

HS-105P Pan and Tilt Head

AM-HS-105P
AM-HS-105PE
AM-HS-105PESA
AM-HS-105PSA
AM-HS-105IT
AM-HS-105ITE
V4058-0001
V3995-0001
V4027-0001

AutoCam™
HS105P series
pan and tilt heads
Operators Guide

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Safety - read this first

Understanding these instructions

English

EN

The original instructions presented in this operators guide were written in English, and subsequently translated into other languages. If you are unable to understand these instructions, contact Vinten or your distributor to obtain a translation of the original instructions (EU Countries).

БЪЛГАРСКИ

BG

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Česky

CS

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EU).

Danish

DA

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Deutsch

DE

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Eesti

ET

Käesoleva kasutajjuhendi algtekst on koostatud inglise keeles ning seejärel tõlgitud teistesse keeltesse. Kui juhend osutub teie jaoks arusaamatuks, võtke juhendi emakeelse tõlke hankimiseks ühendust Vinteni või kohaliku esindajaga (Euroopa Liidu riigid).

Ελληνικά

EL

Οι αρχικές οδηγίες αυτού του οδηγού για το χειριστή συντάχθηκαν στα Αγγλικά και μεταφράστηκαν στη συνέχεια σε άλλες γλώσσες. Εάν δυσκολεύεστε να καταλάβετε αυτές τις οδηγίες, επικοινωνήστε με τη Vinten ή το διανομέα σας για να λάβετε μια μετάφραση των αρχικών οδηγιών (Χώρες ΕΕ).

Español

ES

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Français

FR

Les instructions originales présentées dans ce guide d'utilisation ont été écrites en anglais puis traduites dans d'autres langues. Si vous ne comprenez pas ces instructions, contactez Vinten ou votre revendeur pour obtenir une traduction des instructions originales (pour les pays de l'UE).

Gaeilge

GA

Scríobhadh na treoracha bunaidh don treoirleabhar oibritheora seo as Béarla, agus aistríodh iad go teangacha eile ina dhiaidh sin. Mura bhfuil tú in ann na treoracha seo a thuiscint, téigh i dteagmháil le Vinten nó le do dháileoir, chun aistriúchán de na treoracha bunaidh a fháil (Tíortha an AE).

Italiano

IT

Le istruzioni originali presentate in questa guida per l'operatore sono in lingua inglese e successivamente tradotte nelle altre lingue. Qualora le istruzioni non fossero disponibili nella lingua desiderata, potete contattare Vinten o il vostro distributore per ricevere la traduzione delle istruzioni originali (Paesi UE).

Latviešu

LV

Šajā operatora rokasgrāmatā iekļautie norādījumi sākotnēji tika sarakstīti angļu valodā un pēc tam pārtulkoti citās valodās. Ja nesaprotat šos norādījumus svešvalodā, sazinieties ar Vinten vai tirgotāju, lai saņemtu norādījumu tulkojumu (kādā no ES dalībvalstu valodām).

Lietuvių

LT

Šiame operatoriaus vadove pristatomos pirminės instrukcijos parašytos angliu kalba ir vėliau išverstos į kitas kalbas. Jei šių instrukcijų nesuprantate, susisiekite su „Vinten“ arba savo platintoju ir gaukite pirminių instrukcijų vertimą (ES šalies kalba).

Magyar

HU

A kezelői útmutatóban található utasítások angol nyelven íródtak, és utólag fordították azokat más nyelvekre. Ha nem érti ezen utasításokat, kérjük, vegye fel a kapcsolatot a Vintennel vagy a helyi képviselővel, és igényelje az eredeti utasítások fordítását (EU országok).

Malti

MT

L-istruzzjonijiet originali ipprezentati f'din il-'gwiđa ta' operaturi kienu miktuba bil-Ingliż, u sussegwentement maqluba fil-lingwi oħra. Jekk ma tistax tifhem dawn l-istruzzjonijiet, ikkuntattja lil Vinten jew id-distributur tiegħek biex tikseb traduzzjoni ta' l-istruzzjonijiet originali (Pajjiżi ta' UE).

Nederlands

NL

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Polski

PL

Oryginalne instrukcje zamieszczone w niniejszym podręczniku operatora zostały napisane w języku angielskim, a następnie przetłumaczone na inne języki. Jeśli nie rozumieją Państwo tych instrukcji, prosimy skontaktować się z siedzibą lub dystrybutorem Vinten, aby uzyskać tłumaczenie oryginalnych instrukcji (kraj UE).

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PT

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Română

RO

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Slovensky

SK

Pôvodné pokyny, uvedené v tomto návode na obsluhu, boli napísané v angličtine a následne preložené do iných jazykov. Ak nerozumiete týmto pokynom, obráťte sa na spoločnosť Vinten alebo vášho distribútora, aby vám zaslal preklad originálnych pokynov (krajinu EU).

Slovenščina

SL

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Suomi

FI

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Svenska

SV

Instruktionerna i denna handbok skrevs ursprungligen på engelska och har sedan översatts till flera språk. Om du inte förstår dessa instruktioner, kontakta Vinten eller din återförsäljare för en ny översättning av originalinstruktionerna (EU-länder).

Safety Guidelines

This product is designed and manufactured to meet strict quality and safety standards. However, it is important that you are aware of the following operating precautions. Many of these instructions are commonsense precautions, but for your own safety and to ensure that you do not damage the equipment, we recommend that you read them.

Responsibility

The Operator is responsible for the safe operation of this product and all other products forming part of the Autocam control system, including robotic pan/tilt heads, pedestals and cameras.

