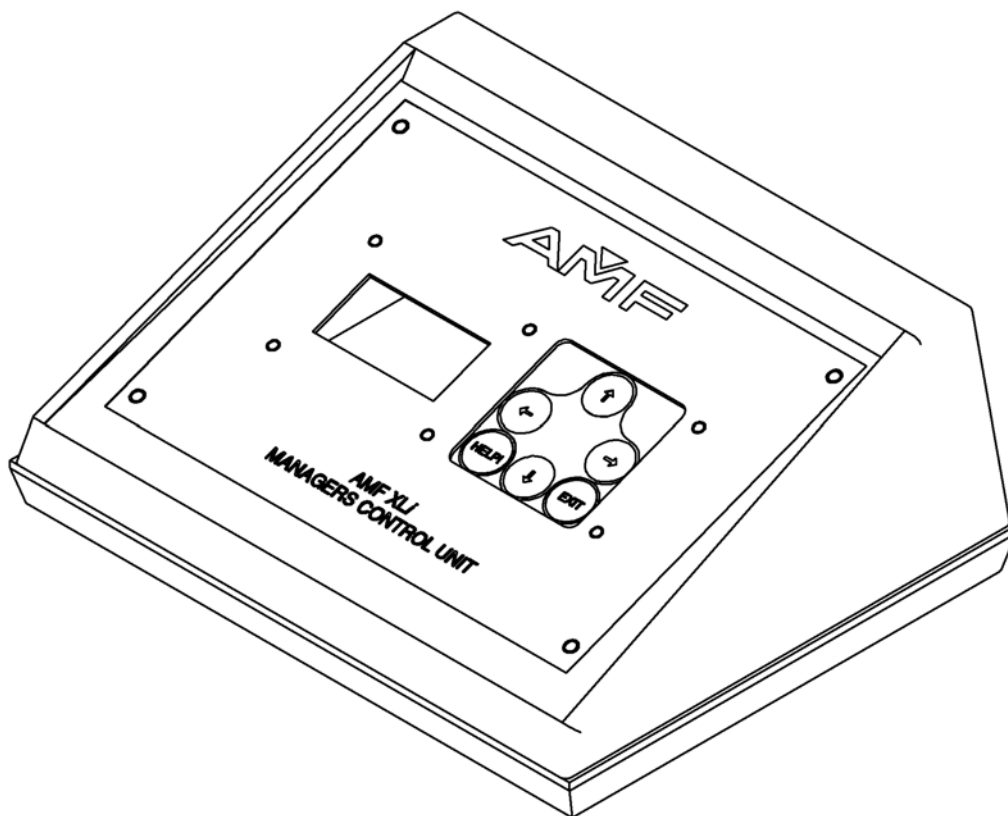




Manager's Control Unit (MCU)

Operations & Service Manual



These Original Instructions were written in English.

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1.0 INTRODUCTION

1.1 How to Use This Manual

This manual was written for QubicaAMF Manager's Control Unit (MCU) p/n 088-000-101 with software version 2.04. For information on earlier models, refer to the manual that came with those units.

The Installation Guide is divided into four sections:

- 1.0 INTRODUCTION
- 2.0 MCU INSTALLATION
- 3.0 MCU OPERATIONS
- 4.0 TROUBLESHOOTING

Whenever a pushbutton on the MCU is described as being pushed, the type of pushbutton will appear in brackets [] as shown below.

[→] [↑] [←] [↓] [EXIT] [HELP!]

Items in italics are references to menu items that will be seen on the display or a state that the screen is in. An example is shown below.

Auto Backend Shutoff, Main Screen

1.2 MCU Description

The Manager's Control Unit (MCU) provides a means of remotely controlling the various modes and functions of a pinspotter or a group of pinspotters. The unit consists of a control box containing a keypad and an 8-line LCD display. On the back of the unit are four RS 485 (RJ-45) and one RS 232 (DB-9) serial communication ports. The unit is powered from a 100-240VAC power plug that provides 12-volt DC power to the unit. The power plug comes with a number of plug adapters to accommodate the wall receptacles of many different countries.

1.3 Key Features

Some key MCU features are listed below.

-
- ❖ Simplified keypad (now only 6 buttons)
 - ❖ Larger lighted display for more on-screen information
 - ❖ Compact Size, Lightweight
 - ❖ Menu driven
 - ❖ Peek function gives ability to see chassis displays that are far away
-



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2.0 MCU INSTALLATION

2.1 Before You Start

Check the shipment against the packing list to ensure that all ordered parts have been included. Report any damaged or missing parts to QubicaAMF Bowling at 1-866-460-7263 (domestic) or 804.730.4000 (international) between 8:00 a.m. and 5:00 p.m. Eastern Time. You may leave a message on the voice mail system after 5:00 p.m. Our 24-hour fax line is 1-804-559-8650. Address faxes to the attention of Performance Equipment Division -Technical Assistance.

