



## Mini-Console Box Application Tool

M018.0.0

Customer Name: \_\_\_\_\_

Contact Name: \_\_\_\_\_

Email: \_\_\_\_\_ Phone: \_\_\_\_\_

Application Description / Machine Type: \_\_\_\_\_

Date of Submission: \_\_\_\_ / \_\_\_\_ / \_\_\_\_ Revision: \_\_\_\_\_

**Thank you for considering Cervis, we look forward to working with you in your application.**

This tool is designed as a pre-sale document to aid in the communication and documentation of the application. The information presented in this document will be used for quoting purposes and therefore it is recommended to provide as much detail as possible such that the following proposal reflects the total requirements as closely as possible. Should any questions arise during use of this document please contact Cervis' sales department at 724-741-9000. Thank you for considering Cervis, we look forward to working with you in your application.

## Table of Contents

<b>Application Description</b> .....	1
<b>Radio Frequency Operatio n Options</b> .....	1
<b>Mini-Console Box Design</b> .....	2
<b>MCB Options</b> .....	2
<b>Mini-Console Box Design</b> .....	3
<b>MCB-XH02JS-2</b> .....	5
<b>MCB-XH04JS</b> .....	7
<b>MCB Software Feature</b> .....	9
<b>MCB Accessories</b> .....	9
<b>Base Unit Antenna Options</b> .....	10
<b>Base Unit Power Supply</b> .....	10
<b>Base Unit Output Requirements</b> .....	11
<b>Base Unit Output Requirements (Continued)</b> .....	12
<b>Base Unit Data Communication Requirements</b> .....	12
<b>Base Unit Output List</b> .....	12
<b>Base Unit Input Requirements</b> .....	13
<b>Base Unit Input List</b> .....	13
<b>Base Unit Options</b> .....	14
<b>Base Unit Software Requests</b> .....	14
<b>Standard Base Unit Wiring Offering</b> .....	15
<b>Base Unit Mounting</b> .....	15

## Application Description

---

Describe application including environment of operation:

---

---

---

---

## Radio Frequency Operation Options

---

900MHz  10 mW Output Power (Typical Range ~300m)

2.4GHz  100 mW Output Power\* (Typical Range ~300m)

**Note:** Range estimations above are not guarantees and are dependent on device to device relationship and obstructions that will reduce the quality of the RF link. Operating distances mentioned above are results based upon good “conditions” and “line of sight” between devices.

## Mini-Console Box Design

The **SmArT Wireless** mini console box is available in multiple configurations that are derived from four standard physical layouts. Minor adjustments to the layouts can be accommodated. Major layout requests will be quoted based upon the supporting business case.

### Standard Layout Choices

**4 Joysticks**



**2 Joysticks - 1**



**2 Joysticks - 2**



## MCB Options

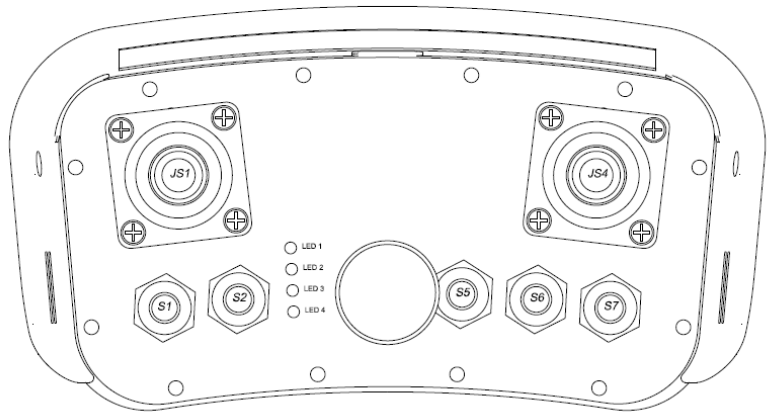
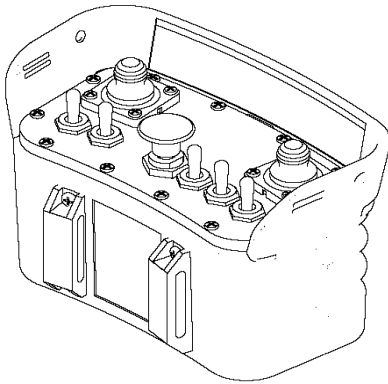
- Variable potentiometer option
- Tether back-up option  
Supports loss of RF communication and loss of battery power
- Display option

