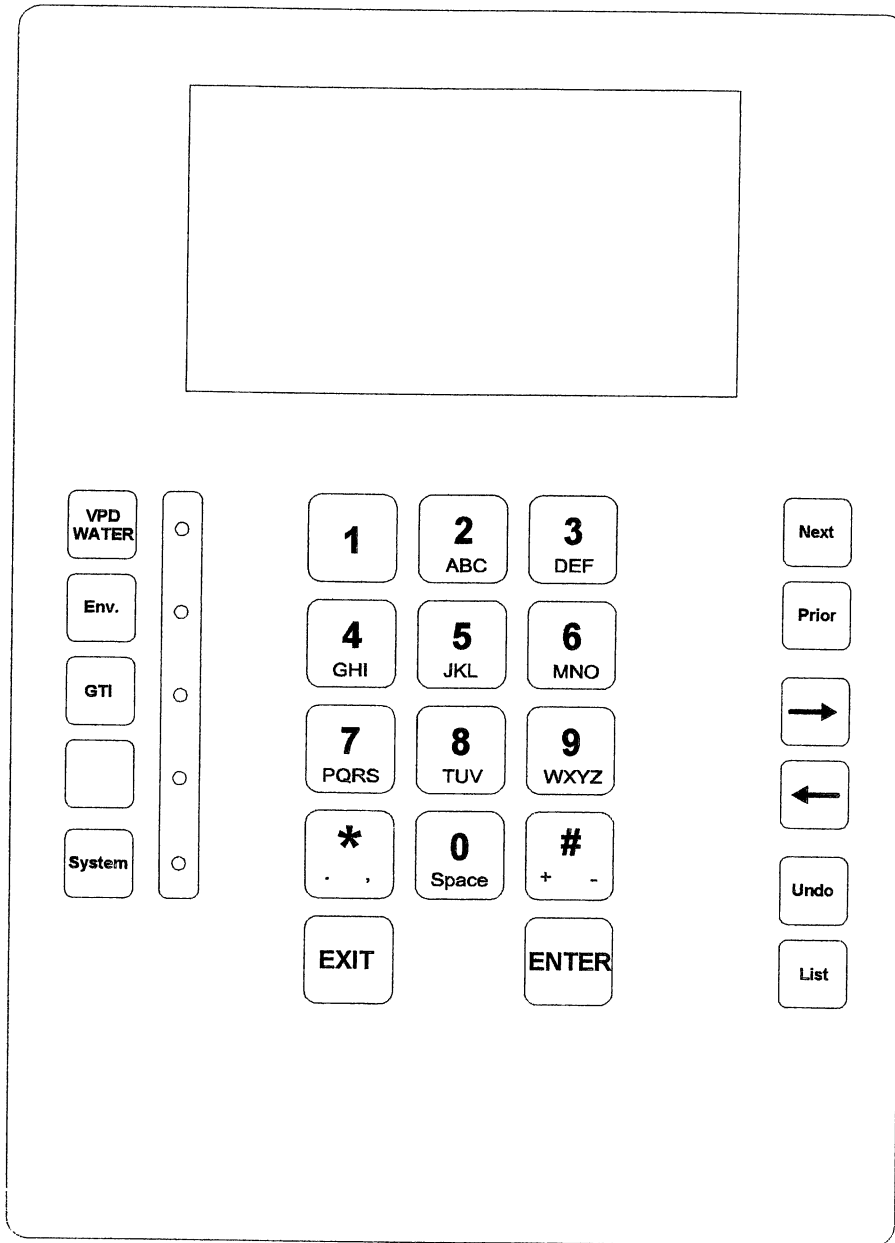


# **GO-1**

## ***User Manual***

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# THE GO-1: A USER'S GUIDE

## Table of Contents

## INTRODUCTION

Congratulations on your acquisition of a GO-1 system! This system and its technologies are in the front edge of technological innovation at GTI. A comprehensive system with a multitude of capabilities, the GO-1 offers adaptive and time-based irrigation on a large scale.

## CAPABILITIES

The GO-1 offers diverse features, including:

- The ability to control up to 8 booms with 16 crops each, or 16 booms with 8 crops each (for a total of 128 ‘boom stations’)
- The ability to use information from up to 64 individual sensors, allowing for adaptive irrigation to reflect the actual conditions in a particular part of the greenhouse.
- The ability to control up to 64 valves (for mist/drip lines)
- The ability to regulate water mains for the purpose of achieving consistency of pressure.
- Layered (‘Multi-level’) security
- Crop models- adaptive irrigation programs that may be constructed and used and fine-tuned over and over again.
- Disable models- models which prevent irrigation devices from watering during times when conditions make watering undesirable (e.g. nighttime)
- An alarm function designed to trigger a call out to an emergency number (e.g., the grower or manager’s phone numbers) in case of extreme conditions or a problem in the network.
- Flexibility, including undo and editing options, and the ability to add components to the network after the installment.