2.2 Power Requirements

The MCU accepts power from sources of 100 to 240 VAC, 50 or 60 Hz.

2.3 Communications

The MCU communicates with each pinspotter chassis via a serial data link (home run and daisy chain cables) to minimize the number of interconnections between the pinspotter chassis and the MCU. The unit can also be connected to some scoring systems and operated from the front desk computer.

Communications Ports (refer to Figure 1)

- ❖ There are three RS 485 ports for serial communications to the pinspotter chassis. Each port is capable of communicating with up to thirty-two chassis.
- ❖ There is one RS 485 and one RS 232 port for communicating with the Control Desk System depending on your center's system interface.

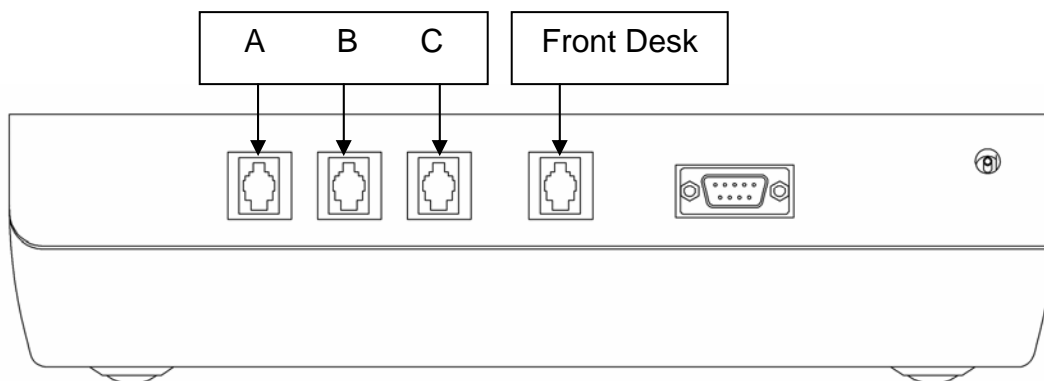


Figure 1, Communications Connections

A home run cable, p/n 088-000-104, is used to connect the MCU to the first chassis of a series. Each chassis is connected to the next by a daisy chain cable, p/n 090-005-749, and the last chassis in the series must have a cable terminator, p/n 090-005-794, in its MCU OUT connector.



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3.0 MCU OPERATIONS

This section contains basic information about the MCU display, Keypad, and menu options. There are many similarities to what you'll find when using the *Remote* menus on the 90XLi pinspotter chassis.

3.1 Main Screen

The MCU has a display that allows for a more dynamic solution for chassis monitoring. The *Main Screen* is used to view the selection of a single lane or a block of lanes and to perform some kind of function. It shows the beginning lane, end lane, and menu items that can be adjusted for the lane range. Figure 2 shows the main screen and its components.

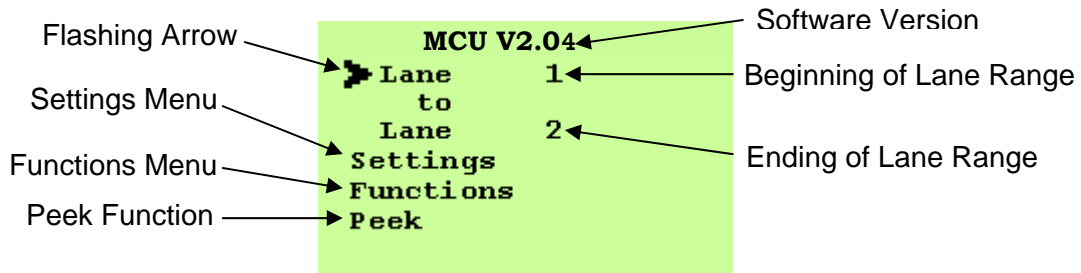


Figure 2, Main Screen



3.2 Keypad

The MCU keypad has been simplified and there are only six (6) buttons that are required to operate every function.

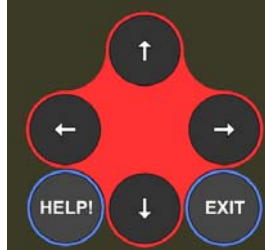


Figure 3, Keypad

[→] - Right Arrow. This button selects menu items to be changed. Also, on menus that scroll to the right, this button will increment the value displayed to the next higher value or to the next option for that menu item.