Describe desired display usage: \_\_\_\_\_

\_\_\_\_\_

## Mini-Console Box Design

### MCB-XH02JS-1



<u>FUNCTION:</u>		<u>SWITCH TYPE</u>	<u>CUSTOM LOGIC</u>
*S1 +			
*S1 -			
S2 +			
S2 -			
S3	<b>LED</b>		
S4	<b>M-STOP</b>		
S5 +			
S5 -			
S6 +			
S6 -			
S7 +			
S7 -			
JS1Y+			
JS1Y-			
JS1X+			
JS1X-			
JS4Y+			
JS4Y-			
JS4X+			
JS4X-			

\* Switch required

**Function Name Example**  
**Switch Type**

Drive Forward, Drive Reverse, Rotate CCW, Rotate  
 POT (Potentiometer)  
 PB (Push Button)  
 3PM (Three Position Momentary toggle switch)  
 3PD (Three Position Maintained toggle switch)  
 2PM (Two Position Momentary toggle switch)

## MCB Model Application Tool

2PD	(Two Position Maintained toggle switch)
3PMD	(Three Position Maintained/Momentary toggle switch)
SA-X	(Single X-Axis Joystick)
SA-Y	(Single Y-Axis Joystick)
DAOG	(Dual Axis Open-Gate Joystick)
DACG	(Dual Axis Closed-Gate Joystick)

Describe any special requirements:

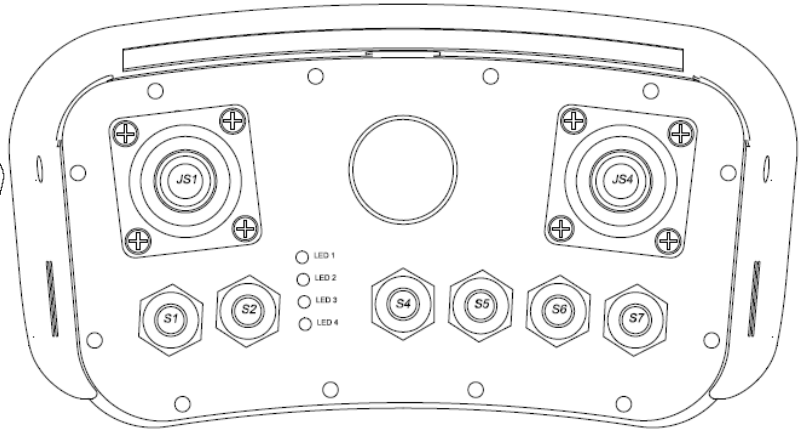
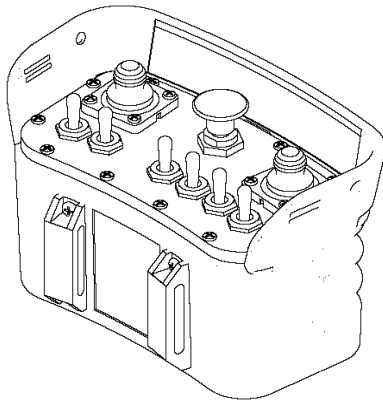
---

