



Amphibian 2 & 3 Axis Remote Head

User Manual

Assembly Instructions & Specifications

For use by Chapman Technicians Only

Amphibian Remote Head

User Manual

Assembly Instructions & Specifications

Edition 12

CHAPMAN

For use by Chapman Technicians Only

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Amphibian Remote Head User Manual

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The Operator should be qualified to operate
equipment as expressed in this manual.

For assistance please call our 24-hour
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Contents

Safety Features	6
General Description & Specifications	7
Tools Used During Setup	9
Assembling the Amphibian Remote Head	11
Adding the 3rd Axis	16
Connecting the Junction Box	24
Assembling the Control Cart	25
The Complete Control Cart	27
Amphibian Software Interface	28
Amphibian Software System Configuration	29
Record Mode	30
Playback Mode	32
Nitrogen Charging	33
Shipping & Rental Return	34

Safety Features

Amphibian Remote Head

*If any part of this manual is faxed or transmitted to a client, this page of warnings **MUST** be attached.*

Chapman trained and approved technicians are the only ones allowed to assemble the amphibian head. It is the responsibility of the production and crew in conjunction with the Amphibian technician to ensure safety when equipment is in use. The safety of the cast and crew is Chapman/Leonards primary concern.

The Amphibian Head with payload must be balanced before submerging into water. For configurations not shown in this brochure, or questions regarding a special setup, **please contact a Chapman/Leonard Service Representative.** Keep the Amphibian **under control at all times.** Avoid sudden removal of equipment. Never exceed the **maximum payload values** for any configuration. Chapman/Leonard Studio Equipment, Inc. will NOT guarantee the safety or performance of any alterations to the depicted arm configurations. **DO NOT** exceed the listed **Post Mount Height (PMH)** values to avoid invalidating our safety recommendations. The water housing technician is responsible for housing staying properly sealed and glass dome latched.

General Uses

Description

The Amphibian® is a 3 Axis Remote Head with features other remote heads don't have.

1 **Waterproof**

A submersable fully waterproof head.

2 **Full Rotation**

Cabled connections allow full 360 degree rotation of the camera.

3 **Mitchell Mount**

The Amphibian must have an adapter when used with a Mitchell Mount.

4 **Setup**

The Amphibian has an easy setup (about 30 minutes) and it is very versatile.

	3 Axes Setup		2 Axes Setup	
Maximum Height of Unit	49"	1.2 m	42"	1.1 m
Maximum Width of Unit	29"	.74 m	21"	.53 m
Maximum Length of Payload	26"	.69 m	26"	.69 m
Maximum Width & Height of Payload	20 1/2"	.52 m	20 1/2"	.52 m
Load Capacity	90 lb	40.8 kg	90 lb	40.8 kg
Weight of Unit	110 lb	36.3 kg	68 lb	29.5 kg
Voltage	30 Volts DC			
Pan, Tilt & Roll Maximum Speed	120°/sec			
Mounting Base			Custom Mount	
Total Shipping Weight	150 lb	68 kg	90 lb	40.8 kg

Tools Used During Setup

Special Tools for the Amphibian Remote Head



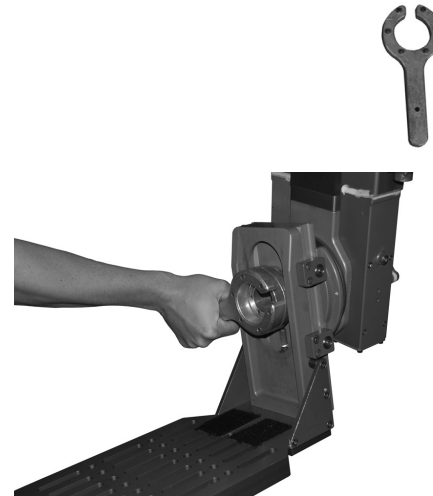
Amphibian Castle Nut Wrench

For tightening the connection to the arm.



Amphibian Wrench Adapter

For use with a Torque Wrench for tightening the Tilt Plate.



Amphibian Open Spanner

For tightening the Lock Nut on the Tilt Plate.

Safety

Camera tie down bolts are necessary to fasten camera to head. (Minimum of 2 required with adequate threading).

Camera safety cable to be tethered through all axis to camera body or water housing

**T-Handle Allen Wrench**

For attaching the Camera Plate to the Amphibian Head.