Safety when working with the product



Take heed of warnings and instructions

You should read all of the safety instructions in this Operators Guide before attempting to operate the equipment. Adhere to all warnings in this guide and on the equipment. Do not attempt to operate this equipment if you do not understand how to operate it.



Power sources

Connect the product to a power supply of the type and voltage rating described in the Technical Data section of this Operators Guide or as marked on the product.

For an emergency power-down, ensure all personnel are aware of the location of the power switch on the product and associated equipment and power supplies.



Servicing

Do not attempt to service this product. Opening and removing covers may expose you to dangerous voltages or other hazards. Refer all servicing to trained and competent personnel. Contact Vinten Radamec to arrange servicing of this product.



Water, moisture and dust

Protect the studio version of the product from water, moisture and dust. The presence of electricity near water can be dangerous. Do not use the product near water and take care that liquids are not spilled onto the equipment. Only the environmental versions of the product should be used externally.

Operating environment

The product should not be used outside the operating temperature limits. To prevent risk of overheating, ventilate the product correctly. Refer to the Technical Data section of this guide for the operating limits for the product.



Connections

Turn OFF before connecting or disconnecting any equipment or making any adjustments to the camera or associated equipment.

Warning symbols



WARNING!

Where there is a risk of personal injury or injury to others, comments appear supported by the warning triangle symbol. Where there is a risk of damage to the product, associated equipment, process or surroundings, comments appear supported by the word 'caution'.



ELECTRIC SHOCK

Where there is a risk of electric shock, comments appear supported by the hazardous voltage warning triangle symbol.



CAUTION
finger trap

FINGER TRAP

Where there is a risk of trapping fingers within parts of the product or other equipment mounted to the product, comments appear supported by the finger trap symbol.



READ INSTRUCTIONS

On encountering the warning triangle and open book symbols it is important that you read the operators guide supplied with the product before attempting any adjustment or repair.

Usage

The AutoCam™ HS-105 pan/tilt head is designed specifically for use with ENG size camera and lens configurations with a 34 kg (75 lbs) capacity. The head can be fitted to a number of standard tripod and pedestal mountings, and it can also be wall mounted or inverted for suspension from ceilings.

The product is intended for use by television camera operators, trained to use Vinten Radamec robotic equipment. Do not use this product for any other purpose other than that specified in this usage statement.



Warning!

1. Do NOT attempt to use this product if you do not understand how to operate it.
2. Do NOT use this product for any other purpose than that specified in this Usage statement.
3. Maintenance beyond that detailed in this Operators Guide must be performed only by competent personnel.
4. When installed in overhead applications, regularly inspect the mountings and fall arresters.

Disposing of old electrical and electronic equipment



When you see this symbol on a Vinten Radamec product it indicates that this product must not be disposed of with household waste. In some countries or European Community regions, separate

collection systems have been set up to handle electrical and electronic waste products. This product must be disposed of at a collection point for the recycling of electrical and electronic equipment. For more information about disposing of this product, visit www.vintenradamec.com/support/WEEE. By ensuring this product is disposed of correctly, you will help protect human health and conserve natural resources and the environment.

Safety when working with robotic equipment

Safe working environment

In normal operation, remote controlled heads and pedestals can move suddenly and without warning. Since audible warnings are not suitable for use within the studio environment, it is recommended that only trained personnel be allowed to work in the active areas where remote controlled heads and pedestals are located.

Personnel should be made aware of the potential hazards of working in a robotic environment.

To avoid personnel injury, personnel should always exercise caution when working in the vicinity of robotic equipment. The forces are sufficient to cause personal injury or injury to others and therefore caution is essential.

Safe operating zone

The safe operating zone for personnel is a minimum of 1 m (3 feet) outside of the footprint of the pan/tilt head. In most installations, the teleprompter (if installed) is mounted on to the head and protrudes the furthest beyond the base of the head. The footprint must take into account the overhang of the teleprompter and/or other payload equipment as the head moves about the pan axis.

Personnel need to be trained and aware of how far the head and pedestal can move, the speeds involved and the need to stay clear of robotic equipment at all times.

Warning signs

Warning signs should be displayed prominently in the workplace, alerting personnel that robotic equipment is in use and may move suddenly without warning.

If personnel are working on robotic or associated equipment, ensure a warning sign is placed at the Controller (control panel) to alert Operators that work is being carried out.

Safety notes for operators

Each remote controlled head and/or pedestal in the system should remain within the view of the Operator at all times. Do not operate a head and/or pedestal if it cannot be seen.

Before and during remote operation, the Operator must verify visually that the active area is clear of hazards and personnel. If personnel are too close to a head or pedestal that is about to move, the Operator should prevent the motion from starting or stop the motion after it has started.

Operators must familiarise themselves with the working footprint of the robotic head including all associated equipment (lens, zoom and focus controls, viewfinder, prompter etc.), to prevent inadvertent collisions or injury to personnel.

Pedestals and heads can start unexpectedly

The hazards associated with robotic camera systems are only slightly different than those associated with operating a camera under conventional manual control. The speeds and camera weights are similar. The main difference is that with automation, the operator is normally not near the cameras, and it is more difficult to verify that the area is clear.

For personnel working on or near the pedestals, they must be aware that the equipment can start moving unexpectedly. All personnel should be trained and aware of the hazards of robotic pedestals and heads, and the fact that they can move at any time. They must be trained on how far the pedestals, heads and payloads can move, the speeds involved, and the need to stay back an appropriate distance. Most adjustments to the camera and head, such as balancing and camera calibration, should be made with the system de-energized.