---

---

---

**MCB-XH02JS-2**



<b><u>FUNCTION:</u></b>		<b><u>SWITCH TYPE</u></b>	<b><u>CUSTOM LOGIC</u></b>
*S1 +			
*S1 -			
S2 +			
S2 -			
S3	<b>LED</b>		
S4 +			
S4 -			
S5 +			
S5 -			
S6 +			
S6 -			
*S7 +			
*S7 -			
JS1Y+			
JS1Y-			
JS1X+			
JS1X-			
JS2-JS3	<b>M-STOP</b>		
JS4Y+			
JS4Y-			
JS4X+			
JS4X-			

\* Switch required

**Function Name Example**  
**Switch Type**

Drive Forward, Drive Reverse, Rotate CCW, Rotate  
 POT (Potentiometer)  
 PB (Push Button)

## MCB Model Application Tool

3PM	(Three Position Momentary toggle switch)
3PD	(Three Position Maintained toggle switch)
2PM	(Two Position Momentary toggle switch)
2PD	(Two Position Maintained toggle switch)
3PMD	(Three Position Maintained/Momentary toggle switch)
SA-X	(Single X-Axis Joystick)
SA-Y	(Single Y-Axis Joystick)
DAOG	(Dual Axis Open-Gate Joystick)
DACG	(Dual Axis Closed-Gate Joystick)

Describe any special requirements:

---

---

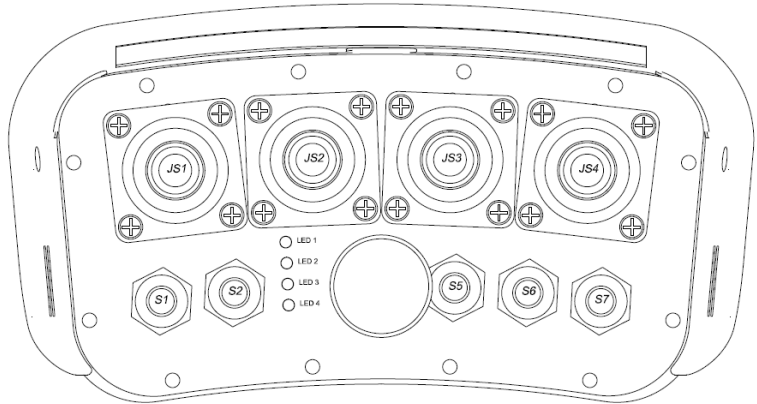
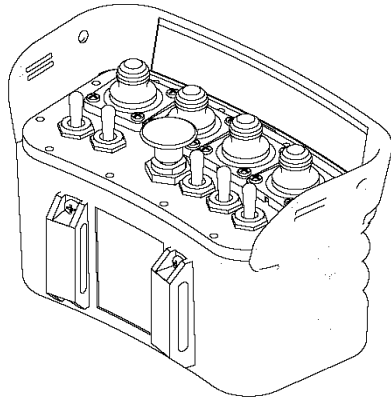
---

---

---



**MCB-XH04JS**



<b><u>FUNCTION:</u></b>		<b><u>SWITCH TYPE</u></b>	<b><u>CUSTOM LOGIC</u></b>
*S1 +			
*S1 -			
S2 +			
S2 -			
S3	<b>LED</b>		
S4	<b>M-STOP</b>		
S5 +			
S5 -			
S6 +			
S6 -			
S7 +			
S7 -			
JS1Y+			
JS1Y-			
JS1X+			
JS1X-			
JS2Y+			
JS2Y-			
JS2X+			
JS2X-			
JS3Y+			
JS3Y-			
JS3X+			
JS3X-			
JS4Y+			
JS4Y-			
JS4X+			
JS4X-			

\* Switch required

**Function Name Example**  
**Switch Type**

Drive Forward, Drive Reverse, Rotate CCW, Rotate  
POT (Potentiometer)  
PB (Push Button)  
3PM (Three Position Momentary toggle switch)  
3PD (Three Position Maintained toggle switch)  
2PM (Two Position Momentary toggle switch)  
2PD (Two Position Maintained toggle switch)  
3PMD (Three Position Maintained/Momentary toggle switch)  
SA-X (Single X-Axis Joystick)  
SA-Y (Single Y-Axis Joystick)  
DAOG (Dual Axis Open-Gate Joystick)  
DACG (Dual Axis Closed-Gate Joystick)