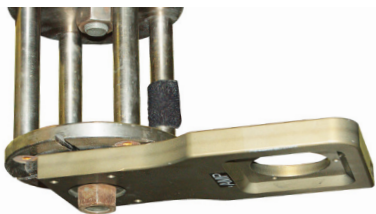
Tools for the Amphibian Remote Head.

Can of spray Corrosion Block.



Amphibian Remote Head

Assembly



Attaching the special Amphibian Head mounting plate securely to a crane arm or base is the first step in assembling the Amphibian Head system.

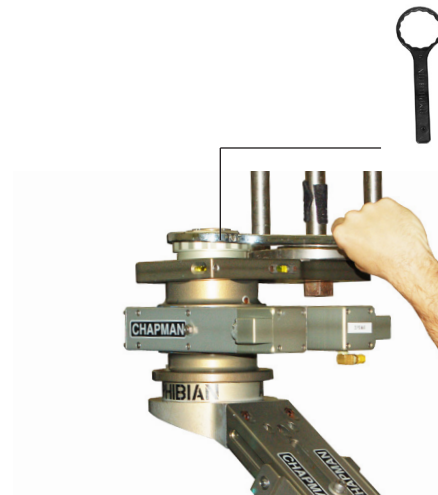
This mounting plate is specifically designed for the Amphibian Head.

Mitchell Mount Adapter is also available by request.

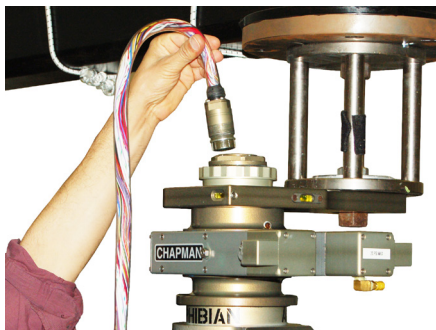


While one person lifts and holds the Amphibian Head in place against the mounting plate, a second person attaches and hand tightens the Castle Nut.

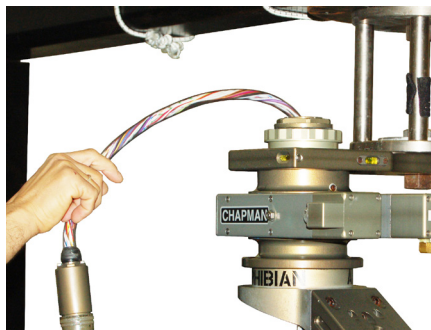
Warning! This step requires two people.



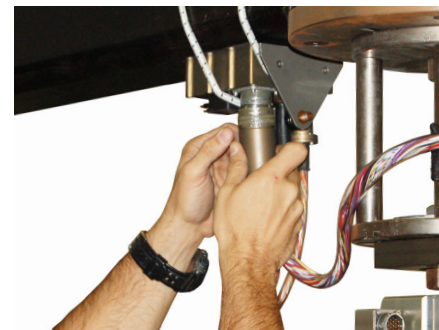
This special Castle Nut is used only with the Amphibian Head. It has its own special Castle Nut Wrench. Finish attaching the Amphibian Head by ensuring that the Castle Nut is snug. Attempt wiggling the Pan Arm of the Amphibian Head to make sure that there is no play between it and the mounting plate.



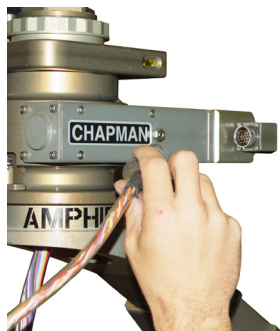
Insert the Pan Gimbal Cable end of the Pan/Tilt cable through the mounting shaft of the Amphibian Head.



Check to insure that the Pan/Tilt cable is free to move and does not bind.



The Junction Box is mounted directly on the crane arm or base. All electrical connections between the Amphibian Head and the Amphibian Head Computer Module go through the Junction Box. The Pan/Tilt cable is attached to the Junction Box.



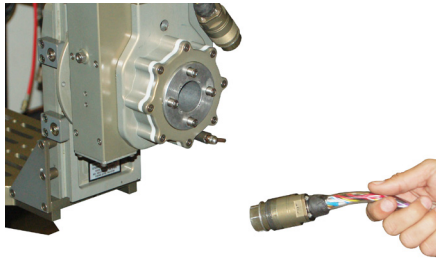
The two shortest cables in the Amphibian Head package are the Pan Motor cables. Attach one on the left ...