However, if adjustments are absolutely necessary while the pedestal and/or head is powered, they should only be made by trained technical personnel familiar with the AutoCam robotics system. They must understand that the pedestal or head can

HS-105P pan and tilt head

move unexpectedly at any time, and they must position themselves so that any motion would not cause them personal harm. When the robotic heads move, the speeds involved are fairly slow. However, the equipment is still capable of generating sufficient force to cause injury. Therefore, it essential that you exercise caution. In particular, be aware that the teleprompter is usually the fastest swinging element. Any failure of the system could possibly cause one or more axes to move on their own, but the speeds and forces should not be noticeably greater than those encountered during normal use.

Declaration of Conformity



In respect of the following equipment manufactured by Camera Dynamics Ltd:

Model Part Numbers:

AM-HS-105IT, AM-HS-105PE, AM-HS-105-, V3995-0001

are manufactured in accordance with:

89/336/EEC - The Electromagnetic Compatibility Directive

By application of the following Harmonised Standards:

- EN55103-1:1996 Electromagnetic compatibility - Part 1 - Emission - Product family standard for audio, video, audio visual and entertainment and lighting control apparatus for professional use. Environments E3 & E5.
- EN55103-2:1997 Electromagnetic compatibility - Part 2- Immunity - Product family standard for audio, video, audio visual and entertainment and lighting control apparatus for professional use. Environments E1, E2, E3 & E4.
- EN61000-4-4:2004 Electromagnetic compatibility (EMC) - Part 4-4: Testing and measurements techniques - Electrical fast transient/burst immunity test.

Technical Data

Maximum payload 34 kg (75 lb)
Weight 17.2 kg (38 lb)
Height 43.7 cm (17.2")
Width 36.7 cm (14.4")
Depth 17.8 cm (7.0")

Angular range (pan) 359°
Angular range (tilt) ± 179° capable, ± 30° typical
Accuracy (pan and tilt) 90 arc seconds
Angular acceleration 180°/second/second
Angular velocity (maximum) 180°/second
Angular velocity (minimum) 0.01°/second

External power supply requirement 100-240 VAC / 50-60 Hz
Input voltage ± 28.5 V DC nominal
Input current ± 1.5 A nominal
Power supply consumption (peak) 500W

Operating temperature range* -20°C - +50°C (-4°F - +122°F)
* applies to environmental versions only

Mounting Tripod/Pedestal/Wall/Ceiling

IMPORTANT NOTE: Technical data is subject to change. Vinten Radamec reserves the right, without notice, to make changes in equipment design or performance as progress in engineering, manufacturing or technology may warrant.

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Introduction

The HS-105 pan/tilt head has been designed specifically for use with ENG size camera and lens configurations including a small teleprompter, with a maximum payload capacity of 34 kg (75 lbs). This compact and versatile head can be mounted within existing wall cavities or inverted for suspension from ceilings, and the camera platform is adjustable to provide perfect balance for your specific camera/lens combination. The head can also be mounted onto a tripod or pedestal for use within television broadcasting studio environments. The range of HS-105 pan/tilt heads can be used in various applications such as parliamentary proceedings, distance learning between campuses, scientific meetings, and external broadcast and surveillance applications. The head can be controlled by the AutoCam 200 control system, Multi Controller II, Legislative Control System (LCS), and the Vinten Radamec VRC system (VRC-EPI). Communication with the Controller is by RS-422 data over a maximum distance of 5000 ft. (1500 m).

All of the electronics are contained on a single circuit board for increased reliability and the high gain servos result in excellent acceleration ($180^\circ/\text{sec}^2$) and smooth movement with 36 arc seconds position repeatability. This, combined with an extremely rigid mechanical design, allows tight damping with minimum oscillation and overshoot.

Control of camera zoom and focus is supported for generic Vinten and AutoCam servo lens drives that attach to ENG lenses and provide the drive motors and follow pots for servo operation. Alternatively, the head can be used with the Vinten Radamec Native Lens Drive (V3977-0001) that supports full servo lenses including Canon and Fujinon.

The range of HS-105 pan/tilt heads includes:

- HS-105P pan/tilt head is intended for studio applications only and is designed for use with generic Vinten and AutoCam servo lens drives or the Vinten Radamec Native Lens Drive.
- HS-105SA pan/tilt head is intended for applications where a custom controller will be used instead of an AutoCam controller, thereby requiring a change to the Control protocol for the position feedback.
- HS-105PESA pan/tilt head is weather resistant and is intended for applications where a custom controller will be used instead of an AutoCam controller, thereby requiring a change to the Control protocol for the position feedback.
- HS-105PE/HS-105PE-NLD pan/tilt head are weather resistant and designed for use with generic Vinten and AutoCam servo lens drives or the Vinten Radamec Native Lens Drive. It uses weather resistant connectors and does not have a power On/Off switch.
- HS-105IT pan/tilt head is designed for interfacing with virtual sets, combining the robotics of the head with electronic positioning encoders and data capture and transmission electronics. The range of HS-105 pan/tilt heads can be supplied with the Image Tracker (AM-HS-IT/AM-HS-ITE) that provides real-time digital electronic positioning of pan and tilt movements as well as camera lens zoom and focus.
- HS-105ITE is a weather resistant version of the HS-105IT.
- HS-105SPAWAR pan/tilt head is weather resistant and designed specifically for remote military applications. The head is supplied in either olive drab and desert tan colour options. The HS-105SPAWAR pan/tilt head does not support lens control or auxiliary equipment and does not have an On/Off switch.