## ORIENTATION

This manual is designed to make the user familiar with these features and proficient at utilizing them.

To that end, We begin with a summary of the hardware used in programming: the keypad and the display.

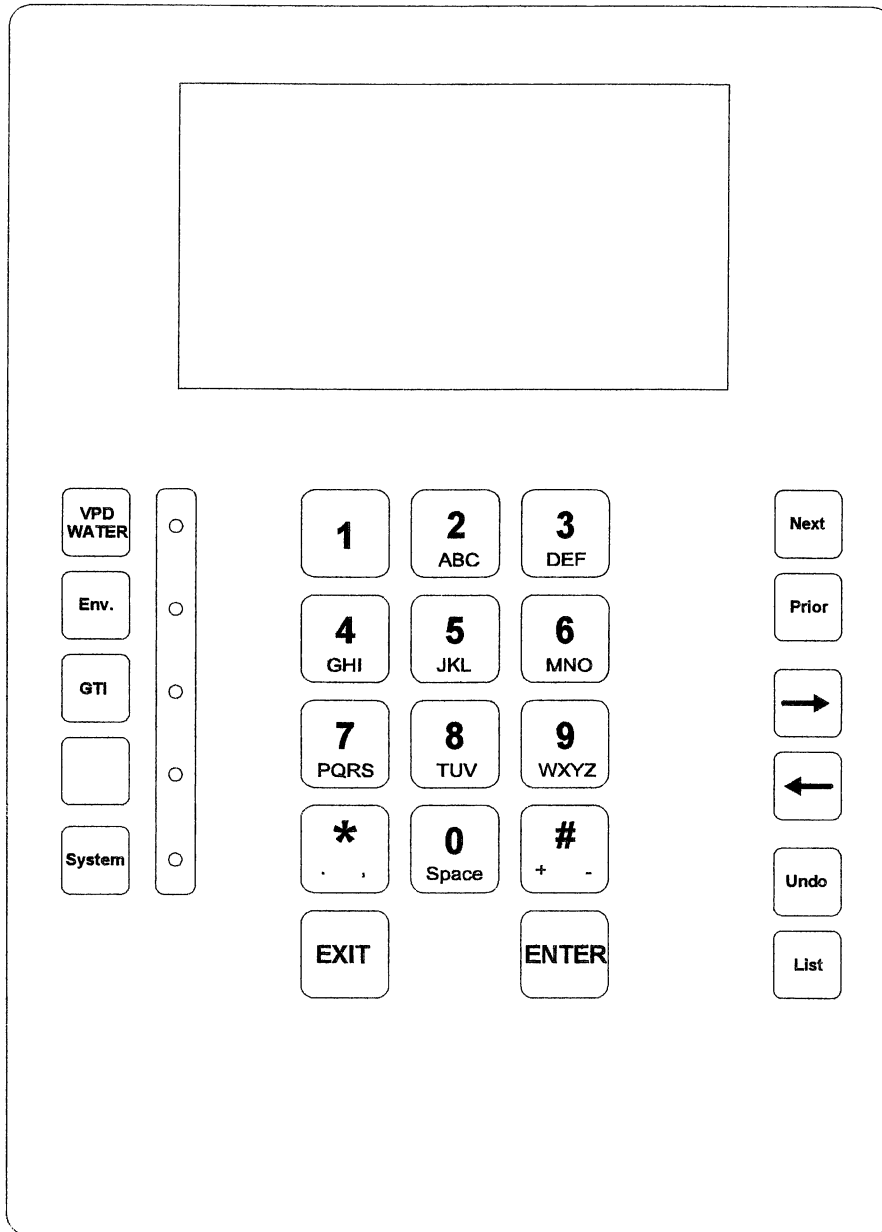
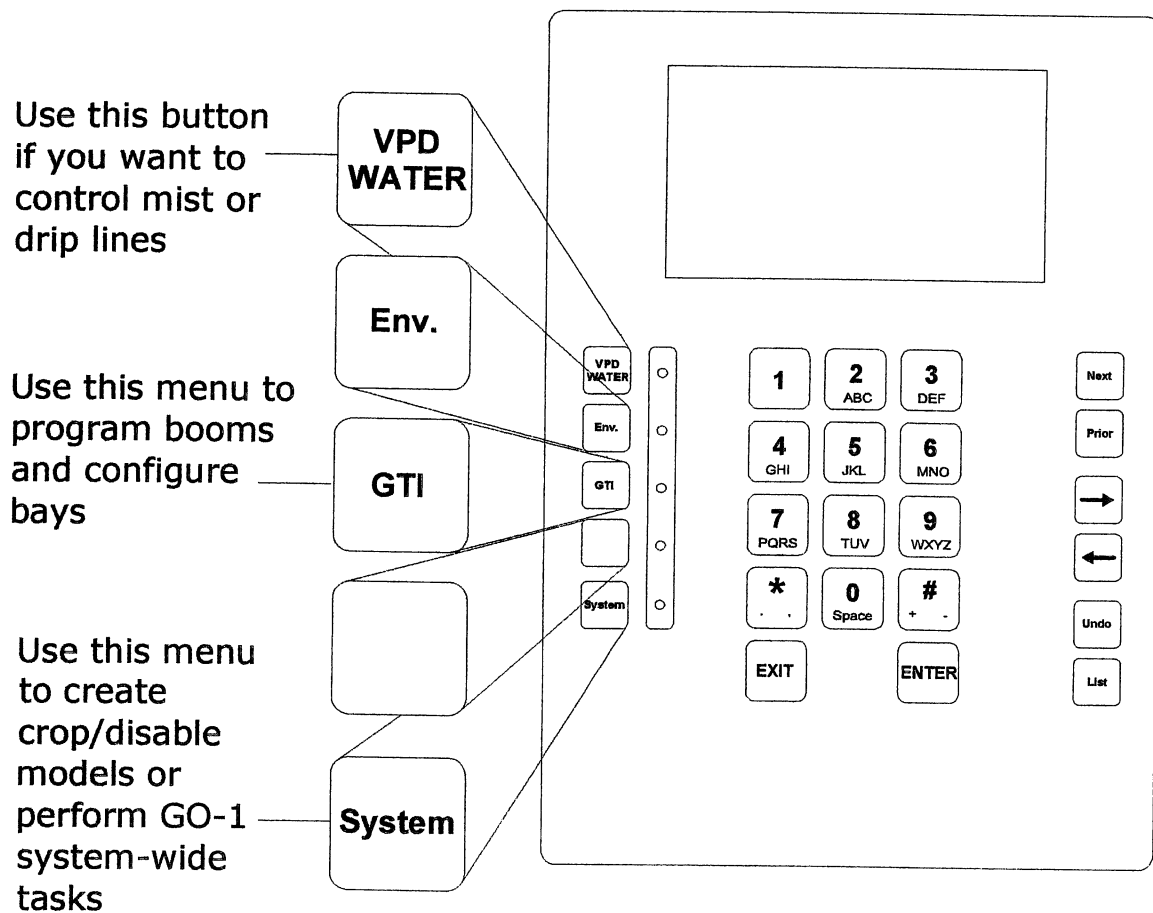