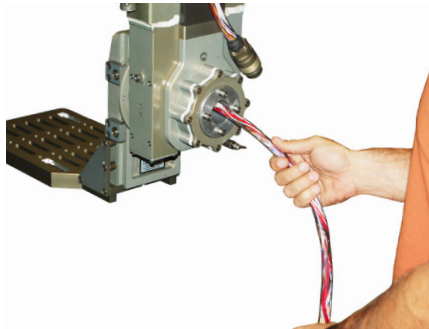
and one on the right side of the Amphibian Head.



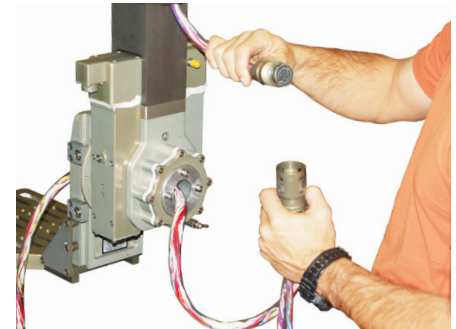
Both Pan Motor Cables are then attached to the Junction Box.



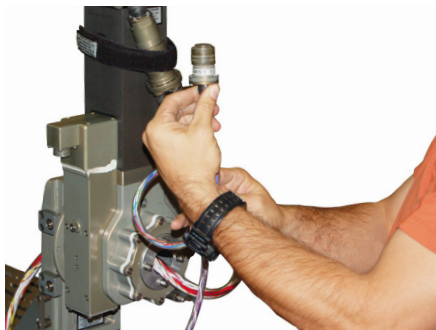
Take the Tilt Gimbal Cable end off the Tilt cable...



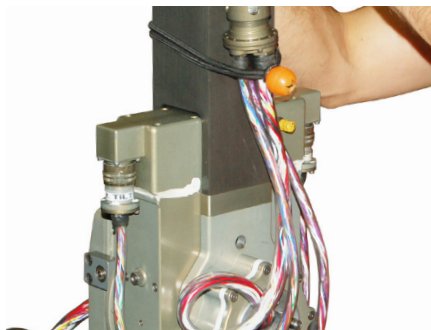
and insert it through the tilt section of the Amphibian Head.



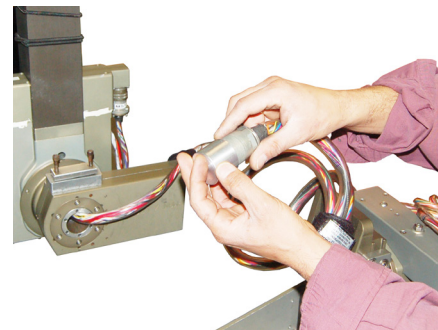
Connect the Pan and Tilt Motor power cables. A ring coupler ensures a tight waterproof connection between the cables.



Attach the Tilt Motor cables.

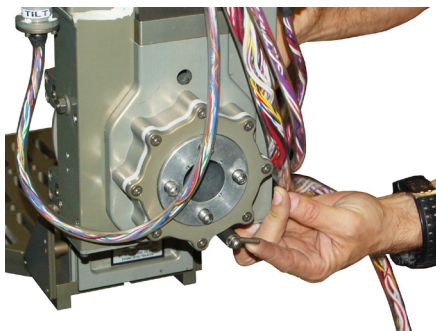


The Tilt Motor cable is attached to the right side and another Tilt Motor cable on the left side of the Amphibian Head.

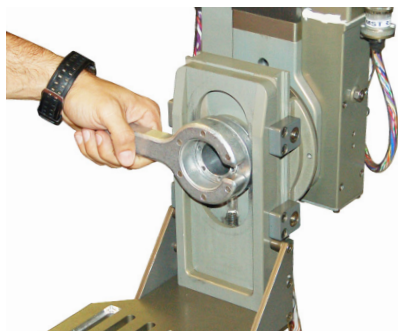


If you are not ready to connect the camera, a Cable End is used to protect and waterproof the Motor cables.

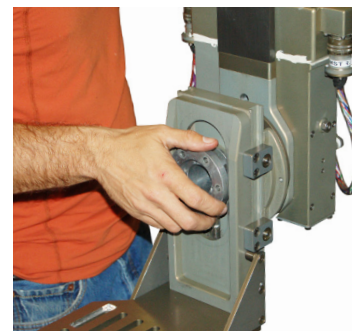
Adding the Amphibian Remote Head 3rd Axis Assembly



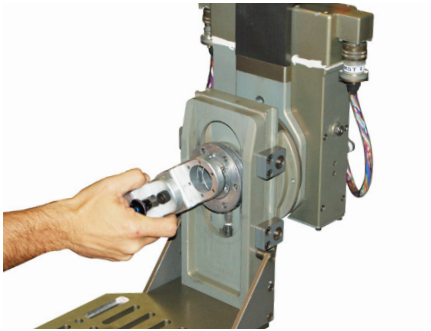
If a 3rd Axis (for Roll) is required, the Tilt plate must first be removed. Begin this procedure by locking down the tilt feature of the Amphibian Head.