Components

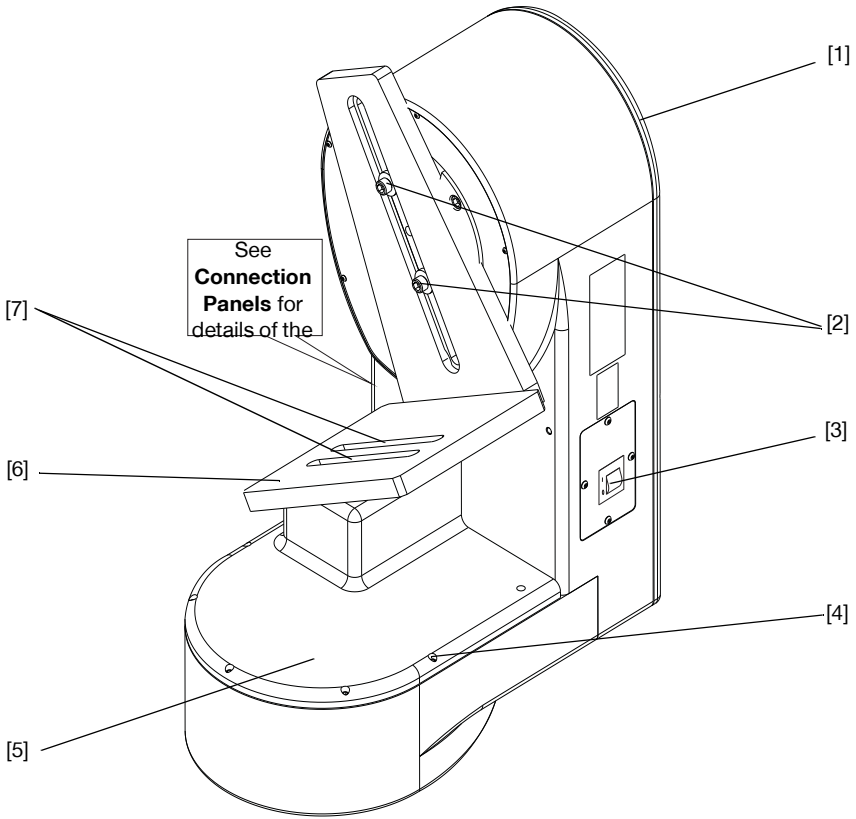


Fig 1 HS-105 pan/tilt head main body

- [1] Main cover
- [2] Platform fixing screws (2 off)
- [3] Power on/off switch (studio models only)
- [4] Tilt motor cover fixing screws (7 off)
- [5] Tilt motor cover
- [6] Tilt platform
- [7] Camera mounting slots

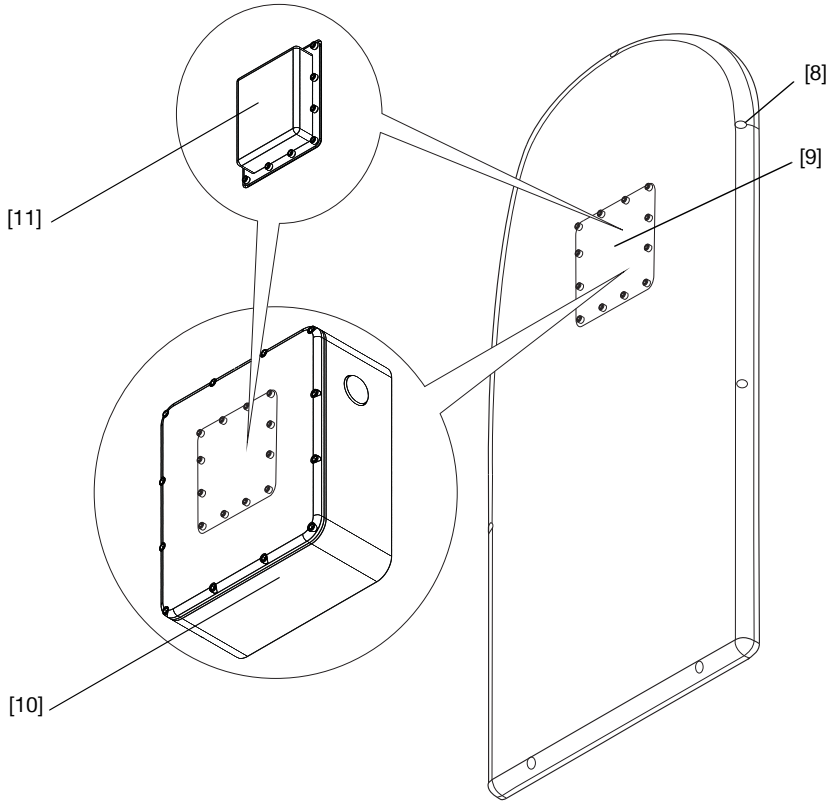


Fig 2 HS-105 pan/tilt head main cover

- [8] Main cover fixing screws (7 off)
- [9] Cover plate (studio models only)
- [10] Image Tracker Unit (option available on all HS-105 models)
- [11] Desiccant storage box (environmental models only)

