4” to enter the *Interval Menu*. The user will program the *Interval Time and the Pass Count* in this menu.

The following programming screen will appear:

PASS INTERVAL = 000 MIN
CHANGE TIME = 0 TO 9
ENTER TIME = F KEY
NEW INTERVAL = 045 MIN

- Enter needed *Interval Time* (001 to 255 min.). Press “F” to Save and Exit.

ENTER THE PASS COUNT
THEN PRESS THE F
KEY TO ENTER TOTAL
PASS COUNT 002

- Enter the *Pass Count* desired for this Auto Zone (000 to 099 passes).
- Press “F” to Save and Exit to the *Auto Zone Menu*. Press “0” to enter another Auto Zone program (1-E).

ENTER AUTO ZONE NUMB
1 THRU E TIME ZONE #
TO ENTER AUTO MODE
PRESS THE F KEY

- Press “0” to enter another Auto Zone program (1-E).
- Once all needed Auto Zones are programmed, press “F” in Auto Zone Main Menu to enter the *Auto Mode Run Menu*.

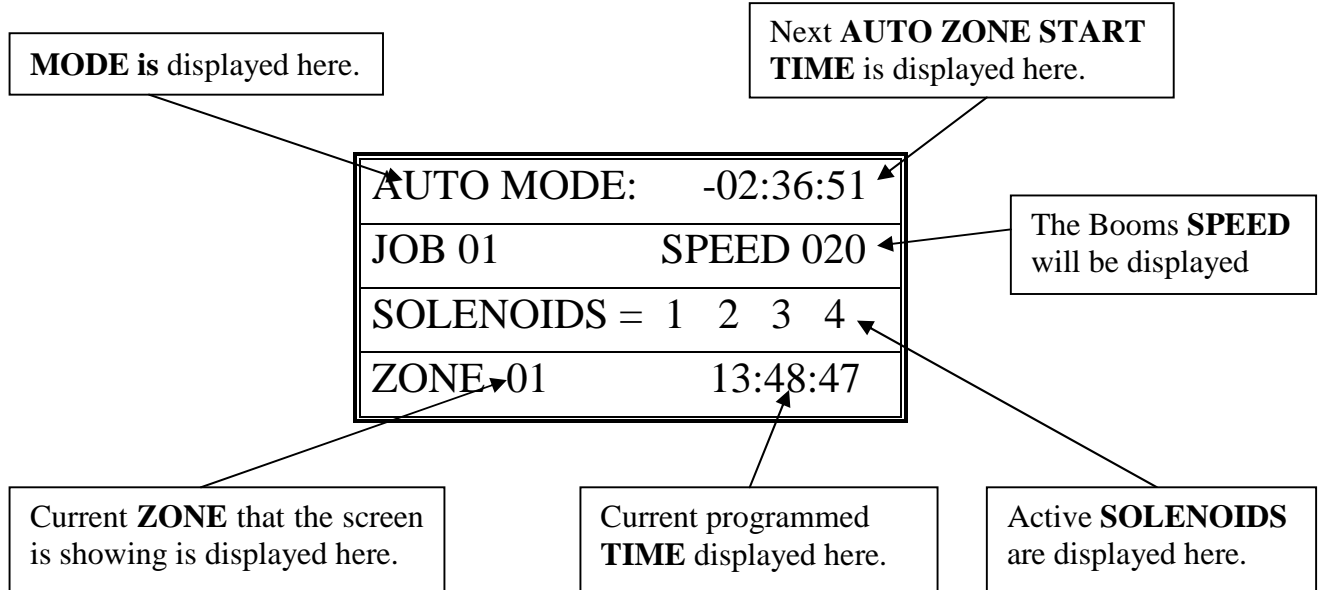
TO CHANGE ACTIVE
ZONES 1 3 5 6 8 ABC E
PRESS KEYS 1 THRU E
0 KEY EXIT, F KEY RUN

Toggle the **ACTIVE AUTO ZONES** On & Off by pressing the 1 thru E keys

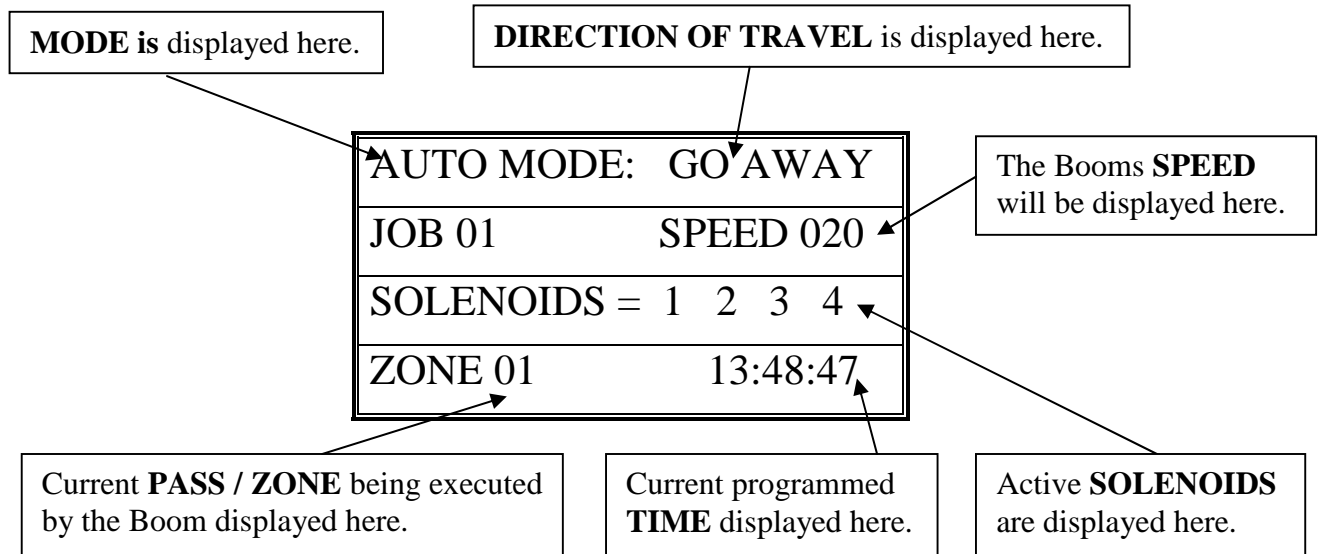
*****Program all needed Auto Zones before Pressing "F" to enter the Auto Mode Menu*****

11. Enter the number of Auto Zones desired (1 thru E) and press "F" to **RUN**.

Exploded view of the Auto Mode Idle Screen:



Exploded view of the Auto Mode Run Screen:



- 12. Press "0" to **SUSPEND** the Booms Auto Mode Run.
Press "0" again to **RESUME** the Booms operation.
- 13. Press "E" to **STOP** the Boom and Exit to the Auto Mode menu.

TECHNICAL ASSISTANCE: *If you have any questions regarding the use of this program or any other Cherry Creek Systems Product please call us at*

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