Use the special Amphibian Open Spanner to loosen the Tilt Bearing retaining ring on the shaft of the Tilt section.



The Tilt Bearing retaining ring can now be turned by hand. Leave it in place on the Tilt section.

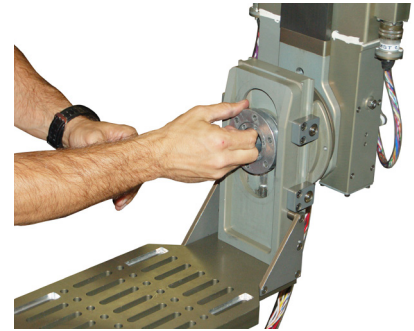


Line up the pins on the Amphibian Wrench Adapter.

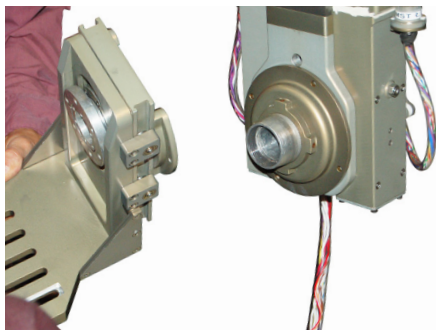
Warning! This step requires two people.



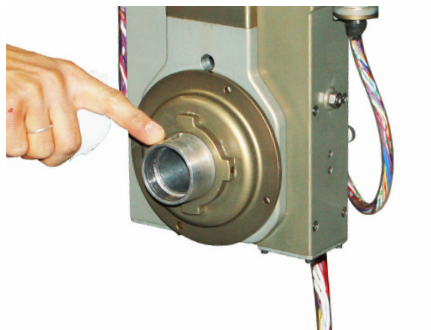
Use a torque wrench with the Amphibian Wrench Adapter.



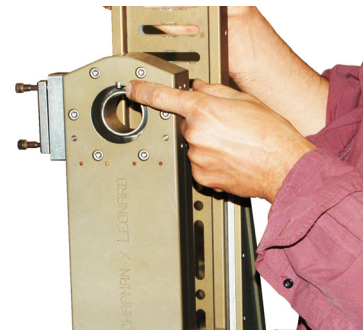
You can then loosen the Tilt Bearing Retaining Ring and Lockdown Ring by hand.



Remove the 2nd Axis Tilt Plate. Store the 2nd Axis Tilt Plate in a hardened case. It will not be used in the 3 Axis Configuration.



Inspect the threads. The Keyway should be clean and oriented upward.



The Key on the 3rd Axis Camera Plate must match up with the Keyway.

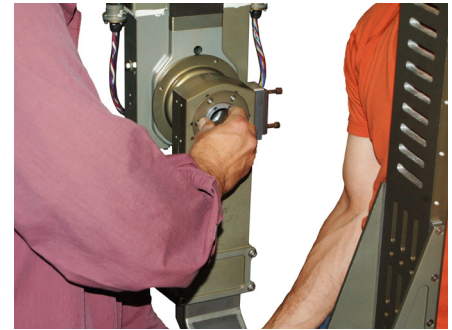


Make sure the threads are clean and the Keyway is oriented upward.

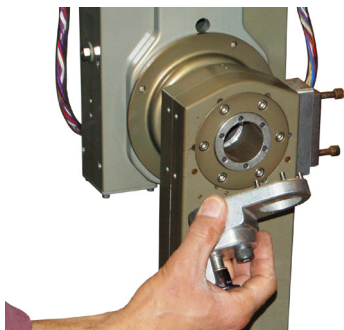


Attach the 3rd Axis Camera Plate by lining up the Key with the Keyway.

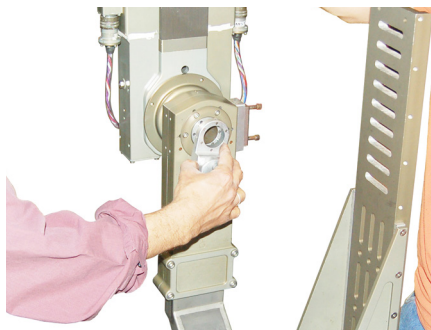
Warning! This step requires two people.