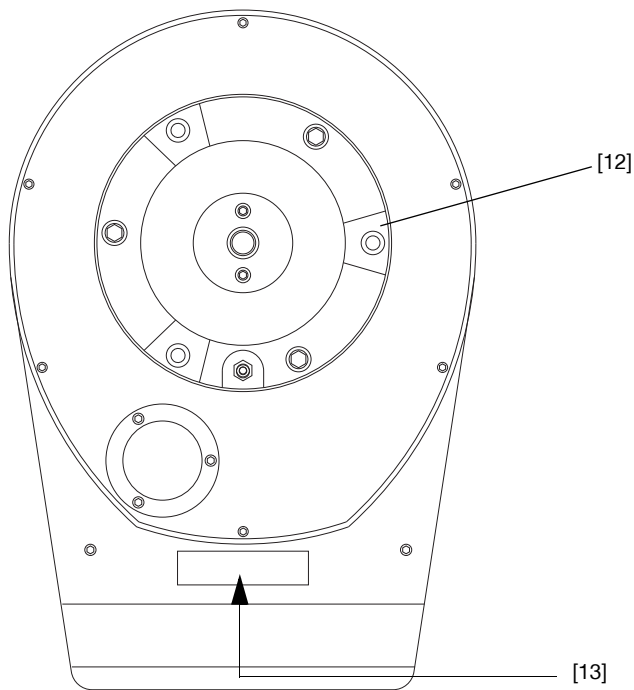


Fig 3 HS-105 pan/tilt head underside

- [12] Three-hole mounting plate
[13] Serial label

External Connections

All external connections are located on the side of the main body (Fig. 1). The type of external connector depends on the model of HS-105 pan/tilt head.

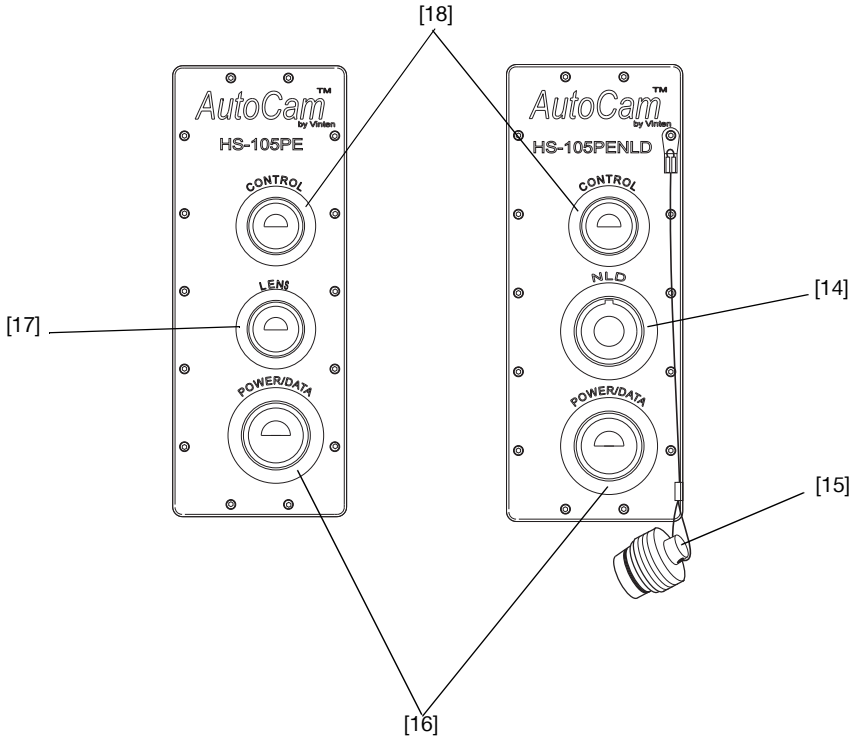


Fig 4 External connections on the HS-105PE and HS-105PENLD environmental pan/tilt heads

- [14] Combined NLD & Servo lens drive connector
- [15] Dust cover for the Control connector
- [16] Power/data connector
- [17] Servo lens drive connector
- [18] Control connector

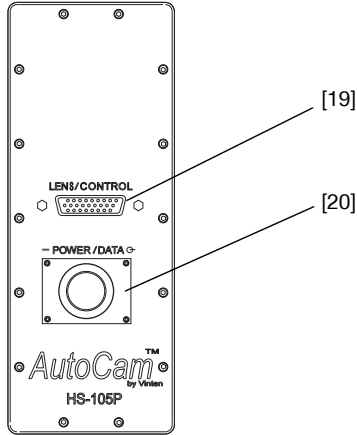


Fig 5 External connections on the HS-105P studio pan/tilt head

- [19] Lens/control connector
- [20] Power/data connector

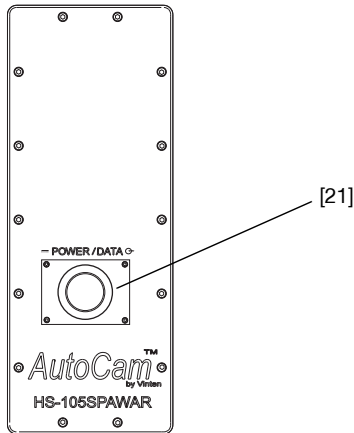


Fig 6 External connections on the HS-105SPAWAR pan/tilt head

- [21] Power/data connector (military)

Typical installation

The head is typically installed as part of a robotic system and can be remotely controlled by the Vinten Radamec Control System (VRC), Legislative Control System (LCS) or the Multi Controller II. Refer to the appropriate user guide or operating instructions provided with the control system for information on operating the head remotely.

Each head is connected to a 2U rack mounted power supply unit (AM-PSD27-5R) that supplies the required DC voltage to the head by way of a combined power and data communications floor cable over a maximum distance of 150m (500 ft). The controller connects directly to the rack mounted power supply unit (AM-PSD27-5R) that can be sited a maximum distance of 1500m (5000 ft) from the head. All data cables must be screened and it is preferred that all cabling is supplied by Vinten Radamec to minimise any problems caused by electrical interference.

