



## Console Box Application Tool

M017.0.0

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.

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## Application Description

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Describe application including environment of operation:

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## Radio Frequency Operation Options

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- |                                 |  |
|---------------------------------|--|
| <input type="checkbox"/> 900MHz | <input type="checkbox"/> 10mW Output Power (Typical Range ~300m)   |
| <input type="checkbox"/> 2.4GHz | <input type="checkbox"/> 100mW 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.

## Console Box Design

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The **SmaRT Wireless** console box is available in multiple configurations that are derived from two 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

Lever System

Joystick System (not shown)

## CB Options

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Variable potentiometer option (sacrifices toggle switch positions)

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

Display option

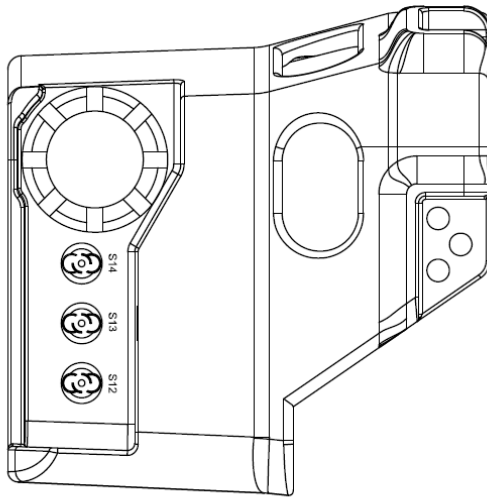
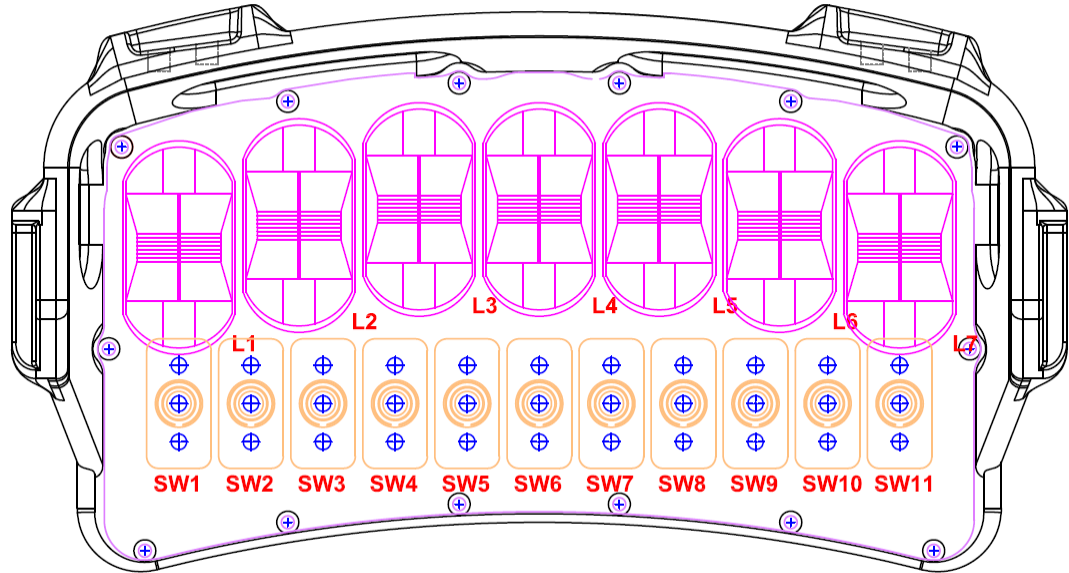
Describe desired display usage: \_\_\_\_\_