While supporting the 3rd Axis Camera Plate, hand tighten the Tilt Bearing Retaining Ring and Locking Nut.



Line up the pins of the Amphibian Wrench Adapter.

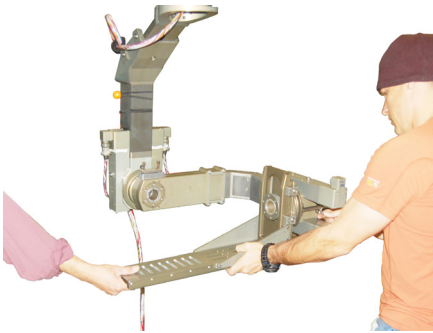


Slowly tighten the Bearing while wiggling the Camera Plate.

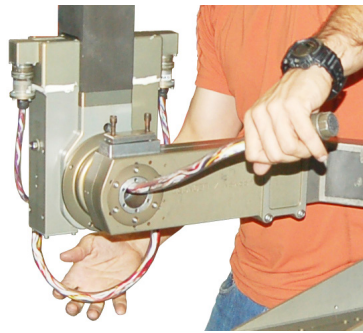


Once the Bearing is fully seated with no play in the Camera Plate, attach the torque wrench. Tighten to 33 lb of torque (maximum).

Warning! This step requires two people.



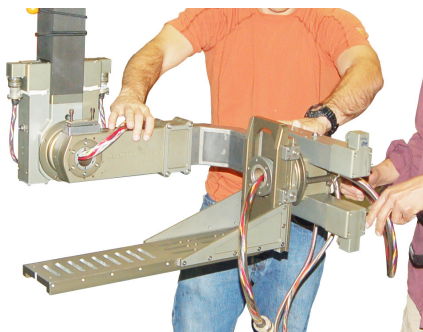
Orient the camera plate to accept the camera payload and lock down all axes.



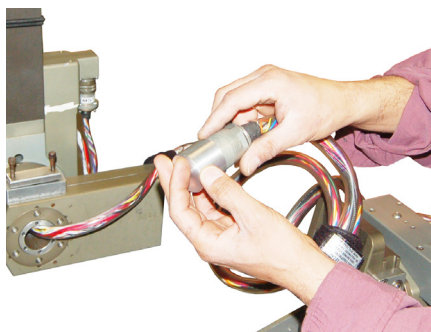
Insert the Tilt Power Cable through the Tilt Bearing.



Connect the Roll Gimbal Cable to the Tilt Gimbal Cable using a connector.



Position the cables on the Amphibian Head so that it can move without restriction. Secure the cable to the arm where possible. You are now ready to add the camera payload to the Amphibian Head.



Note:

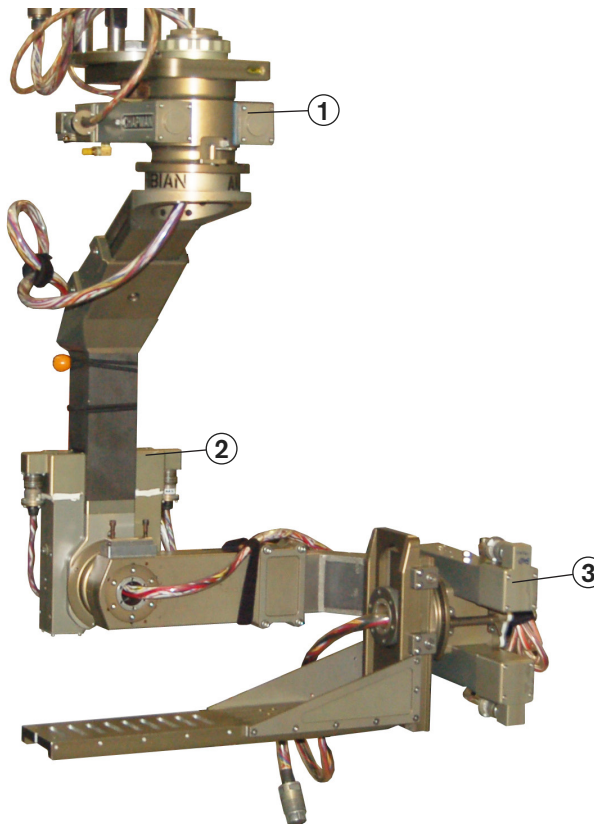
If you are not ready to connect the camera, a Cable End is used to protect and waterproof the Motor cables.