Any auxiliary equipment and lens drives can be connected directly to the HS-105 pan/tilt head.

A typical application is shown in Fig. 7.

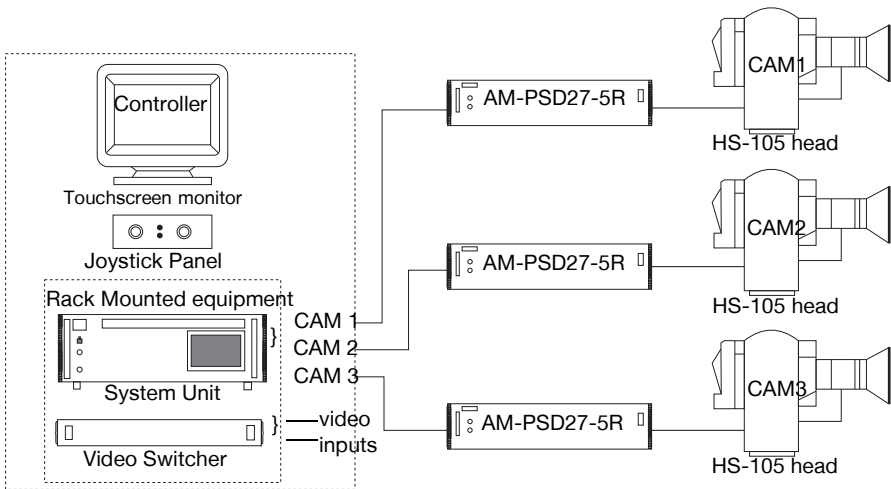


Fig 7 Typical installation of the HS-105 pan/tilt head

Electrical Connection

Power supply and Controller connection

The HS-105P pan/tilt studio head uses a combined power/data floor cable (AM-SP-CAB-XXX) that connects between the HS-105 rack mounted power supply unit (AM-PSD27-5R) and the Power/data connector ([16], [20], [21]) on the head as shown in Fig. 8. The floor cable supplies the HS-105P pan/tilt head with power and data communications (to/from) the Controller.

The HS-105PE environmental pan/tilt heads are supplied with an environmental floor cable (AM-HLE-CAB-XXX) suitable for external installations.

When using the HS-105P studio pan/tilt head with the Vinten Radamec native lens drive, the NLD adapter cable (V3980-5005) provides the connection from the supplied floor cable (AM-SP-CAB-XXX) to the HS-105P pan/tilt head and the native lens drive. See **Native Lens Drive** on page 20.

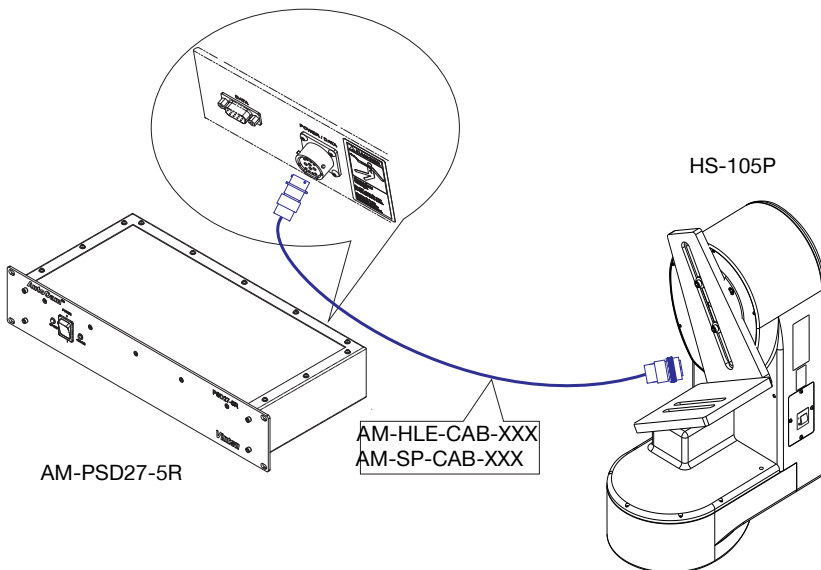


Fig 8 HS-105 pan/tilt head power/data cabling

Lens drive connection

The HS-105 pan/tilt head can be used with various generic Vinten or AutoCam servo lens drives or the Vinten Radamec native lens drive (V3977-0001).

Servo lens drives

Connect the servo lens drive to the Lens connector [17] on the HS-105PE pan/tilt head or the NLD connector [14] on the HS-105PENLD pan/tilt head, or the Lens/Control connector [19] on

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the HS-105P studio pan/tilt head using the supplied lens cable. A variety of lens cables are available to suit the servo lens drive supplied with your installation.

Native lens drive

The native lens drive is usually attached to an appropriate position on the HS-105P studio pan/tilt head main cover [1]. A combined lens and power/data cable (V3990-5005) is used to connect between the power/data socket on the head [20] and the Power/data In socket on the native lens drive. This combined lens and power/data cable (V3990-5005) connects to the standard floor cable (AM-SP-CAB-XXX) supplied with the HS-105P studio pan/tilt head as shown in Fig. 9.

