



Installing *IMAGESCAN HD* *X-Ray*

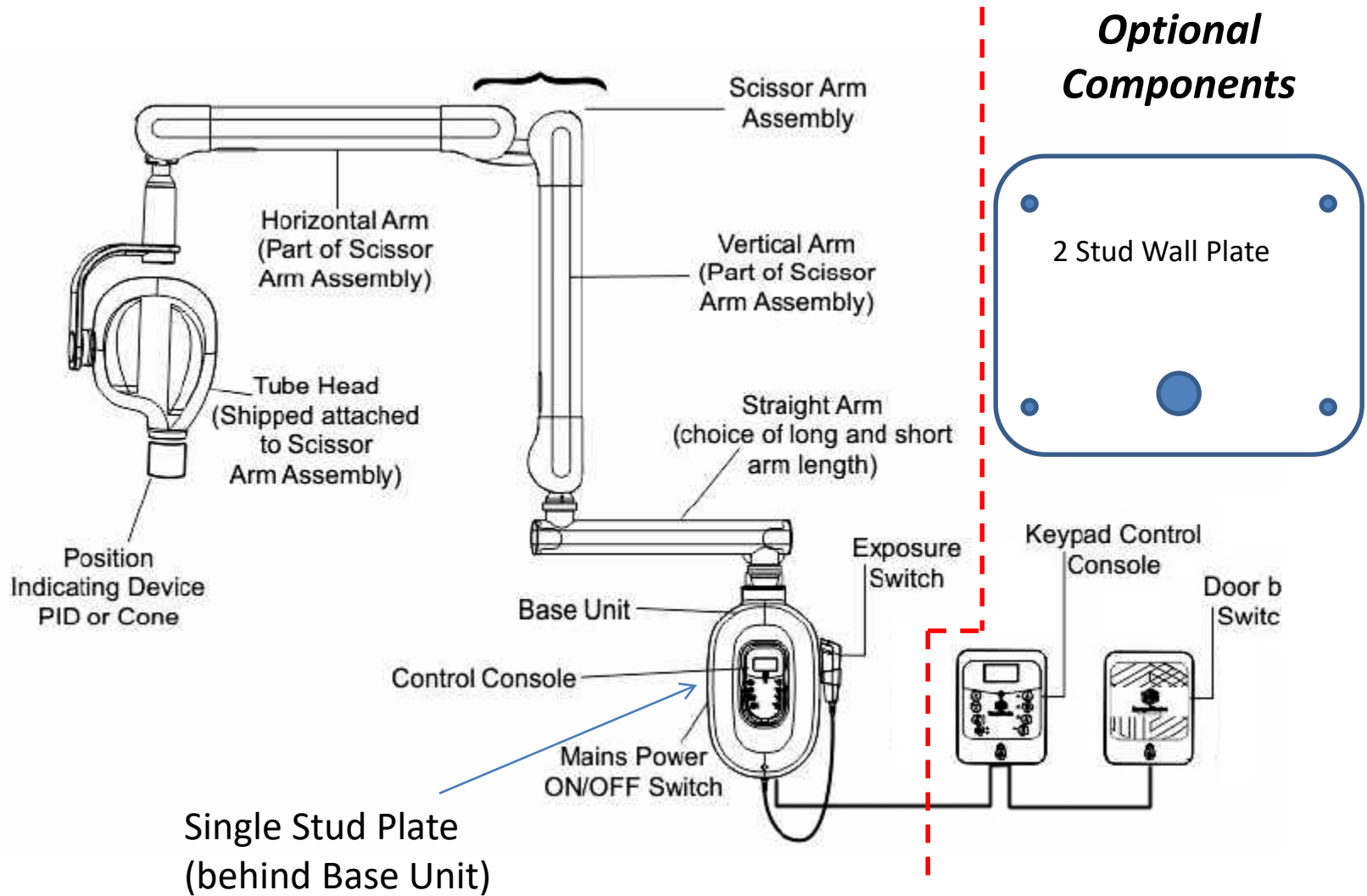


Overview

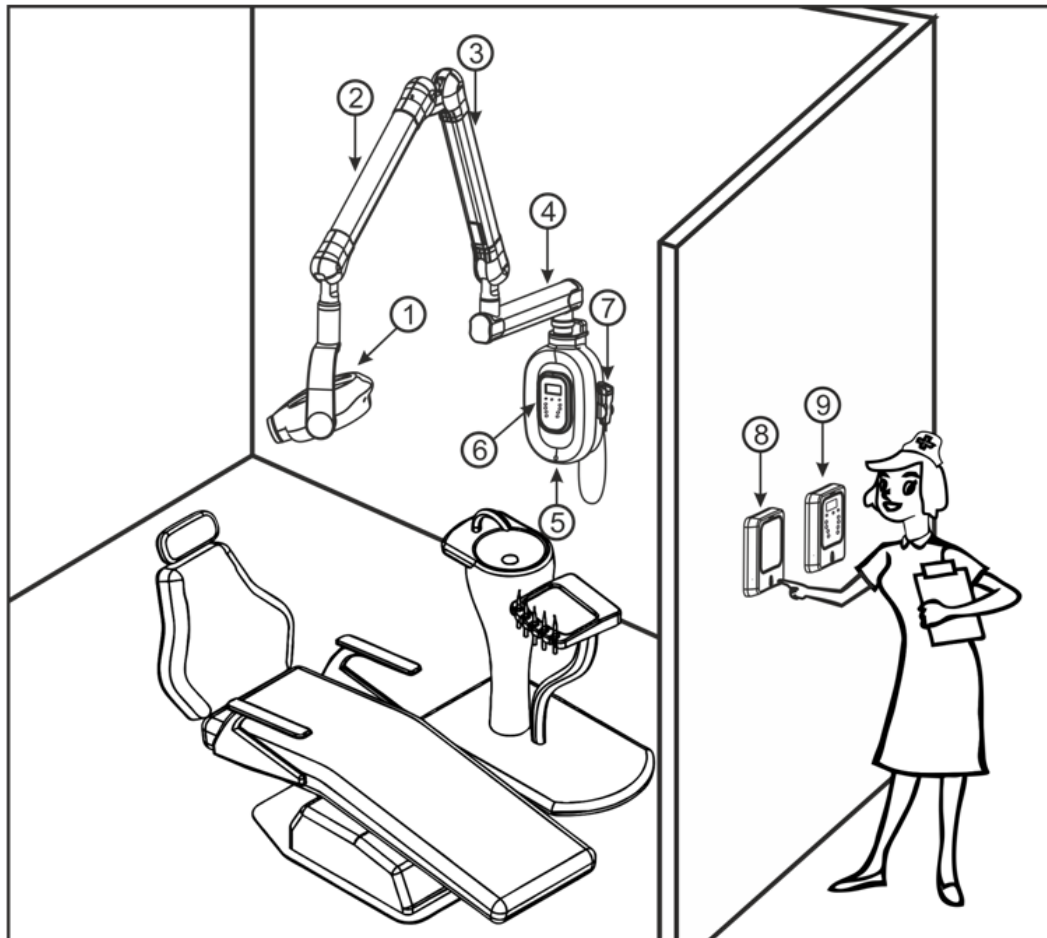
Major Components

Models	Wall Mounted with 33" straight Arm (9992720200)
	Wall Mounted with 24" straight Arm (9992720100)
	Wall Mounted with 15" straight Arm (9992720000)
	Floor Mounted with stand on wheels (9992720300)
Major Subassemblies	Scissor Arm Assembly
	Tube-head Assembly (note shipped attached to scissor Arm)
	Straight Arm Assembly