Note:

The Tilt Arm of the Amphibian Head can be adjusted to accept a larger size payload. Use a socket head wrench. Support the Tilt Arm extension while the screws are loose. Equally retighten all screws.

- 1 Pan Motors
- 2 Tilt Motors
- 3 Roll Motors



Pan Gimbal Cable

Pan Cables
Left & Right

Tilt Gimbal Cable

Roll Gimbal Cable

Cables used with the Amphibian Head.

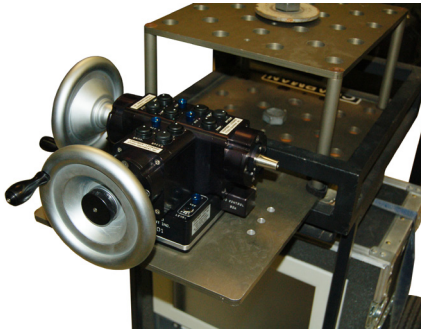
Connecting the Junction Box Assembly

- 1 Main Power Cable to
Tilt and Roll Motors
- 2 Primary Power to
Pan Motor
- 3 Secondary Power to
Pan Motor
- 4 Main Cable to Control Unit

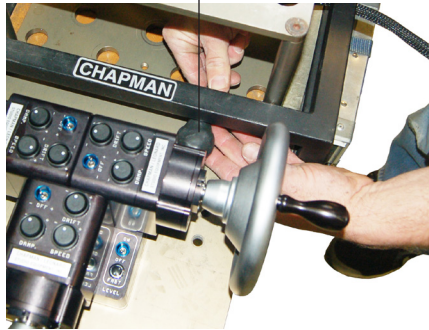
**Note:**

Pressurize schrader valve to
10 psi nitrogen.

Amphibian Remote Head Control Cart Assembly



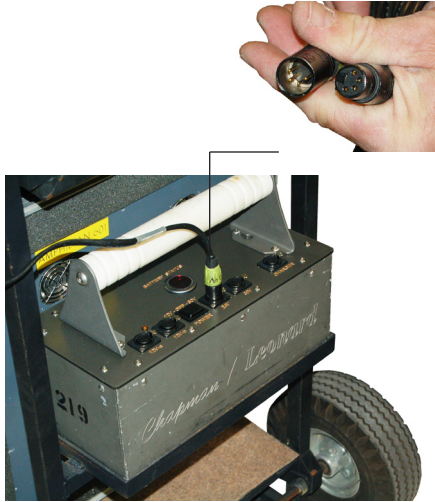
Add the Control Wheels for each axis to the Module.



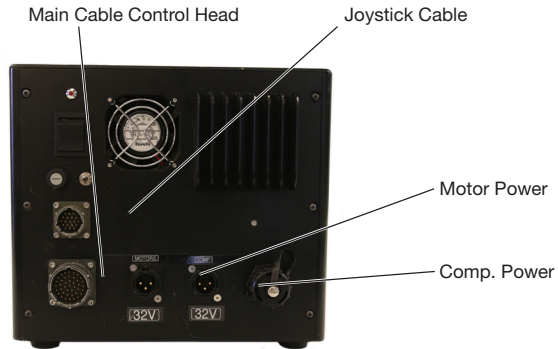
The 19 pin Wheels Cable attaches to the back of the Module.



The other end of the Wheels Cable attaches to the back of the Computer Module.



The 3 pin cable attaches to the 24 volt outlet of the Battery.



The other end of the battery cable attaches to the back of the computer.

The Complete Control Cart

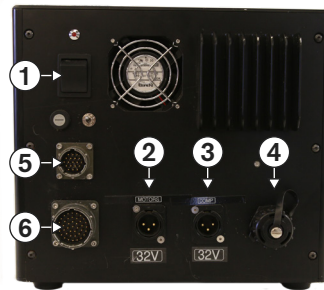


The Amphibian Remote Head Software

The Computer Interface



The Computer Interface is the connection between the Amphibian Head and the Joystick / Wheel Controllers. The sensitivity of the controls can be adjusted and all the movements of the Amphibian Head can be programmed and saved simply by recording.