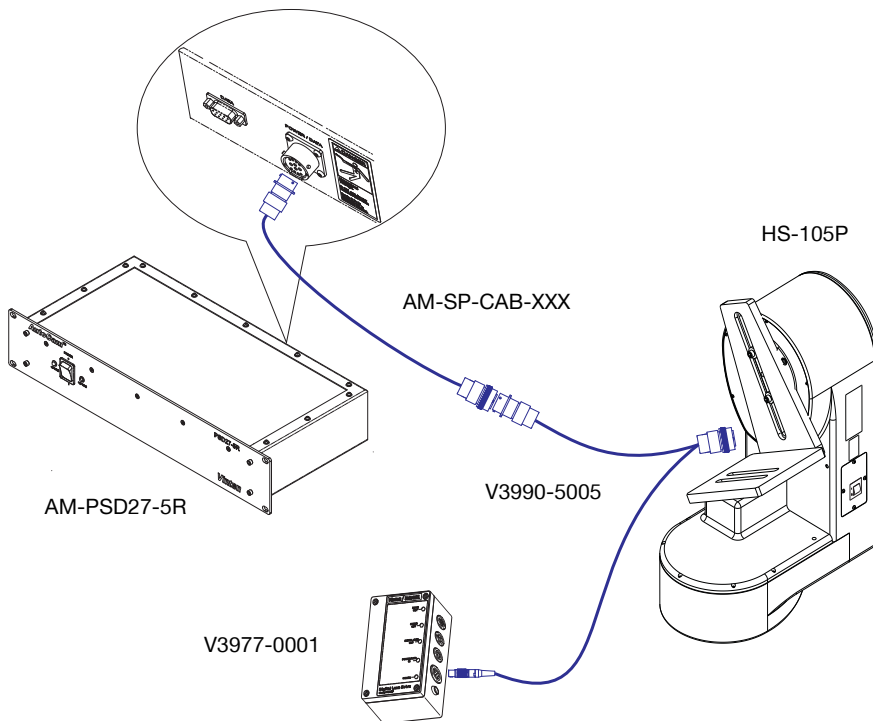
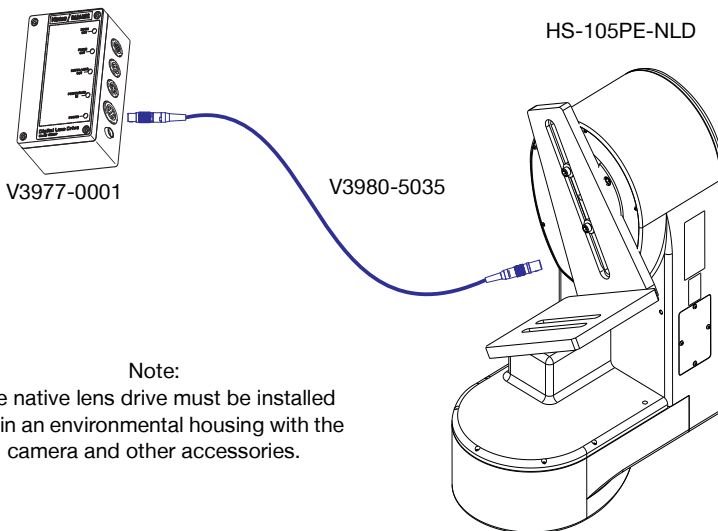


Fig 9 HS-105P pan/tilt studio head with native lens drive - cabling

If the native lens drive is installed with the HS-105PE-NLD environmental head, the lens drive must be installed within an environmental housing along with the camera and any other accessories. Connect the supplied environmental cable (V3980-5035) between the NLD socket on the HS-105PE-NLD head and the Power/data in socket on the native lens drive as shown in Fig. 10.

NOTE: The Power/data connector on the native lens drive cable (V3980-5005) may need to be removed to allow the cable to be fed into the environmental housing. All installations should be performed by trained and competent engineers.



Note:
The native lens drive must be installed within an environmental housing with the camera and other accessories.

Fig 10 HS-105PENLD pan/tilt head with native lens drive - cabling

Connecting auxiliary equipment

The HS-105PE and HS-105PENLD environmental pan/tilt heads can support auxiliary equipment such as lens washers and demisters. Auxiliary equipment is connected to the Control connector [18] on the head. Cabling is not supplied for the connection of auxiliary equipment; however the connector required to construct an auxiliary equipment cable can be supplied by Vinten Radamec.

Operation

Installing the head

The HS-105 pan/tilt head can be mounted to a tripod, pedestal or mounted to a wall or ceiling using a mounting adapter. For installations where the HS-105 pan/tilt head is frequently moved from location to location, a wedge plate and adapter may be used to attach the head to its mount. Contact Vinten Radamec for information on the various mounting adapters that allow you to mount the HS-105 pan/tilt head to a wall or ceiling, if they are required for your installation.



Warning!

The installation of the HS-105 pan/tilt head should only be performed by competent and trained personnel.

Mounting the head

The HS-105 pan/tilt head has a three-hole mounting plate [12] and is secured either to a mounting adapter for wall or ceiling installations or to the flat base of the pedestal or tripod using the three bolts supplied. An adaptor plate (AM-VMA-105) is available that converts the three-bolt fixing to a standard four-bolt fixing for mounting to a pedestal or tripod with a four screw flat base.



Warning!

For overhead mounting applications the HS-105, camera and accessories must be fitted with fall arresters that comply with local requirements.

Fitting the camera and payload

Where the camera is supplied with its own mounting plate, this assembly can be attached directly to the platform [6] using the supplied fixing bolts.



Warning!

- 1. Switch off power before fitting the payload.**
 - 2. Do NOT exceed the maximum payload. The weight of the total payload must not exceed 34 kg (75 lb).**
-
-

To fit the camera and accessories proceed as follows:

Switch off the power to the head.

Position the platform [6] in the horizontal position.