	Base Unit Assembly <ul style="list-style-type: none">•Bracket Assembly•Timer/Power Assembly<ul style="list-style-type: none">•Display/Console•Power PCB
Optional Components	Remote keypad Console (9992720001) Remote Doorbell Switch (9992720003) 2 Stud Wall Mount Plate (9992720002)

Imagescan HD Components



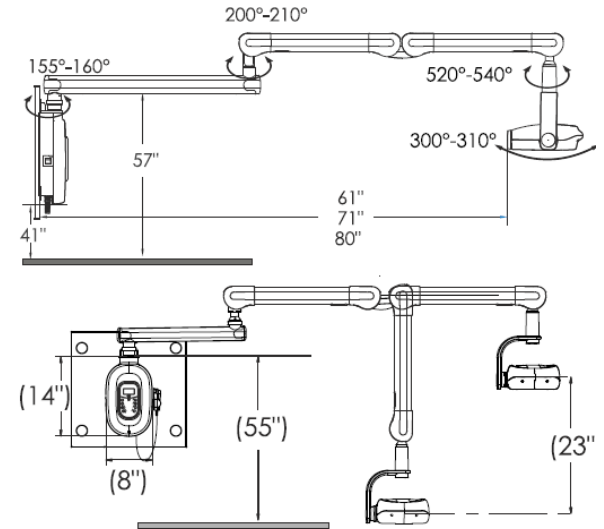
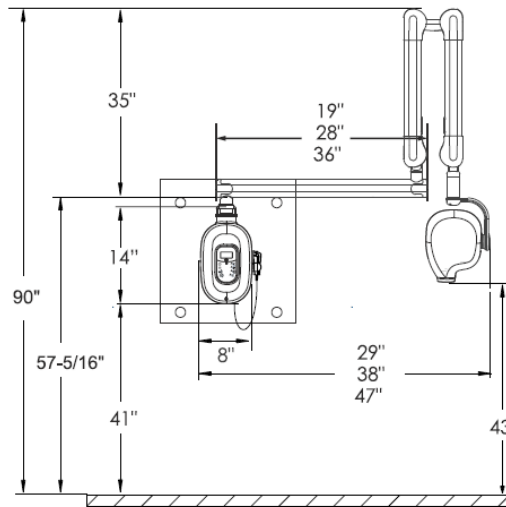
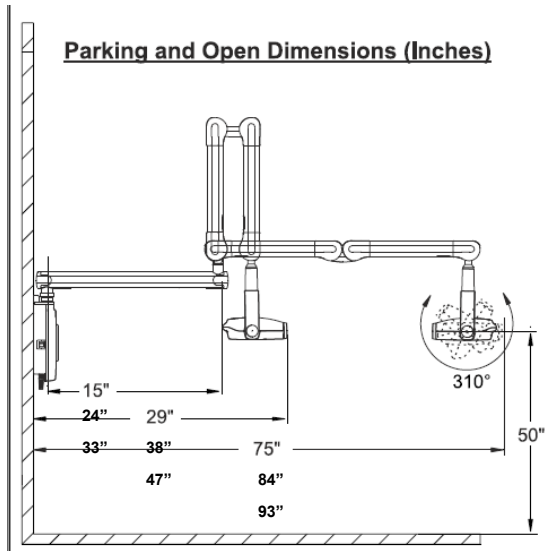
The Dental Operator