Figure 1—Go-1 Keypad

**KEYPAD**

**Menu Keys**

# Menu Keys



**Figure 2—The Menu Keys**

## Command Keys

# Command Keys

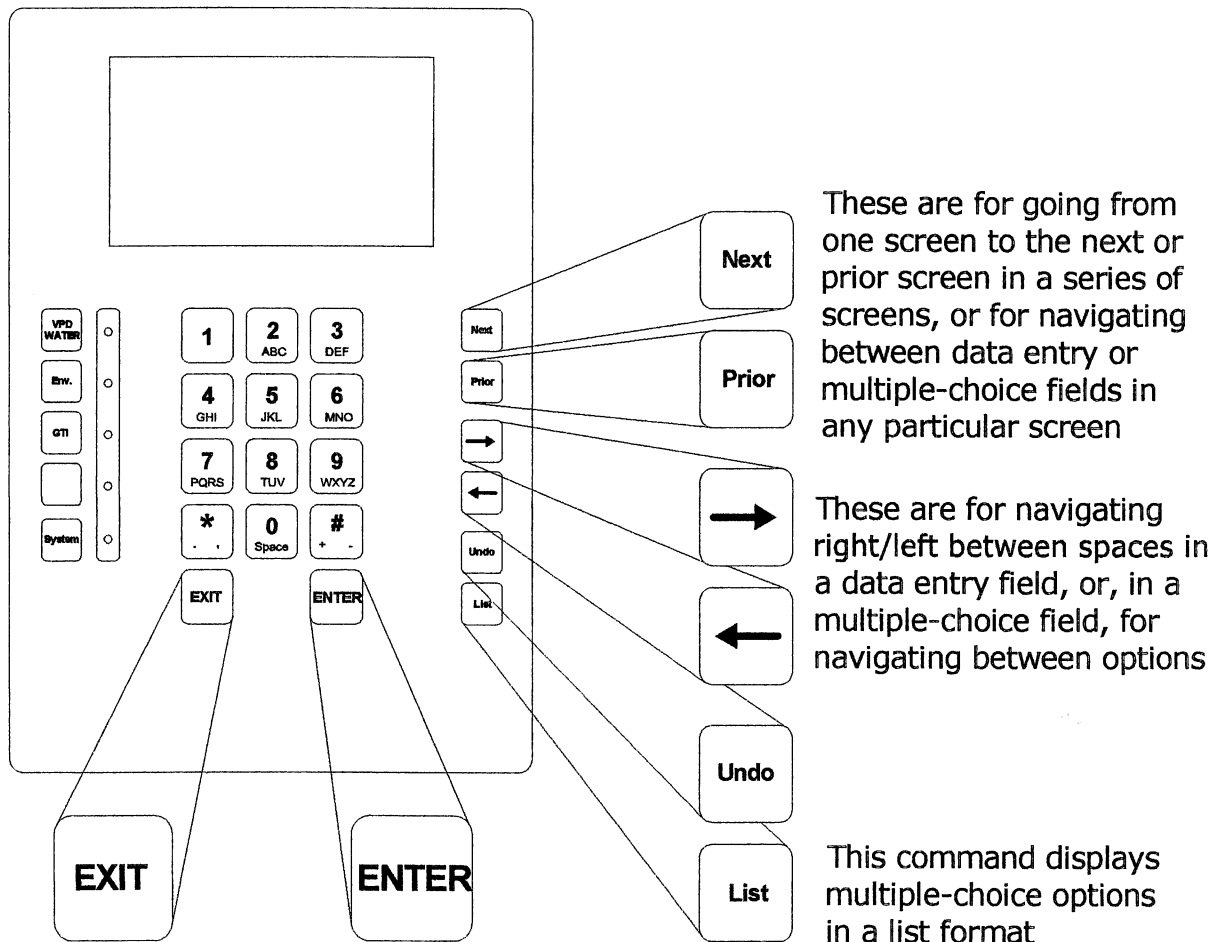
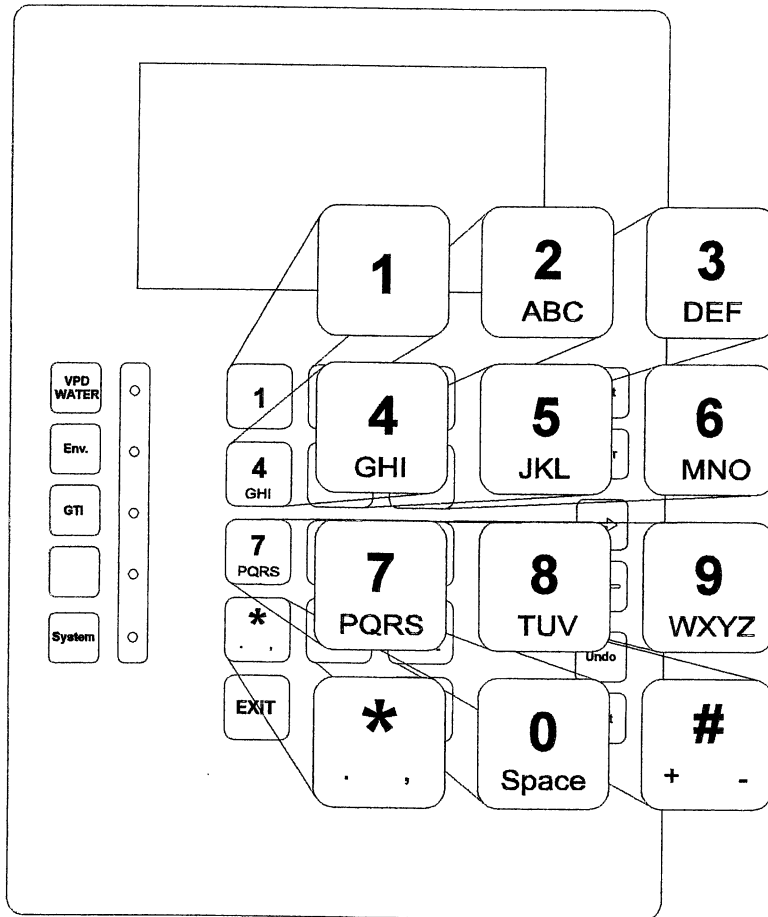


Figure 3—The Command Keys



## Typing/Data Entry Keys

# Data Entry/Typing Keys



Use these keys to type in non-multiple choice fields. Also use them to pick an option from a numbered list, and to navigate to a specific number screen in a series of screens.

Figure 4—The Typing/Data Entry Keys

### Key Notation

Keys are represented in this manual in two ways

- A drawing of the key
- 1) the name of the key, or 2) the main symbol represented on it, enclosed in brackets and written in bold lettering. (in case 1: e.g. [ENTER] represents the 'ENTER' key) (In case 2: e.g. [2] represents the "2ABC" alpha-numeric key, since "2" is the largest character shown on the actual key) (see figure 4 above)

### SCREENS

The GO-1 screens show information about what its network is doing, and what programs are written. These screens also provide the user with a place to write programs, name them, configure the system, etc. Most screens contain a few common features: The screen title (centered at the top of the screen), the time and date (in the upper left-hand corner), a space for an alarm (just in case something goes wrong)( in the upper right-hand corner), an instructions area ( in the bottom left-hand corner), a 'location' area (bottom right-hand corner), and a working area (left center)(see figure 2).