- 1 Power Switch - AC / Off / Battery Power
- 2 32 Volt Battery Connection (for motors)
- 3 32 Volt Battery Connection (for computer)
- 4 Head Motor Kill Switch
- 5 Joystick / Wheels Controller
- 6 Amphibian Head Cable Connection

The Amphibian Remote Head Software System Configuration



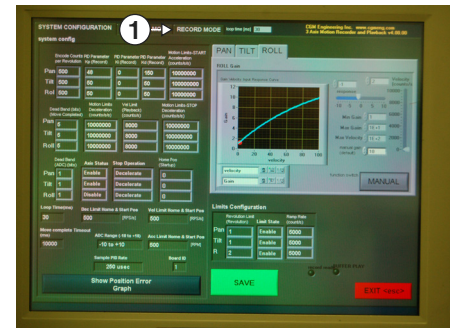
The system Configuration Screen is primarily used by the Remote Head Engineers at Chapman during the initial setup of the Amphibian Head.

There are some controls on this page that are regularly used by the Amphibian Head Technicians or Grips:

- 1 Control for dampening at the start of a move
- 2 Control for dampening at the end of a move
- 3 Control for disabling an axis (Use of just 2 axes).



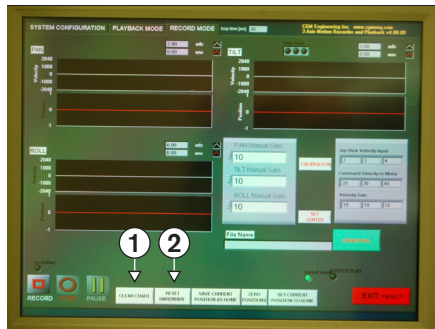
- 1 The standard operating procedure for the Amphibian Head uses the dampening effects on all three axes of the head. Each axis has an individual control for eliminating the vibration effects.
- 2 An important feature for controlling the movement of the Amphibian Head is the Limit Configuration Panel. Each axis can be individually selected and its limit of rotation preset.



- 1 From this page we can move to Record Mode by touching the screen tab at the top of the page.

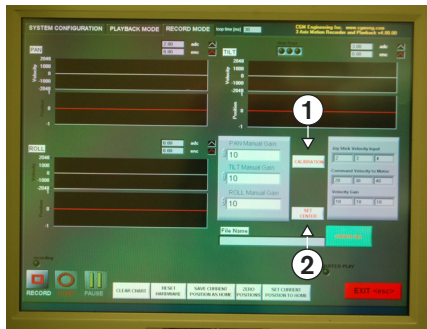
The Amphibian Remote Head Software

Record Mode

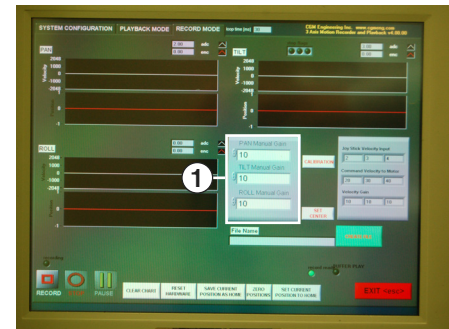


This is the primary control interface that is used by the Amphibian Head Technicians or Grips:

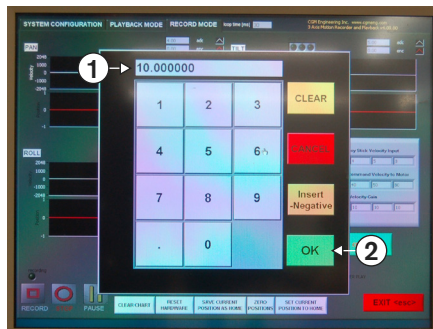
- 1 Clear Chart: Clears any previously stored data.
- 2 Reset Hardware: Reboots the system. This is a good place to start when troubleshooting any problem.



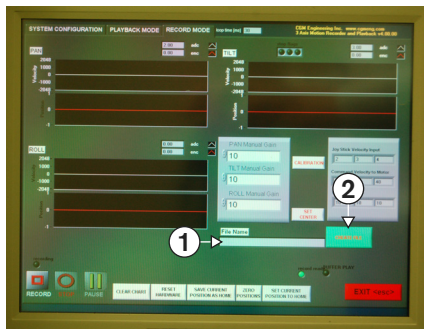
- 1 The first step in recording a movement of the Amphibian Head is a calibration of the system to zero in all axes.
- 2 The next step is setting the current position of the Head as the Center reference point. This is also called the Home Position.



- 1 Adjust the Ratio (Speed) of the Amphibian Head movements in each axis in relation to the speed of the movement of the Joystick / Control Wheels.



- 1 Use the keypad to input a new value.
- 2 Save by touching OK.



- 1 Choose a name for the Session.
- 2 Save by touching Create File on the screen.