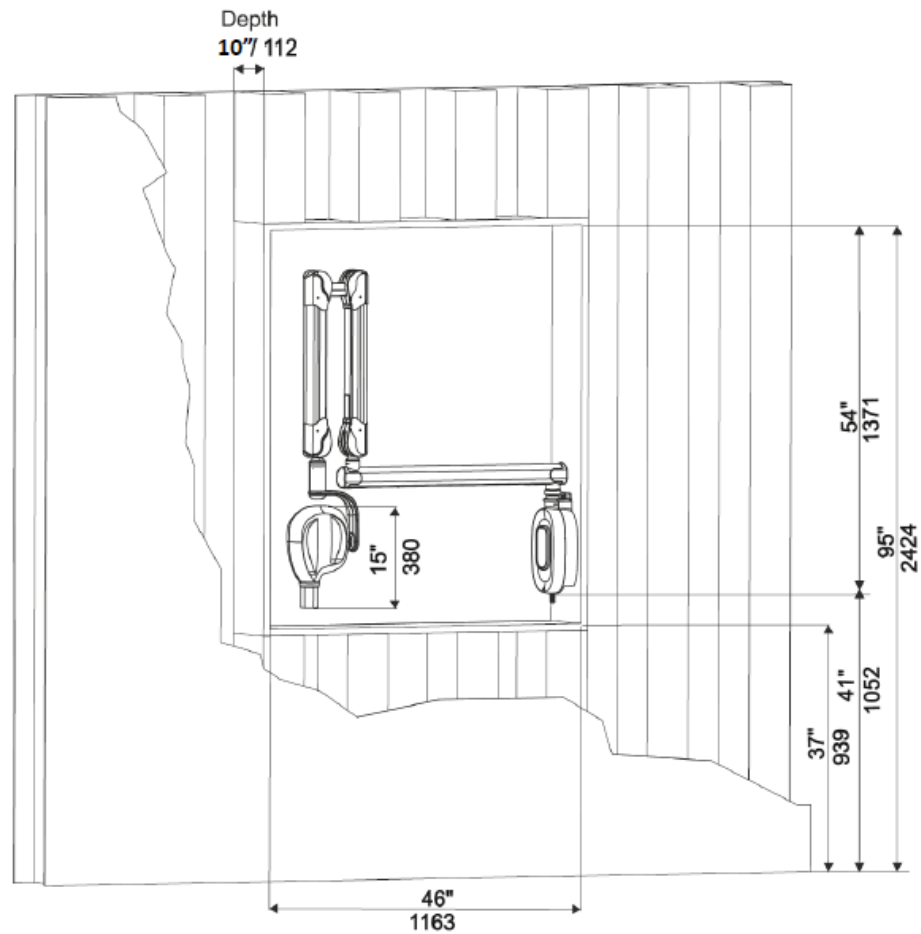
Important Questions Before you install

- Where will the X-ray be mounted?
 - Will you need an Optional 2 Stud Wall Mount Plate?
 - Standard unit out of the box can be mounted to a single 4" stud.
 - 16" center 2"x 4" sheet rock walls require optional 2 stud wall plate.
 - Which length Arm will you need?
 - Reach distance from the wall mount point to the patient chair.
 - Will you need to fire and/or set the techniques from outside the operatory?
 - The optional Keypad Control Console can set the Kv, mA, time, etc and fire the x-ray from up to 35 ft (cat5 wire not included) from the X-ray base.
 - The optional Doorbell Switch can be used to fire the x-ray from up to 35 ft (2 wire switch only or 3 wire switch and LED 18 AWG Speaker wire not included)
 - Electrical Supply: Outlet or Directly Wired ?

X-Ray Reach (Short/Medium/Long)



Pass Thru Cabinet (long arm)



- Opening
- 46" Wide
 - 58" High
 - 10" Deep

Electric Power Requirements

- Standard Unit is rated at Single Phase 110V/60Hz/ 8A momentary /0.25 A standby.
- Recommend connecting to dedicated 15A circuit
- Unit is supplied with a 5 ft cord connected hospital grade plug.
- Base unit and wall mount plates have access holes to run power cable through the wall.

Maximum Length	Minimum Gauge
0-50 feet	14 AWG
50-100 feet	12 AWG
100-150 feet	10 AWG
150-250 feet	8 AWG
250-400 feet	6 AWG

Tools for the installation

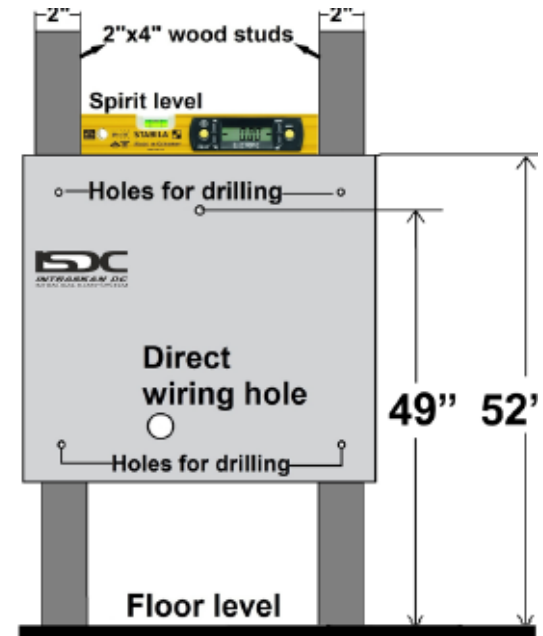
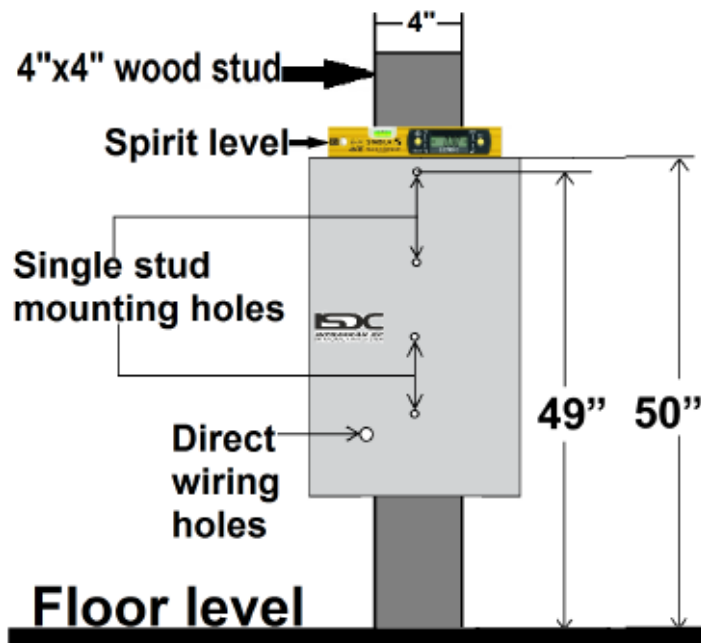
- Metric Allen Wrench Set (including 1.5,2.5, 3, 5 and 6 mm)
- Socket Wrench with 8 mm and 17 mm sockets.
- Screw Driver Philips #2
- Screw Driver Flat
- Jewelers' Screw Driver set (with both Philips and flat)
- Tape Measure
- Surface Level
- Hand Drill
- Wire Cutters
- Long / needle nose Pliers
- Digital Multi-meter
- Recommended but not required
 - Electrical Tape
 - Cable Ties
 - Grease
 - Clean up supplies (paper towels, trash bags, etc.)

Opening the Box

- The complete system is packed in one box. If you ordered optional accessories such as a wall plate, doorbell switch or remote console they will be in separate boxes.
- Inspect the boxes for any shipping damage. Report damage to the shipping carrier immediately.
- When unpacking the main box be sure you find all the components. There is a semi hidden compartment in the bottom of the box covered with matching white Styrofoam that is easy to miss. This compartment also contains the hand switch.
- If you are installing single stud remove the mounting bracket and the cardboard template from the main box (should be on top). If you are installing with the 2 stud wall mount plate open that box and remove the 2 stud template.

Marking for the Wall Bracket

- Tape the appropriate cardboard template onto the wall in position and mark the holes to be drilled. Be sure to level the template and place the mounting holes in the center of the studs (Sec 4.3).