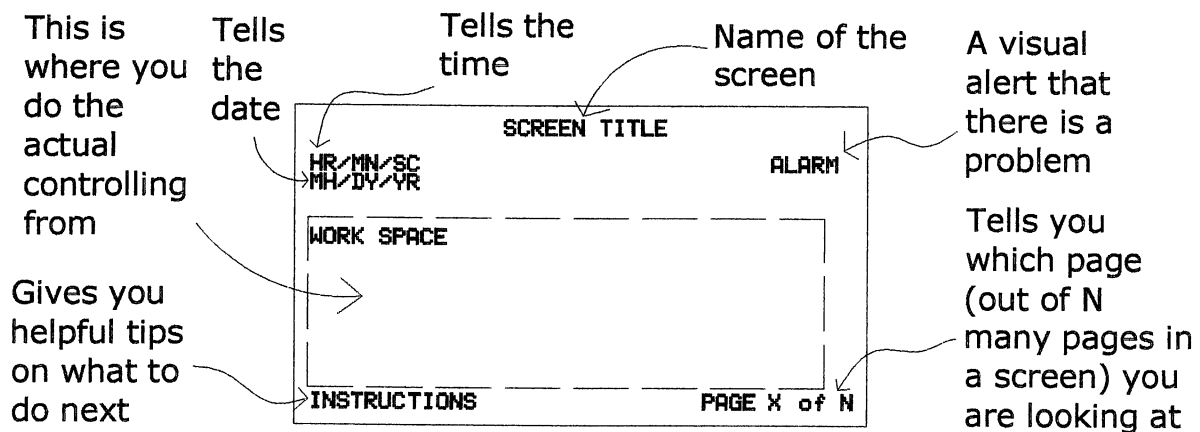


Figure 5—A generic GO-1 screen

**SCREEN TITLE**- pretty much self explanatory- the name of the screen; a good reference tool in screen-to-screen navigation.

**TIME AND DATE** - again, pretty much self explanatory: these fields tell the current time and date respectively (if you set them correctly).

**ALARM**- alerts you if some thing is wrong with the system There are two types of Alarm:

- Call Out (triggers a call to a telephone of your choice)
- Strictly Displayed ("log only")

**INSTRUCTIONS-** Gives the user on-the-spot directions on how to enter information or whether to select options.

**'PAGE X OF N':** The display is not big enough to show the entirety of some screens. These larger screens are broken up into pages. 'PAGE X OF N'-tells you which page you are on in a given screen e.g. PAGE 5 of 8.

**WORK SPACE-** the large part of the screen, roughly in the middle (vertically) which may hold a series of data entry fields, or be taken up completely by a list.

**FIELD**

- **Fill-in field- all characters:** the user fills this in using the alpha-numeric keys.
- **Fill-in field- numbers only:** the user fills this in using the alpha-numeric keys, but the procedures are slightly different for entering information in this kind of field, than the 'all characters' fill-in field. For information on this, see "APPENDIX 3: WORKSPACE" in this manual
- **Multiple choice field:** the user cycles through options using the arrow keys.

**Note:** In all cases, the [Next] and [Prior] keys shift the highlighter to the next and prior fields, respectively.

Lists are different from fields. While a field is contained on a single line, and a list may take up the whole of the workspace, both are places where choices may be made, and control exerted.

- Shift the highlighter over various options on the list by pressing [Next] and [Prior]
- Select a highlighted option by pressing [ENTER]

**EXAMPLES**

These simple examples are meant to teach the user basic techniques in handling the GO-1.

**WORKING WITH BOOMS USING YOUR GO-1**

**Example 1: Working with a (relatively) Simple Setup.**

This example focuses on the process of programming a boom by the Quick Setup Method.