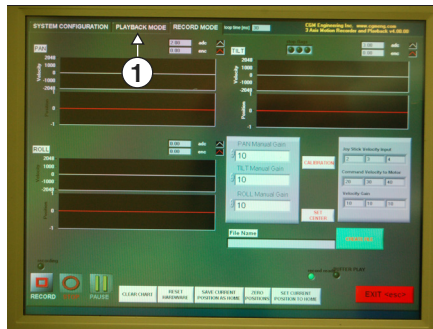


- 1 Multiple Sessions, Shoots or Movements can be stored for later use.

Save the new file to the list by touching the screen on the OK button.

The Amphibian Remote Head Software

Playback Mode

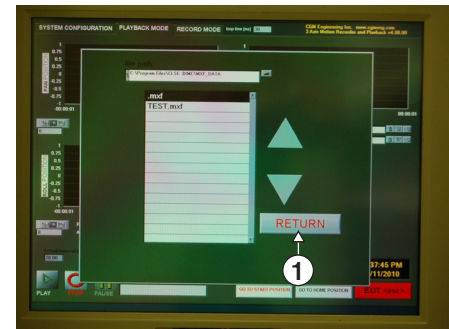


- 1 From this page we can move to Playback Mode by touching the screen tab at the top of the page.



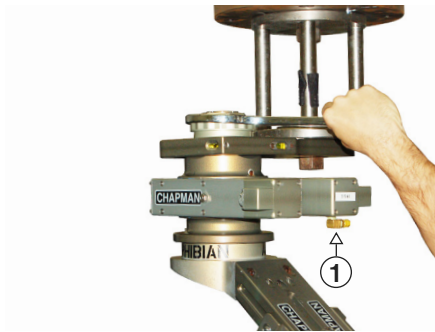
- 1 In Playback Mode, we can choose a pre programmed move and a graph of each axis movement will be displayed.

Select Playback File

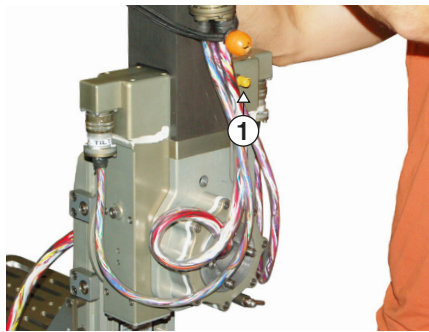


- 1 Select one from the list and hit Return.

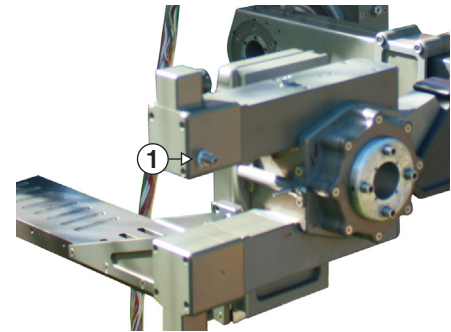
Nitrogen Charging the Amphibian Remote Head Configuration



- 1 Schrader Valve located on the Pan Motors can be injected with 20 psi of nitrogen (maximum).



- 1 Schrader Valve located on the Tilt Motors can be injected with 20 psi of nitrogen (maximum).



- 1 Schrader Valve located on the Roll Motors can be injected with 20 psi of nitrogen (maximum).

Shipping & Rental Return

The customer should be sure that the equipment is properly crated for shipment. Get a signed receipt from the shipping company that will be transporting the equipment. Keep the receipt from the transport company indicating that the equipment has been shipped to **Chapman/Leonard Studio Equipment, Inc.**

When picking up or returning rental gear to Chapman/Leonard Studio Equipment, Inc., please remember that **rentals are due back by 10 a.m. at our North Hollywood facility.**

The rental bays are located on your left, immediately after entering the facility from Raymer Street. Trucks should be backed up to the bays for easier loading. If no bays are available, you can temporarily park on Raymer Street and advise the Rental Office of your arrival. A Customer Service Agent will advise you when a spot opens at the bay.

All drivers should first report to the Rental Staff for paperwork. Unloading will not begin until the paperwork has been picked up and stamped. Our Rental Staff is well trained to process equipment and documents quickly and courteously. It is our intent to get you back on the road in a timely manner.

Address

Chapman/Leonard Studio Equipment, Inc.
12950 Raymer Street
North Hollywood, CA 91605

Rental Office Hours

Monday - Friday	7am - 6pm
Saturdays	8am - 12 pm





CHAPMAN/LEONARD
— STUDIO EQUIPMENT INC. —