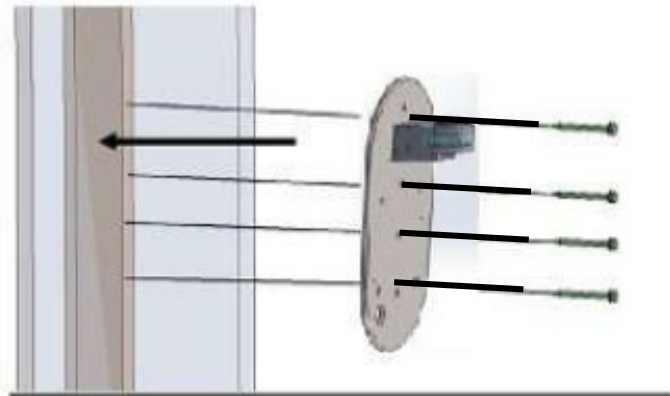


Drill and Mount the Wall Bracket

(Sec. 5.1)

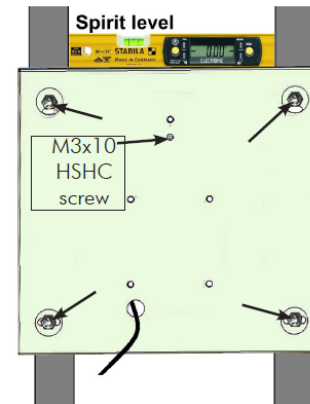
Single Stud Mount

- Drill the 4 holes with the drill bit provided.
- Mount the bracket with the 4 Hex head wood screws provided.



2 Stud Mount

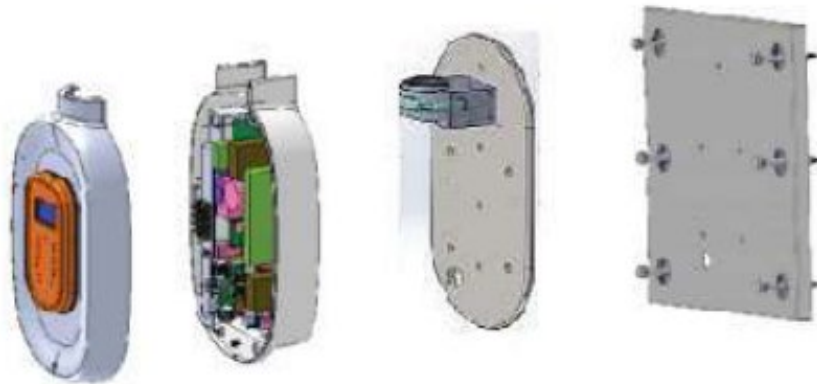
- Drill the 4 holes with the drill bit provided.
- Mount the bracket with the 4 Hex Head Wood Screws provided.



Mounting (continued)

2 Stud Mount

- Mount the single stud bracket onto the 2 stud plate with the screws provided. Be sure to level.



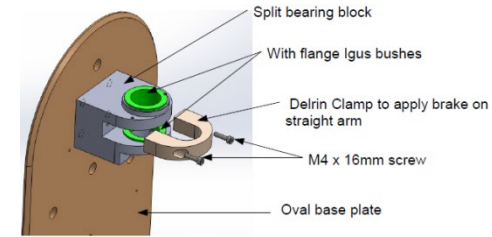
Mount the Straight Arm

(Sec 5.3)

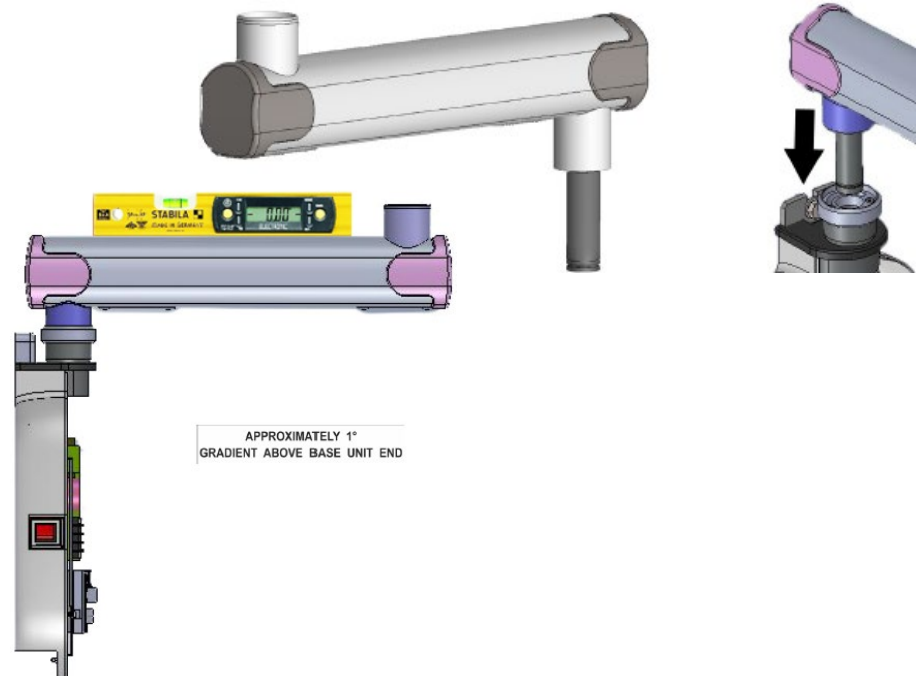
- Loosen braking mechanism and remove the locking bolt from the end of the straight arm.
- Make sure rubber mold is in place over console
- Slide arm into the bearing on the top of the bracket. Be sure it is inserted fully and replace the locking bolt.
- Confirm the arm is level to slightly up inclined (~1 degree) with no droop.
- If necessary adjust brake.



Locking Bolt



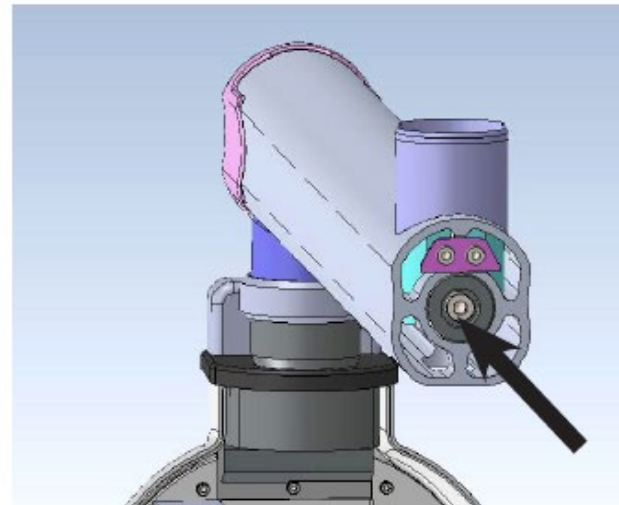
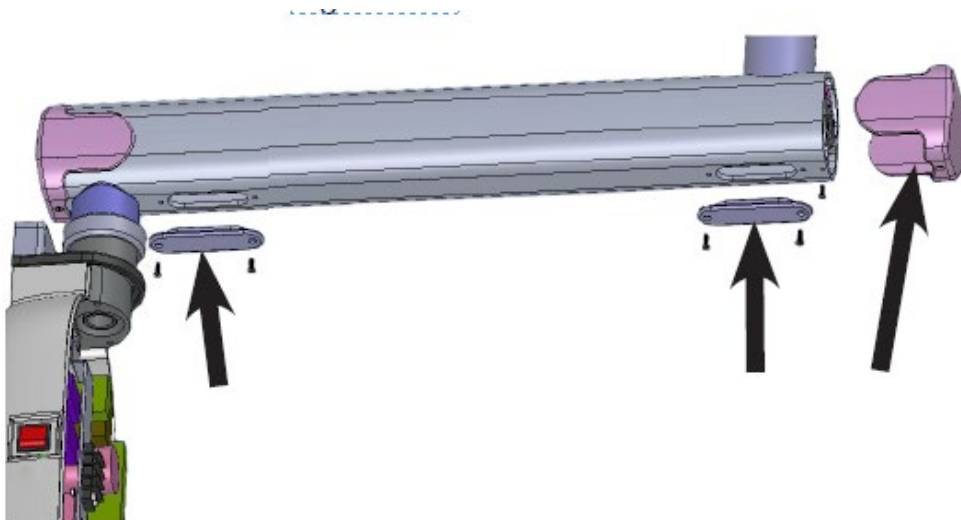
Rubber Mold