[←] - Left Arrow. This button is used to scroll to the left when available in menu items. Also, this button will decrement the value displayed to the next lower value or to the previous option for that menu item.

[↑] - Up Arrow. Moves the flashing arrow up on the *Main Screen*. Inside the *Functions* and *Settings* menus it moves the list so the flashing arrow is one step higher on the list each time.

[↓] - Down Arrow. Moves the flashing arrow down on the *Main Screen*. Inside the *Functions* and *Settings* menus it moves the list so the flashing arrow is one step lower on the list each time.

[EXIT] - Pressing this button exits the current menu. If changes were made to a setting a confirmation message will display asking if this information should be broadcast to the chassis.

Note - If **[EXIT]** is pressed again then the changes will not get broadcast to the chassis. The **[→]** should be pressed to broadcast the changes.

[HELP!] - Press and hold this button. If there is help available for the item that is being displayed then it will come up on the screen. If no help is available, then the display reads, "No help available for this item". Release the button to go back to the last screen displayed.



3.3 Lane Selection

Using the [↑] and [↓] buttons, make the flashing arrow move next to the first lane number. To change this number use the [←] and [→] buttons. Once the desired beginning number has been reached then the end lane number should be adjusted if needed. This is done in the same fashion, by moving the flashing arrow to the second lane number and changing it appropriately.

Note - if adjusting the second number too low (lower than the first) the first number will move down as well.

To select a single lane, the display must show the same lane number on the beginning and ending of the lane range as seen in Figure 4.

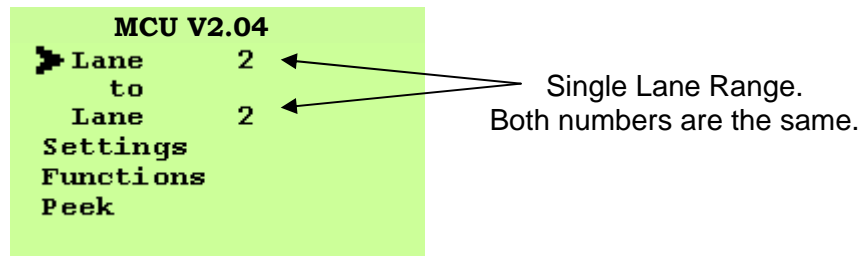


Figure 4, Single Lane Range

To select an entire lane range, make the first lane number the beginning of the range and the second lane number the last lane. An example of this can be seen in Figure 5.

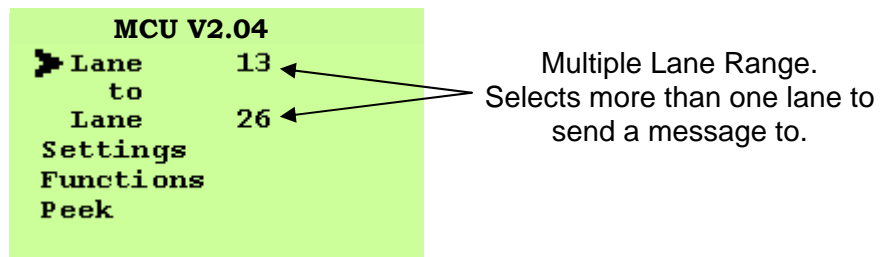


Figure 5, Multiple Lane Range

Once the lane or lane range has been input, then the menus below can perform some action on it. Using the [↓] button, move the flashing arrow to the desired menu.



3.4 Menus

The Settings, Functions, and Peek menus are all accessed the same way. Using the [↑] and [↓] buttons, make the flashing arrow go to the menu option that you want to use. Press [→] button to select that particular menu item.

3.5 Settings Menu

➤ Settings

It is important to note the procedure for sending new settings to a single lane or lane range. No matter how many changes you make to the settings of a lane, they will not go into effect until you execute them from the confirmation screen shown in Figure 6. Once changes have been made, press the [EXIT] button and then the confirmation screen is displayed. At the confirmation screen, pressing the [EXIT] button again cancels the changes, but pressing the [→] sends them out to the chassis.

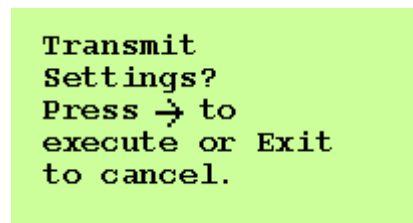


Figure 6, Confirmation Screen

Below is a list of all the items from the *Settings* menu that can be changed from the MCU as well as their possible settings.