Describe any special requirements:

---

---

---

---

---

## MCB Software Feature

---

Handheld Inactivity Timeout

- 4 Minutes       10 Minutes       Other \_\_\_\_\_ Minutes

## MCB Accessories

---

Tether cable 50 foot length with machine mount bulkhead connector/dust cap

Tether cable 24 foot with flying leads for terminal strip mounting

### Base Unit Antenna Options

- Internal Antenna (Typically used when mounting base unit outside of other enclosures)
- External antenna
  - Mounted to Base Unit
  - With 3 foot extension cable (straight connector to panel mount bulkhead)
  - With 10 foot extension cable (straight connector to panel mount bulkhead)
  - With 10 foot extension cable (right angle connector to panel mount bulkhead)
  - With 20 foot extension cable (right angle connector to panel mount bulkhead)



900Mz Antenna  
7 inch length  
Right Angle/Straight



2.4GHz Antenna  
6 inch length  
Right Angle/Straight

### Base Unit Power Supply

- 7-28 VDC\*
- 110-220 VAC 47-440Hz
- 110-340 VDC\*\*
- 12-24 VAC\*\*

\*Some models have split low voltage DC specifications 9-12VDC or 18-36VDC

\*\*Not available on all base unit models

Describe power supply type: \_\_\_\_\_



**Base Unit Output Requirements (Continued)**

---

Motor Reversing H-Bridge 25A Max Load @ 55°C 12 VDC

**Base Unit Data Communication Requirements**

---

CAN Bus J1939

CAN Bus CAN Open

**Base Unit Output List**

---

	Function Name	Output Type	Logic: Special Requirements
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			
21			
22			
23			
24			

**Function Name Example**  
**Output Type:**  
**Logic/Special Requirements:**

Drive Forward, Drive Reverse, Rotate CCW, Rotate CW, etc.  
 Latching, Momentary, PWM, Current, Analog, H-Bridge, CAN Bus, etc.  
 Describe special conditions for output, i.e., if the output is conditioned on an Input or other function

## Base Unit Input Requirements

---

4-20mA

Variable voltage: \_\_\_ to \_\_\_ VDC

Digital

High side voltage: \_\_\_\_\_

Low side (contact to power supply ground)

## Base Unit Input List

---

	Function Name	Input Type	Logic: Special Requirements
1			
2			
3			
4			
5			
6			

**Function Name Example**

Boom Pressure, Extend Limit

**Input Type:**

Variable voltage, 4-20mA, Dry contact, etc.

**Logic/Special Requirements:**

Describe if input interacts with other functions

Describe input interface/device: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

### Base Unit Options

---

Four character LED alphanumeric display



Display Example

Eight character LED alphanumeric display



Describe desired display usage: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

### Base Unit Software Requests

---

#### Link Definition

**Safety LINK Enabled** (where all outputs will clear upon loss of link)

**Safety LINK Disabled** (where latched commands will remain latched upon loss of link, but all momentary commands that are active deactivate)

#### Component Architecture

**One to One** (where one handheld and one base unit have an exclusive pairing)

**Many to One** (where more than one handheld can be paired to a base unit)

**One to Many** (where one handheld is paired to several base units)

**Many to Many** (open architecture where many handhelds and base units are paired)

Describe any special requirements: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_



## Standard Base Unit Wiring Offering

---

36" (multi-conductor cable)

96" (multi-conductor cable)

## Base Unit Mounting

---

Base Unit Mounting:

Outside Environment

Inside Environment

Inside other enclosure    Metallic enclosure    Polymer Enclosure



Visit our Web site at: [www.cervisinc.com](http://www.cervisinc.com)

©2017 Cervis, Inc. All rights reserved. Content is subject to change without notice.