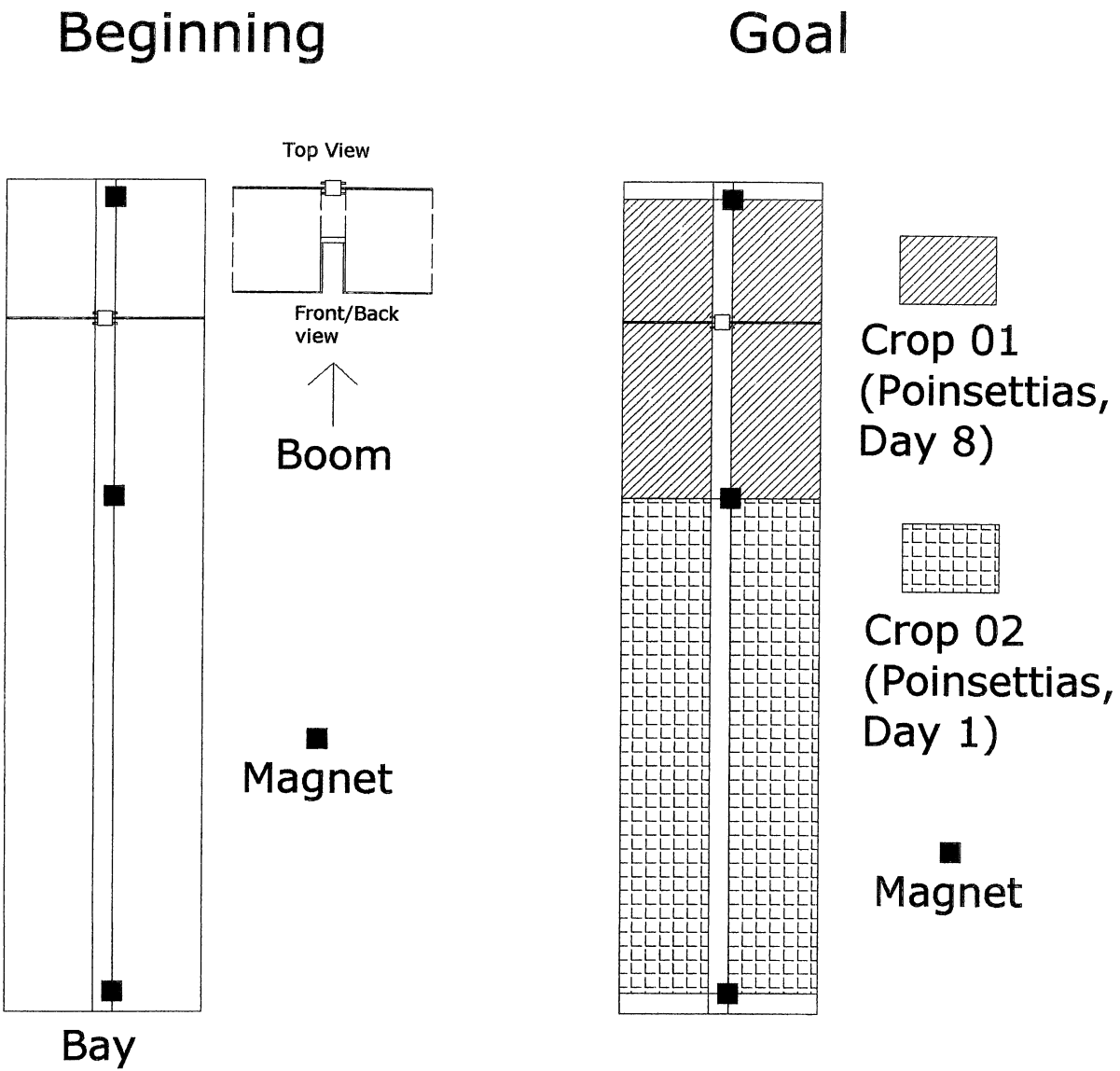


Figure 6—Overview of Example 1

You should be at the default screen. If you aren't there already, press [EXIT] until you reach it.

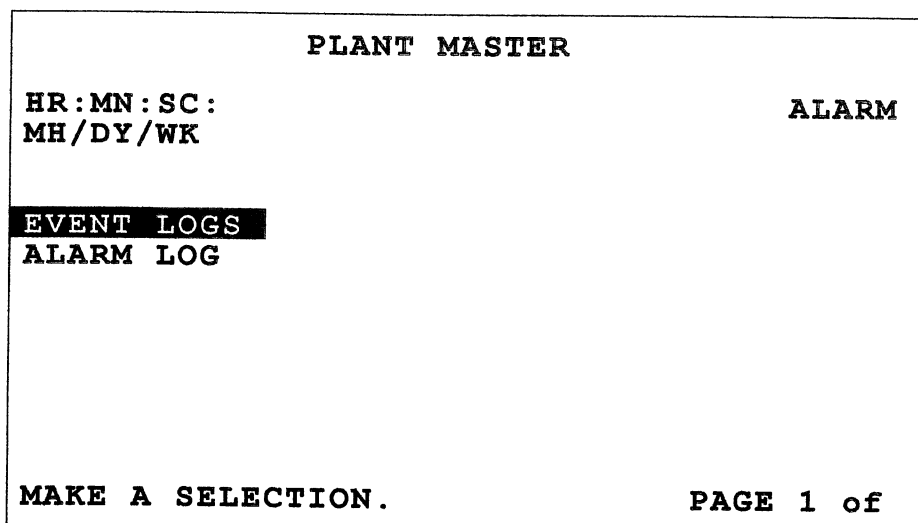


Figure 7—The Default Screen

Press [GTI]. You should be looking at this screen.