- *Chassis Mode* - Bowl / Standby / Practice Pins / Practice No-Pins
- *Auto Backend Shutoff* - On / Off
- *Auto Offspot Cycle* - On / Off
- *Ball Detect Cycle* – On / Off
- *Ball Detector* - Front of Sweep / Behind Sweep
- *Ball Lift Sleep* – On / Off
- *Bumpers* - Up / Down / Auto
- *Foul Detector* - On / Off / Warning
- *Foul Sweep Reverse* - On / Off
- *Pin Data* - Camera / Scoring
- *Pin Data Delay* - 0 / .75 / 1.25 / 1.75 / 2.25 / 2.75
- *Pit Light* - White / Black
- *Pit Light Control* – Auto / On
- *Second Guard Timeout* – 10 to 40 seconds, N/A
- *Start Signal Delay* - Auto / 0.0 to 3.1 Seconds
- *Sweep Reverse Mode* - On / Off
- *Tenth Frame Reset* – On / Off



3.6 Functions Menu

➤ *Functions*

This *Functions* menu is similar to the *Functions* menu on the chassis. Once the appropriate chassis has been selected, move the flashing arrow to *Functions* and press the [→]. Select a function that needs changing by scrolling up or down through the menu items using the [↑] and [↓] buttons. To execute the function that is displayed for the chassis, press the [→] button. If the chassis cannot accept the command, a message will appear saying that the lane is locked. If the command was successfully sent, *OK* will appear near the top of the screen. Press [EXIT] to return to the *Main Screen*.

Below is a list of all the items from the *Functions* menu that can be broadcast from the MCU.

- *Clear Offspot* - Clears any pins that might still be on the deck after an Offspot occurs.
- *Clear Pindeck* - Sweeps whatever is on the pindeck back into the pit.
- *Counts (Ball)* - Keeps track of the number of balls bowled in Bowl mode as well as Mechanic mode. There are resettable and non-resettable totals.
- *Counts (Frame)* - Keeps track of the number of frames bowled in Bowl mode as well as Mechanic mode. There are resettable and non-resettable totals.
- *Cycle Lane* – Causes the selected pinspotter to cycle (sweep and set pins) and does not send a signal to the scoring system that a cycle has occurred.
- *Home* – Returns the table and sweep for the selected pinspotter to the HOME position.
- *Reset Bowling Ball Counter* - takes the resettable total back to zero.
- *Reset Bowling Frame Counter* - takes the resettable total back to zero.
- *Reset Mechanic Ball Counter* - takes the resettable total back to zero.
- *Reset Mechanic Frame Counter* - takes the resettable total back to zero.
- *Reset To Factory Settings* - Restores all settings to the way they were when originally manufactured.
- *Set New Pins* - A new rack of pins are set and the pinspotter is set to 1st ball.



3.7 Peek

This function allows the user to get a “peek” at the display on a specific chassis to see what is being displayed on the screen. This helps to identify a problem before actually going to the lane. After the appropriate lane has been selected and the flashing arrow is next to the *Peek* function, press and hold the [→] button. A screen similar to what is seen in Figure 7 will be displayed. The *Main Screen* for the MCU will return once the button is released.

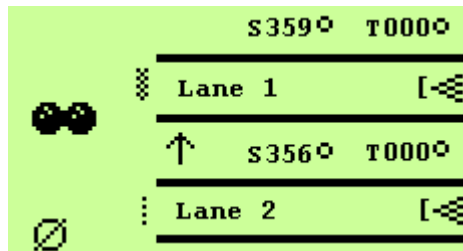


Figure 7, Peek of Lanes 1 and 2

Note - The MCU cannot “peek” at more than one chassis or one lane pair at a time. When using this function, make sure that the lane range is for one of the two lanes and not both lanes. For example, make the lane range for lane 15 through 15 and not 15 through 16. The peek function will not be displayed on the screen if there is a lane range of more than a single lane. It does not matter which lane you choose from the lane range so long as you chose only one lane for this function.



4.0 TROUBLESHOOTING

4.1 Power Loss

There are no fuses on this MCU. There is also no ON / OFF switch on this MCU so a power loss on the unit can only result because the power cord came loose from the MCU or the outlet. If both of these are secure, then the MCU or the power cord has probably failed and should be replaced.

Note - Double check the MCU by plugging it into another outlet. Also, try unplugging the MCU from the outlet and plugging something else in its place to test the outlet for problems.

4.2 Communications Problem

Depending on the size of your center, you will probably have at least one spare communication port on the back of the MCU. Should one of the ports on your MCU go bad, take the communication cable from the bad port and plug it into a different port.

Note - Make sure not to take out the communications cable for the Control System as this will cause your front desk system to lose control of the lanes.

The cable itself might be bad as well and this should be checked. As long as the scoring control system is still communicating correctly, these are the only reasons why communications might fail.



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