Mount the Scissor Arm

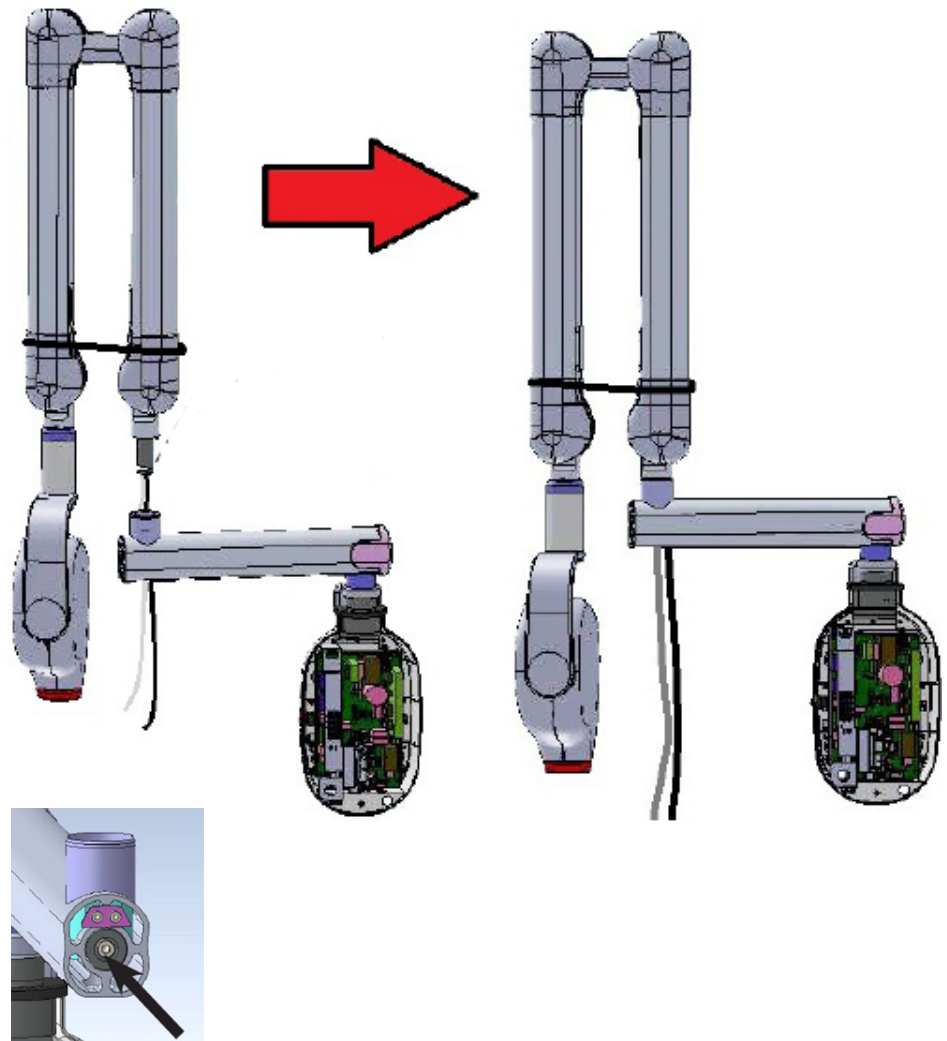
(Sec 5.4)

- Remove the access covers on the straight arm as shown.
- Remove the lock screw on the end of the straight arm as shown.
- Do NOT remove the cable pull



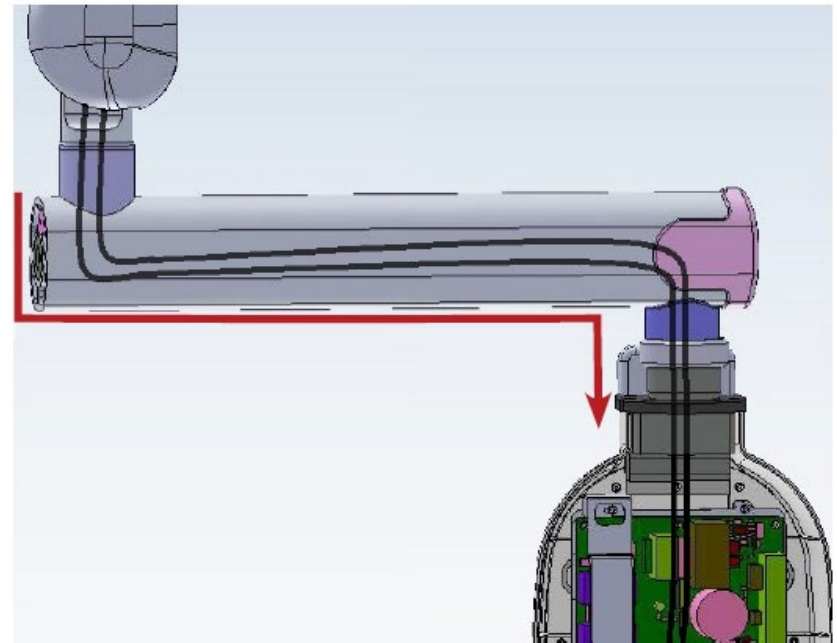
Mount the Scissor Arm (continued)

- Insert the scissor arm with tube head into and through the bearing in the straight arm.
- Route the cables through the access hole in the bottom as shown.
- Route pull-cable through access hole.
- Verify that the arm is seated fully in the bearing.
- Replace the lock screw at the end of the straight arm.