\_\_\_\_\_

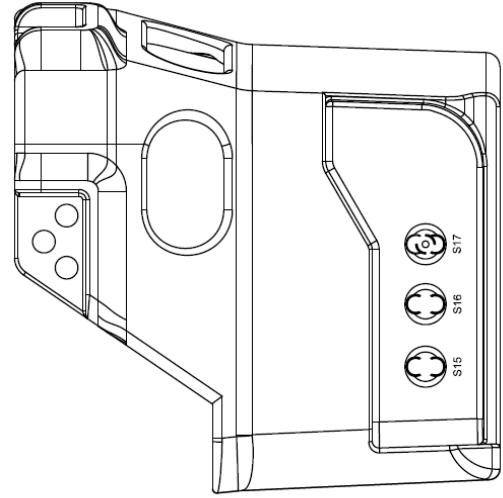
\_\_\_\_\_

## Console Box Design

### CB-X0XLV



LEFT SIDE SWITCH DETAIL



RIGHT SIDE SWITCH DETAIL

<u>FUNCTION</u>		<u>SWITCH TYPE</u>	<u>CUSTOM LOGIC</u>
S1 +			
S1 -			
S2 +			
S2 -			
S3 +			
S3 -			
S4 +			
S4 -			

CB Model Application Tool

S5 +			
<u>FUNCTION</u>		<u>SWITCH TYPE</u>	<u>CUSTOM LOGIC</u>
S5 -			
S6 +			
S6 -			
S7 +			
S7 -			
S8 +			
S8 -			
S9 +			
S9 -			
S10 +			
S10 -			
S11 +			
S11 -			
S12 +	CB ON	3PM	
S12 -	CB OFF	3PM	
S13 +	ASSOCIATION	3PM	
S13 -	DISASSOCIATION	3PM	
S14 +			
S14 -			
S15 +			
S15 -			
S16 +			
S16 -			
S17 +			
S17 -			
L1 +			
L1 -			
L2 +			
L2 -			
L3 +			
SL3 -			
L4 +			
L4 -			
L5 +			
L5 -			
L6 +			
L6 -			
L7 +			
L7 -			

**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)  
SLV (Spring Return Lever)  
MLV (Maintained Lever)

Describe any special requirements:

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### CB Software Feature

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Handheld Inactivity Timeout

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

### CB Accessories

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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)



Panel Mount Bulkhead



Straight Connector



Right Angle Connector



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

---

- |   |  |                 |
|---|--|-----------------|
| <input type="checkbox"/> Relay contacts | <input type="checkbox"/> Normally open contact   | Quantity: _____ |
|   | <input type="checkbox"/> Normally closed contact | Quantity: _____ |

### Contact Rating

- Resistive: 5A at 250 VAC or 30 VDC
- Resistive: 10A at 250 VAC or 30 VDC
- Inductive: 2A at 250 VAC or 30 VDC (proposal will include snubber circuits on contacts)

Resistive load example: indicator light  
Inductive load example: valve or relay coil

Describe output interface: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

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- |   |                                  |
|---|----------------------------------|
| <input type="checkbox"/> PWM (Pulse Width Modulated) output | PWM Frequency: _____ Hz          |
|   | Coil Resistance: _____ $\Omega$  |
|   | Quantity: _____                  |
| <input type="checkbox"/> Current control                    | Initial Current: _____ mA        |
|   | Final current: _____ mA          |
|   | Quantity: _____                  |
| <input type="checkbox"/> Analog output                      | Variable voltage: ___ to ___ VDC |
|   | <input type="checkbox"/> 4-20mA  |

Describe output interface/valve type: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Base Unit Output Requirements (Continued)**

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

**Base Unit Data Communication Requirements**

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CAN Bus J1939

CAN Bus CAN Open

**Base Unit Output List**

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	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

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4-20mA

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

Digital

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

Low side (contact to power supply ground)

## Base Unit Input List

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	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

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Four character LED alphanumeric display



Display Example

Eight character LED alphanumeric display



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

### Base Unit Software Requests

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#### 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

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**36"** (multi-conductor cable)

**96"** (multi-conductor cable)

## Base Unit Mounting

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Base Unit Mounting:

Outside Environment

Inside Environment

Inside other enclosure  Metallic enclosure  Polymer Enclosure



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