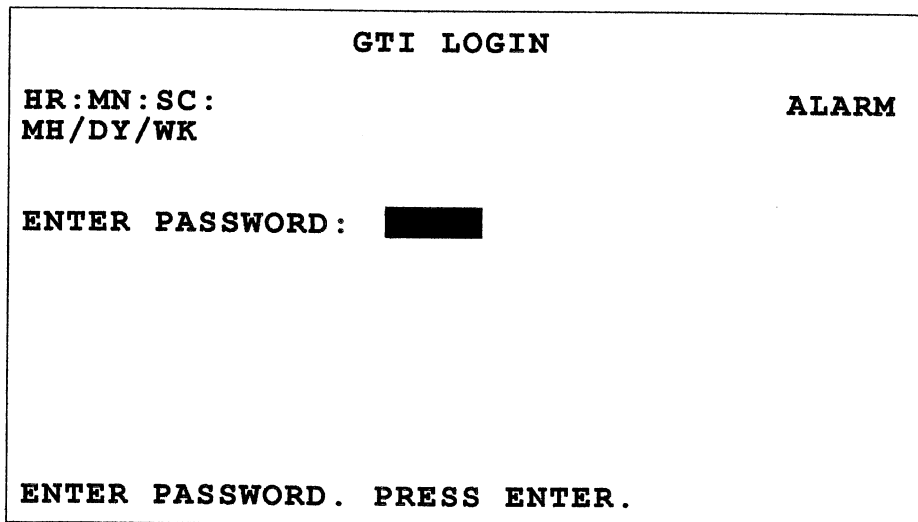
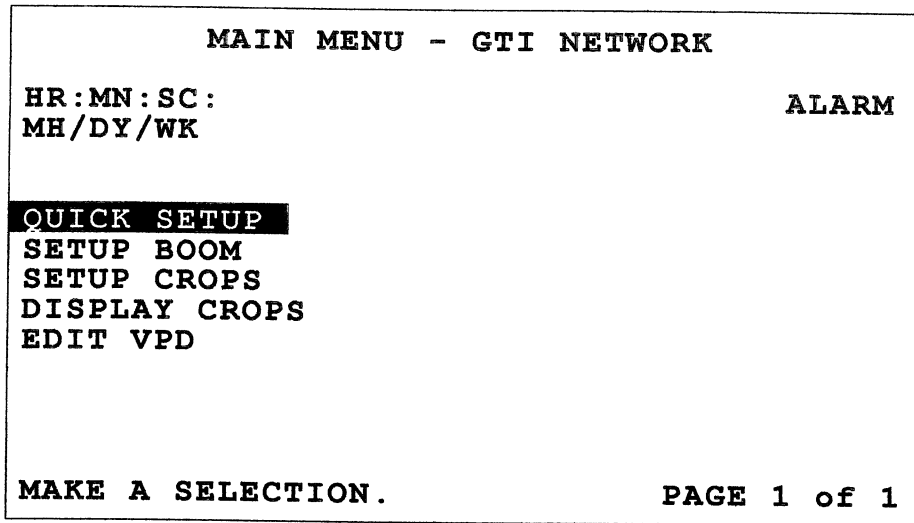


Figure 8—GTI Login Screen

Do exactly as the directions in the bottom left hand corner of the screen tell you to do: enter your password (type it in) and press [ENTER]. Then you should be looking at this screen.



The Quick Setup Option moves sequentially through a number of screens dealing with different aspects of programming the boom. Keep in mind the following directions:

<div style="border: 1px solid black; border-radius: 10px; padding: 2px; width: 40px; text-align: center; margin-bottom: 5px;"><b>Next</b></div> <div style="border: 1px solid black; border-radius: 10px; padding: 2px; width: 40px; text-align: center; margin-bottom: 5px;"><b>Prior</b></div>	<p>Press these keys:</p> <p>a) To shift the highlighter to the next/previous field in the screen or page, respectively.</p> <p>b) To shift the highlighter to the next/previous option in a list, respectively</p>	<div style="border: 1px solid black; border-radius: 10px; width: 40px; height: 20px; margin-bottom: 5px; display: flex; align-items: center; justify-content: center;">→</div> <div style="border: 1px solid black; border-radius: 10px; width: 40px; height: 20px; display: flex; align-items: center; justify-content: center;">←</div>	<p>Press these keys:</p> <p>a) To shift the 'blank' to the next/previous space within a text/data entry field, respectively</p> <p>b) To cycle between choices in a multiple choice field</p>	<div style="border: 1px solid black; border-radius: 10px; padding: 2px; width: 60px; text-align: center; margin-bottom: 5px;"><b>ENTER</b></div> <div style="border: 1px solid black; border-radius: 10px; padding: 2px; width: 60px; text-align: center; margin-bottom: 5px;"><b>EXIT</b></div>	<p>Press This key:</p> <p>a) To leave the current screen/page, saving the entered data.</p> <p>b) To move to the next screen/page in a series of screens</p> <p>c) To select the list option under the highlighter.</p> <p>Press this key:</p> <p>To leave the current screen/page without saving any previously unsaved data. This does not affect data in screen that was previously saved.</p>
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**Figure 9— Directions for using keys in this example**

Press the [Next] key several times. Note what happens. The Highlighter moves through all the options /data entry fields/ multiple choice fields in the screen (or page) So if you make a mistake, you don't necessarily have to start the whole example again; just cycle the highlighter through the fields in the screen until you get to the one that you messed up, then fix the mistake, and move on.