Mount the Scissor Arm (continued)

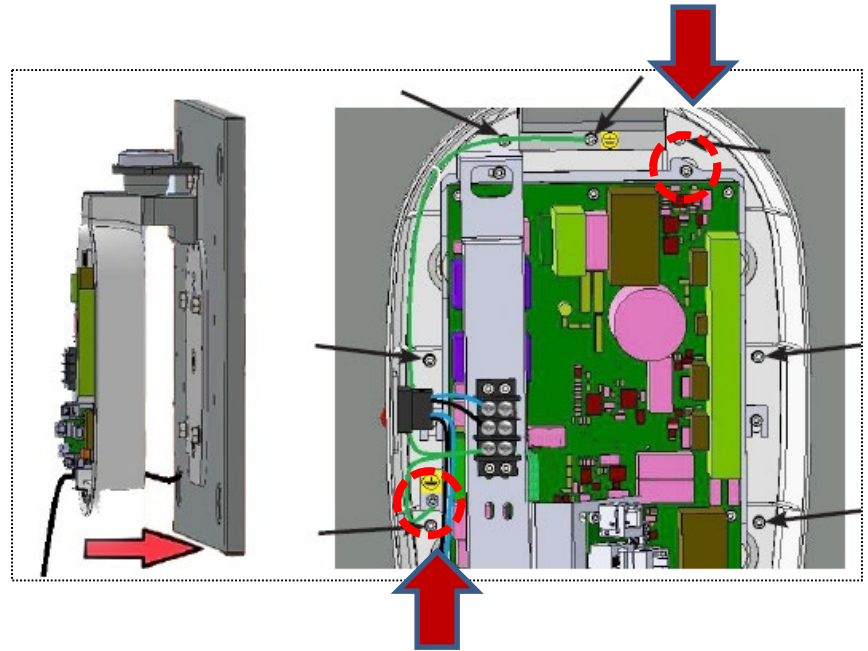
- Using the cable pull provided route and pull the 2 cables from the tube head.
- This will be a tight fit particularly when the connectors are rounding the corners.
- The access hole on the straight arm nearest the console is not required, but can be helpful to assure the cables pass down into the console.



Mount the timer to the bracket

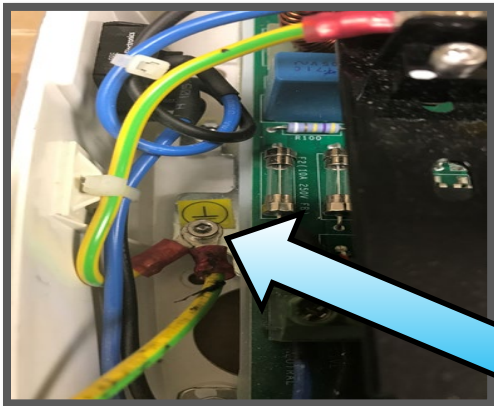
(Sec 5.9)

- If necessary, remove the timer's face plate.
- Mount the timer to the bracket with the screws provided.
- Attach the ring lug on the bracket's ground wire (green and yellow) to the screw circled in red (additional images below).
- Attach the ring lug on the straight arm's ground wire (green and yellow) to the screw circled in red (additional images below).



