



Design and Manufacture of Video Pipeline Inspection Systems  
 A full Service Company  
[www.rstechserv.com](http://www.rstechserv.com)

**General Overview:**

The Hand Held Dual function Control unit is an all in one control unit. It will control all the tractor functions and the pan and tilt camera functions as well as the zoom. The Hand Held Dual function Control unit is a portable unit. There are 32 camera functions available on the control unit. 16 flush mounted buttons control the standard and the zoom (white) positions.

**Hand Held Dual function Control unit Identifications:**

**Front Panel:**

16 control flush mounted buttons  
 Green sending LED indicator

**Side panel:**

Rocker switch (with white dot)

**Bottom:**

Cable with plug

**Button function: STANDARD (white lettering blue background)**

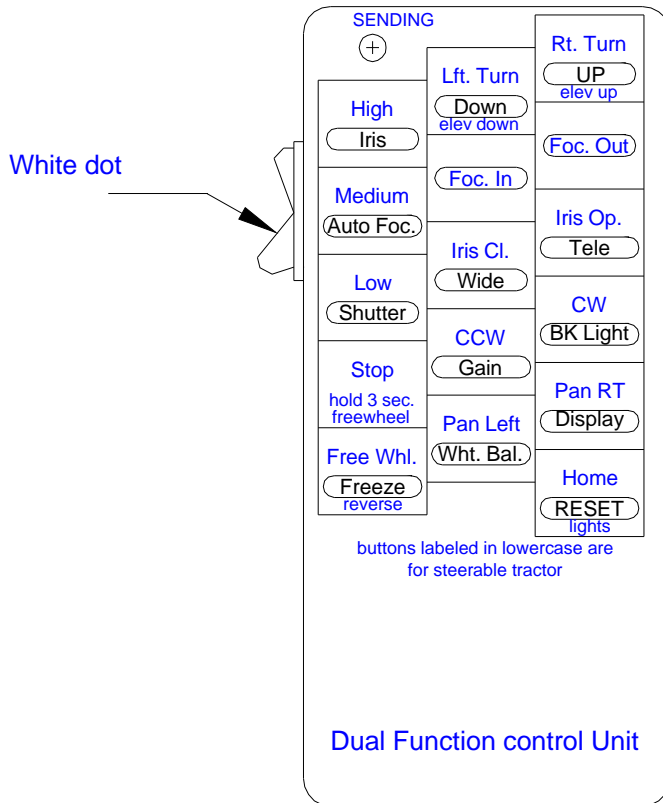
<b>High</b>	(tractor)	high speed in tractor mode
<b>Medium</b>	(tractor)	medium speed in tractor mode
<b>Low</b>	(tractor)	low speed in tractor mode
<b>Stop</b>	(tractor)	all stop (tractor)/ hold three seconds for freewheel SDT*
<b>Free Whl./reverse</b>	(tractor)	free wheel tractor/ hold down reverse in SDT* mode
<b>Lft. Turn/ elev down</b>	(sdt*)	turn left, lower elevator/camera
<b>Iris Cl.</b>	(camera)	closes camera iris/ wide on Zoom
<b>CCW</b>	(camera)	counter clockwise rotation
<b>Pan Lft</b>	(camera)	pan left
<b>Rt. Turn/ elev down</b>	(sdt*)	turn right, raise elevator/camera
<b>Iris Op.</b>	(camera)	open camera iris/ tele on Zoom
<b>CW</b>	(camera)	clock wise rotation
<b>Pan Rt.</b>	(camera)	pan right
<b>Home/lights</b>	(camera/sdt*)	rotates camera to home/turns on SDT* lights

Lower case functions run the Storm Drain Tractor

**Button function: ZOOM (white background blue lettering)**

<b>Iris</b>	adjusts lens F-stop (f2.8, f4, f8, f10 etc.) <i>adjustments not recommended</i>
<b>Auto focus</b>	switches between auto focus(default)/manual focus.(no auto focus adjustments) <u>manual</u> mode adjust Focus in/ Focus out
<b>Shutter</b>	60 frames per second can be slowed to give more time to absorb light causing blurring in motion. <i>adjustments not recommended</i>
<b>Freeze</b>	stop motion of live video
<b>Down</b>	adjust camera functions (iris, shutter, gain, etc.)
<b>Focus in</b>	adjust near focus
<b>Wide</b>	zoom in- zoom out

<b>Gain (Brightness)</b>	adjust gain using slide bar (controls brightness of picture)
<b>White balance</b>	auto
<b>Up</b>	adjust camera functions (iris, shutter, gain, etc.)
<b>Focus out</b>	adjust far focus
<b>Tele</b>	telephoto 10x optical, (4x digital overall 40x)optio
<b>Back light</b>	increases screen brightness to light up shadowed areas
<b>Display</b>	show or hide manual settings
<b>Reset</b>	return to power up default settings



## GENERAL INFORMATION:

With the power *off*, plug in the Hand Held Dual Control Unit into the front panel jack marked (**AUX. INPUT**) of the mainline controller. It is also possible to plug into the (Auxiliary Input) in the back of the desktop control, this will allow the use of both controllers at the same time. (On some vehicles, the hand held can be plug directly into the cable reel). To operate the hand held dual function controller, push the rocker mode switch, (on the side of the unit), to the desired mode of standard or zoom. To use standard functions, push toggle switch towards the top or the controller. Select one of the 16 standard functions that are used for the tractor, pan and rotate camera as well as tele and wide. Every function change will cause a corresponding flash of the green **Sending** LED, at the top left of the controller. Push the buttons, High, Medium, or Low on the controller to move the tractor FORWARD. To move the tractor in REVERSE, push Free Whl./reverse. To retrieve a tractor from an inspection run in free wheel. Push Free Whl./ reverse. Wait 5 seconds and watch for tractor to move in the reverse direction, then push stop. Now use the cable reel to pull tractor back. To switch between standard function controls and zoom, push down rocker switch on the side of the hand held towards the bottom (white dot on switch). Use the 16 zoom functions. Commonly, the standard mode function buttons are primarily used and the Zoom mode is only used when manually controlling the Iris, Shutter, Gain, focus etc.