Because of programming loops in the Quick Setup Menu, you may do the same thing on a larger scale (cycling through screens or pages) using the [EXIT] and [ENTER] buttons.

Now we are ready to begin. You should be here:

```

MAIN MENU - GTI NETWORK

HR:MN:SC:
MH/DY/WK
ALARM

QUICK SETUP
SETUP BOOM
SETUP CROPS
DISPLAY CROPS
EDIT VPD

MAKE A SELECTION.
PAGE 1 of 1
    
```

**BOOM SETUP**

Press [ENTER] to select "QUICK SETUP"

Fill the subsequent screens in / select options from them as shown here.

```

CHOOSE A BOOM

HR:MN:SC:
MH/DY/WK
ALARM

BOOM1
BOOM2

MAKE A SELECTION.
PAGE 1 of 1
    
```

Figure 10— The 'CHOOSE-A-BOOM' Screen

Press



```
                                BOOM SETUP

HR:MN:SC:                                ALARM
MH/DY/WK

NAME: BOOM1
TOTAL NUMBER OF ZONES: 02
TOTAL NUMBER OF CROPS: 02
HOME ZONE: 01
CENTER ISLE: 00
BETWEEN CROP SPEED: 12
VALVE DELAY: 0070

ENTER A NUMBER FROM 0 to 1200.
```

Figure 11—The BOOM SETUP Screen

Press 

CROP LOCATION (CROP 01)

```
                                CHOOSE A CROP

HR:MN:SC:                                ALARM
MH/DY/WK

CROP 01                                CROP 09
CROP 02                                CROP 10
CROP 03                                CROP 11
CROP 04                                CROP 12
CROP 05                                CROP 13
CROP 06                                CROP 14
CROP 07                                CROP 15
CROP 08                                CROP 16

MAKE A SELECTION.                                PAGE 1 of 1
```

Figure 12— The CHOOSE-A-CROP Screen



Press 

```

                                CROP LOCATION
HR:MN:SC:                                ALARM
MH/DY/WK

BOOM NAME: BOOM1
CROP NUMBER: 01
CROP NAME:      CROP 01
STARTING ZONE: 01  ENDING ZONE: 01
SPRAY BARS: 12

ENTER SPRAY BAR CONFIGURATION.
    
```

Press 

CROP IRRIGATION SETTINGS (CROP 01)

```

                                BOOM STATION SETUP
HR:MN:SC:                                ALARM
MH/DY/WK

BOOM: BOOM1                                CROP: CROP 01
WATER:  NORM                                TARGET MODE: AGED
WATER MAIN: BOOM
WATER MODE: VPD
DISABLE: INACTIVE

                                PAGE 1 of 2

USE ARROW KEYS TO SELECT.
    
```

Figure 13—BOOM STATION SETUP Screen, page 1

Press 

```
BOOM STATION SETUP

HR:MN:SC:                ALARM
MH/DY/WK

BOOM: K1                  CROP: CROP 01
PASS COUNT: 010 SPEED: 05
VPD SENSOR GROUP: HOUSE 1
CROP MODEL: POINTSETTIAS
DAY/WEEK: 08 TARGET: 00900
DISABLE MODEL: NONE

PAGE 2 of 2

ENTER A NUMBER FROM 1 to 999.
```

Figure 14—BOOM STATION SETUP Screen, page 2

Press 

CROP LOCATION (CROP 02)

```
CHOOSE A CROP

HR:MN:SC:                ALARM
MH/DY/WK

CROP 01                  CROP 09
CROP 02                  CROP 10
CROP 03                  CROP 11
CROP 04                  CROP 12
CROP 05                  CROP 13
CROP 06                  CROP 14
CROP 07                  CROP 15
CROP 08                  CROP 16

MAKE A SELECTION.                PAGE 1 of 1
```

Figure 15— The CHOOSE-A-CROP Screen

Press

ENTER

```
                CROP LOCATION

HR:MN:SC:                ALARM
MH/DY/WK

BOOM NAME: BOOM1
CROP NUMBER: 02
CROP NAME:   CROP 02
STARTING ZONE: 02  ENDING ZONE: 02
SPRAY BARS: 12

ENTER SPRAY BAR CONFIGURATION.
```

Press

ENTER

CROP IRRIGATION SETTINGS (CROP 02)

```
                BOOM STATION SETUP

HR:MN:SC:                ALARM
MH/DY/WK

BOOM: BOOM1                CROP: CROP 02
WATER:  NORM                TARGET MODE: AGED
WATER MAIN: BOOM
WATER MODE: VPD
DISABLE: INACTIVE

                PAGE 1 of 2

USE ARROW KEYS TO SELECT.
```

Press

ENTER