Grounding Connections

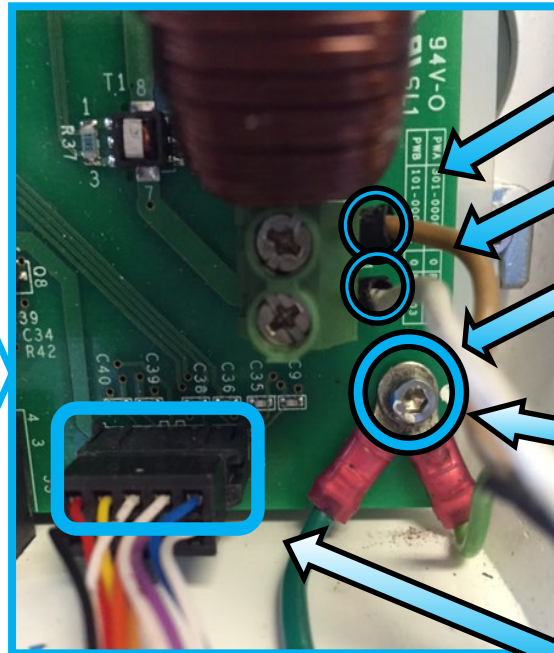
Ground wire #1 from arm



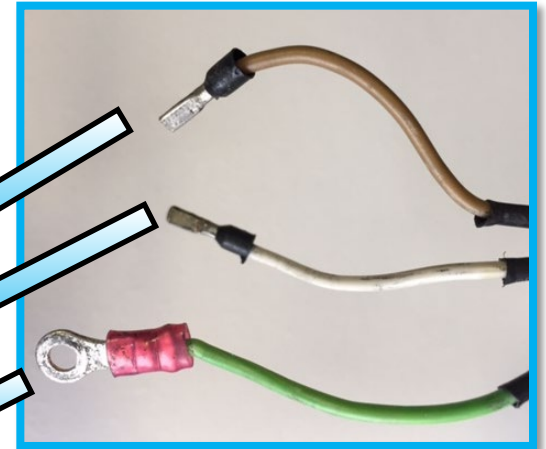
Ground wire #2 from plate bracket



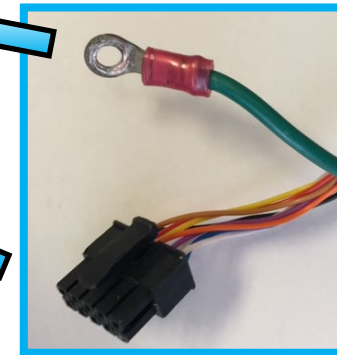
Connecting Cables from Tubehead



Cable 1 From Arm



Cable 2 From Arm



Connecting Accessories to Daughterboard

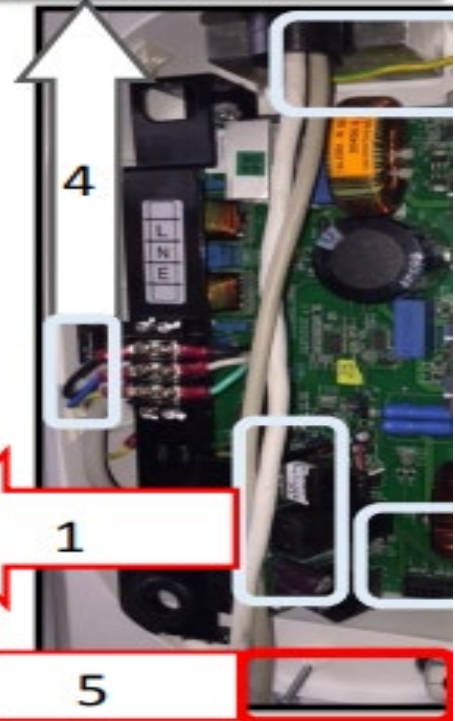
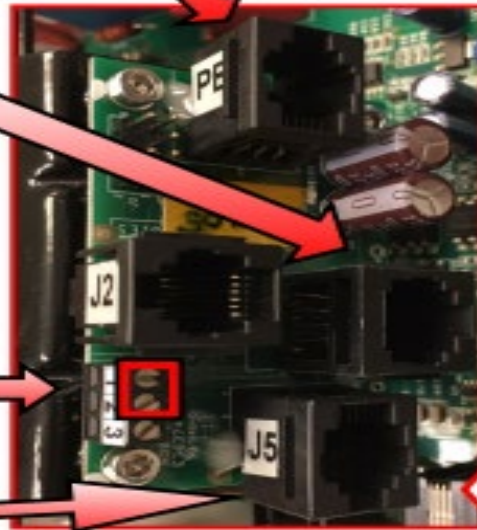
Power Board to Port: PB



Ground wire #1 from arm



Remote Console to port: J6**



Doorbell Switch*



Connect to ports 1 and 2 (terminals closest to J2) port



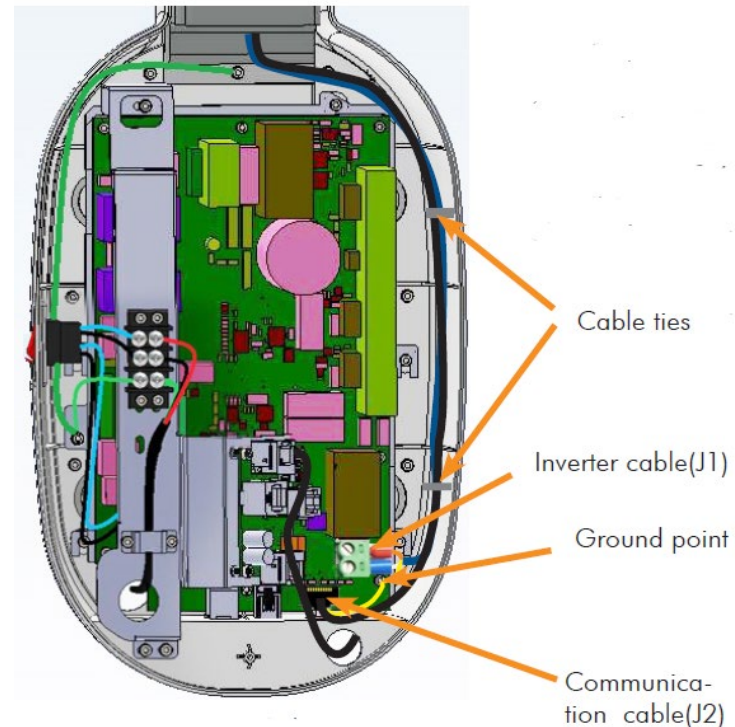
System Console to Port: J5



Thumbswitch

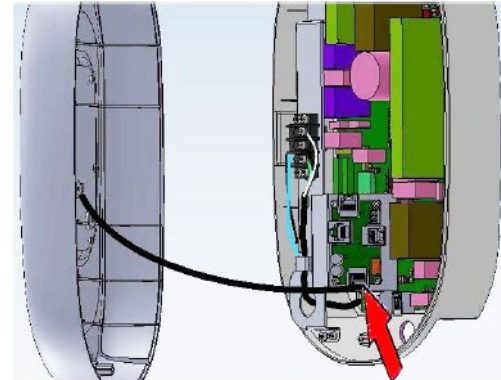
Secure Cables

- Loop any excess cable on the right side of the inside wall of the timer and use the tie wraps to secure the cables in place.
- Tie wrapped to the upper left inside of the timer there is a short cable this is the calibration tool and is not normally connected to anything.



Install the face plate (sec 5.9)

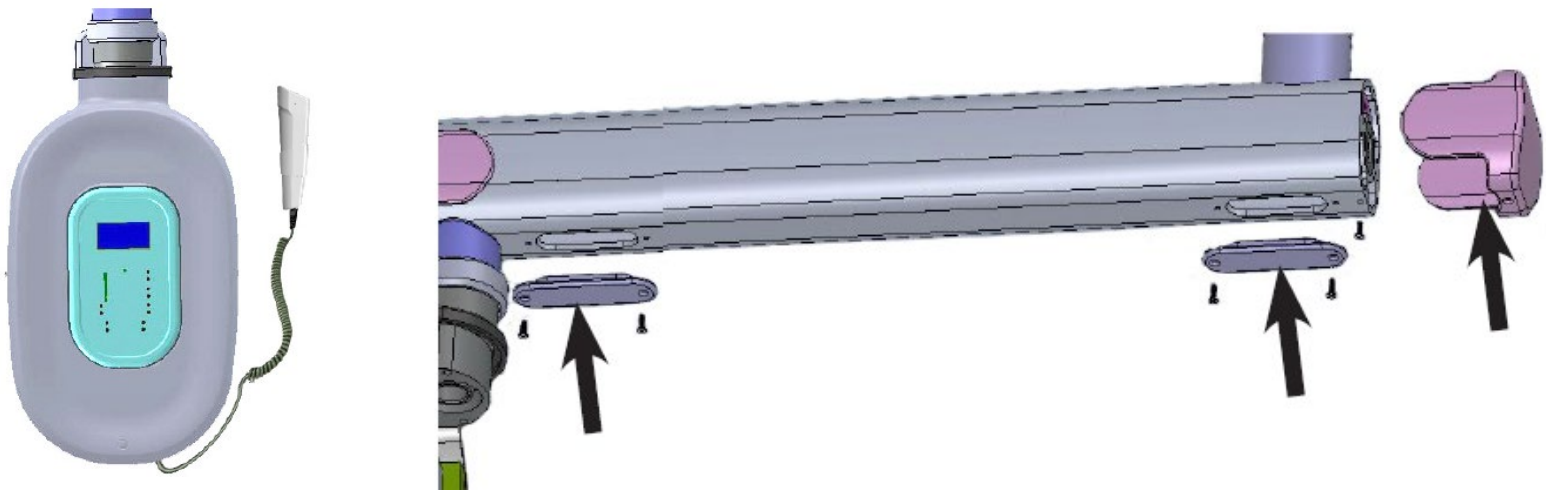
- Connect the RJ connector from the face plate to connector J5 as shown.
- Remove 2 knurled thumb nuts on top of the console cover
- Hang top of cover over 2 set screws and tighten thumbnuts.
- Secure the cover with screw on lower center of cover.



M3X25 Self tapping screw (Use Phillips screw driver)

Replace the access covers

- Plug the Exposure switch into the connector at the bottom of the timer.
- Replace the covers on the straight arm.



Movement Checks (sec 5.14)

Movement Check-1:

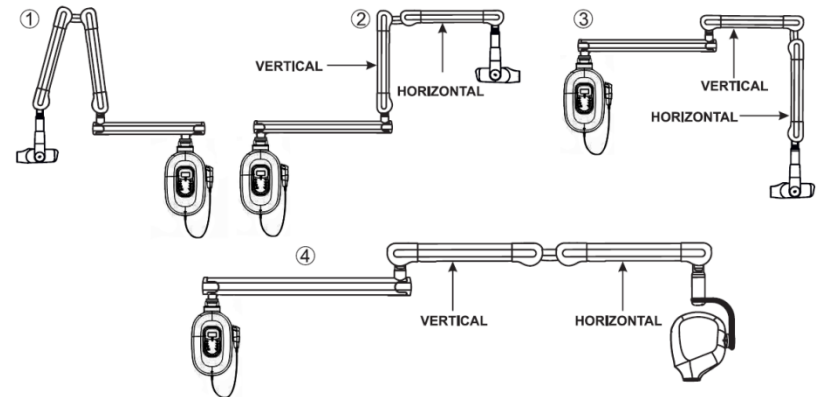
- Move the scissor arm very slowly in small increments from step 3 to step 2 position as above and then move back similarly from step 2 to step 3 position in small increments. The scissor arm should stay stable without drooping at all positions.
- If it droops, see installation manual or tensioning adjustment.

Movement Check-2:

- Move the scissor arm very slowly in small increments from step 3 to fully expanded position as shown in illustration 4. The scissor arm should stay stable at all positions. If unstable, Scissor Arm need to be replaced.

Movement Check-3:

- Move the vertical arm from 0° to 90° stopping at every 10° increment approximately. For every position move the horizontal arm from one extreme end to another extreme end stopping at every 10° increment. At each position the scissor arm should be stable. If unstable, Scissor Arm need to be replaced. Fix the 2 rectangular S-ARM caps to the spring adjusting windows of the scissor arm.



The Controls

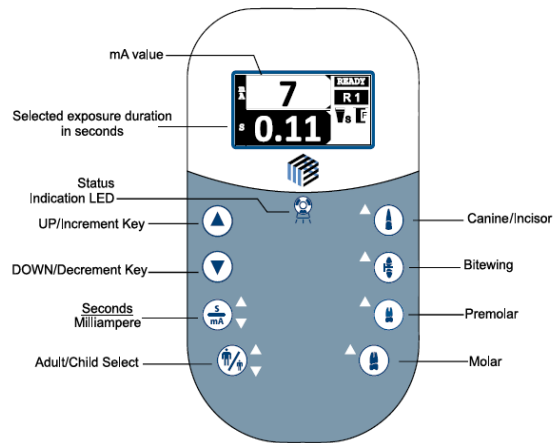


Figure 14. Intraskan DC Keypad Console with LCD Display



Figure 15. Door Bell switch

Optional



Figure 16. Remote keypad Console

Optional

Default Expose Values

Validated Exposure Values (kV, mA & S) mentioned below are for minimum patient dose and can be modified as per user requirement.

Anatomy		kV	mA	Time (S)			
				Slow		Fast	
				Cone			
				Short	Long	Short	Long
Adult	Bitewing	70	6	0.22	0.71	0.18	0.56
	Canine	70	6	0.2	0.63	0.16	0.5
	Molar	70	6	0.22	0.71	0.18	0.56
	Pre-Molar	70	6	0.2	0.63	0.16	0.5
Child	Bitewing	70	6	0.16	0.5	0.13	0.32
	Canine	70	6	0.14	0.45	0.11	0.32
	Molar	70	6	0.16	0.5	0.13	0.32
	Pre-Molar	70	6	0.14	0.45	0.11	0.32

Set-up Screens

To Access Setup screen

1. Turn on the main power switch while observing the console display
2. As soon as you see the ImageWorks Logo Simultaneously press the increase and decrease buttons. DO NOT HOLD.

The user can set/access the following options as shown in the Figure 30

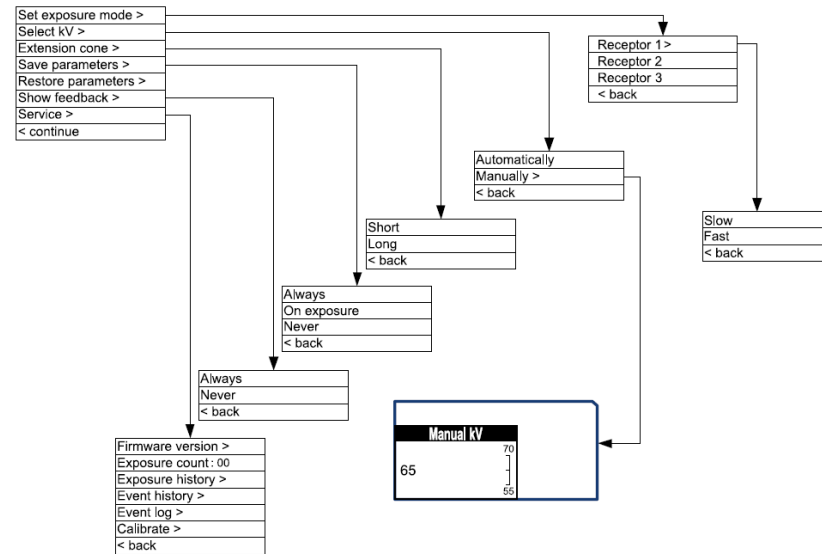


Figure 30: Configuration Screen

Final Steps

- Power on the unit ensure that there are no Errors Displayed on the Console.
- Do not install the cone extension with digital sensors unless specifically requested by the office.
- Check that the thumb switch and if applicable the doorbell and remote console fire the x-ray.
- Clean-up. Wipe down the x-ray, check for and remove any remaining packaging material.
- Give the Manuals to the office manager for use and safe keeping (copies available on our website).
- Complete FDA Form Assembly of Diagnostic X-ray Report, Imageworks Warranty Card



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