Loosen the 2 platform fixing screws [2] securing the platform [6] and lower the platform [6] to its lowest position. Resecure the 2 platform fixing screws [2]. Setting the platform in this way will aid subsequent balancing of the camera payload.

Attach the camera assembly onto the platform [6] and secure using the supplied camera fixing bolts through the camera mounting slots [7] into the base of the camera.

Leave the camera fixing bolts just loose enough to be able to slide the camera backwards and forwards on the platform [6].

Mount the lens on the camera (if it was not already installed) and any other ancillary equipment such as tally lights, viewfinder, and so on.

NOTE: Depending on the camera configuration, it may be necessary to use an intermediate plate to raise the C of G sufficiently to align with the tilt axis.

Balancing the head

When the HS-105 pan/tilt head is correctly balanced the robotic drive will need a minimum amount of effort to move the head.

Fore and aft balance

When positioning the payload it is important to be aware of the potential danger of an unbalanced payload falling away suddenly. Balance the payload fore and aft as follows:



Warning!

- 1. Robotic equipment may move without warning. Switch off the power to the head before making any adjustments to the head.**
 - 2. Risk of finger trap in moving parts. Be prepared to prevent the head falling away suddenly.**
-

Ensure power to the head is switched off and that the camera and all accessories are fitted.

NOTE: It is important that the camera and all accessories (lens, zoom and focus controls, tally lights, lens drives and so on) are fitted in their operational position before balancing the head. Any equipment fitted or adjusted later will unbalance the head.

Hold and steady the platform [6]. Carefully release the platform [6] and observe how it moves and comes to rest.

If the platform [6] tilts forwards (the lens points downward) then the camera must be moved towards the rear of the head.

If the platform [6] tilts backwards (the lens points upward) then the camera must be moved towards the front of the head.

Reposition the camera as required on the platform [6] and repeat step 2 until balance is achieved. Tighten the camera fixing bolts. When the horizontal balance is correct the platform [6] comes to rest in a horizontal position.

If there is insufficient movement in the platform slots [7] to achieve horizontal balance, reposition the mounting plate (supplied with the camera) on the camera as required and then re-fit the camera to the platform [6].

C of G height adjustment

When the fore and aft balance has been achieved, align the payload C of G vertically to the tilt axis as follows:



Warning!

1. **Switch off the power to the head before making any adjustments to the head.**
 2. **Risk of finger trap in moving parts. The total camera payload can reach 34 kg (75 lb). Take the necessary precautions to safely handle this weight before loosening the platform fixing screws [2].**
 3. **Do NOT remove the platform fixing screws [2] while the platform is loaded.**
-

Ensure that the power to the head is switched off.

Tilt the platform [6] forwards and backwards to test the C of G alignment. If the alignment is correct the head will remain at any angle of tilt unassisted. If the platform [6] angle tends to return towards horizontal when unsupported, you need to raise the platform [6]. If the platform [6] angle tends fall forwards or backwards away from horizontal you need to lower the platform [6].

Mark the position of the payload and the platform and remove the payload.

Loosen the 2 platform fixing screws [2] securing the platform [6] to the tilt drive and raise the platform [6] to vertically align the camera assembly C of G with the tilt axis.

NOTE: If required, use an intermediate plate to raise the C of G sufficiently to align with the tilt axis.

Tighten the 2 platform fixing screws [2] to re-secure the platform [6].

Install the payload in the position marked in step 3.

NOTE: Ensure all cables are connected to the camera and lens, and dress them to impose minimum drag and allow full movement about the tilt axis. The weight of the cables should also be balanced about the tilt axis.

Recheck the C of G alignment (step 2) and repeat steps 3 through 6 if necessary.

After adjusting the C of G height, it may be necessary to re-check that the fore and aft balance is still correct. Re-adjust the position of the camera horizontally on the platform [6] as required.

After balancing, exercise the head through both tilt and pan axis to confirm that it operates smoothly.

Maintenance

General

The HS-105 pan/tilt heads are robustly made to high engineering standards. Generally, aside from checking balance and overall operation periodically (once a week for example), the HS-105 pan/tilt head should require no other routine maintenance.

Routine Checks

During use, check the following:

Check the balance of the head and re-balance is necessary.

Check the data communications with the controller.

Check the overall operation of the head. Use the controller to exercise pan, tilt, zoom and focus communications through their ranges. Ensure the movement of the head is smooth and consistent.

No further routine maintenance is required.

Cleaning

During normal use the only cleaning required should be a regular wipe over with a lint-free cloth. Dirt accumulated during storage or periods of disuse may be removed with a semi-stiff brush. Particular attention should be paid to the three-hole mounting and camera mounting faces along with all the connection ports.

-
-
- CAUTION!**
- 1. Do NOT use oil or grease on any exposed part of the product. This is unnecessary and traps dirt which acts as an abrasive.**
 - 2. DO NOT use solvent- or oil-based cleaners, abrasives or wire brushes to remove accumulations of dirt as these damage the protective surfaces. To clean mechanical surfaces, use only detergent-based cleaners.**
 - 3. External electrical connection ports should only be cleaned with a semi-stiff brush or a clean, dry air supply.**
-
-

Parts list

The following lists include main assemblies, user-replaceable spare parts and optional accessories. For further information regarding repair or spare parts, please contact Vinten Radamec or your local Vinten Radamec distributor. For information online, visit our website at: www.vintenradamec.com

Main Assemblies

HS-105P Head, P&T	AM-HS-105P
HS-105PE Head P&T, Environmental	AM-HS-105PE
HS-105PENLD Head, P&T, Environmental, with Native Lens Drive option	V4058-0001
HS-105PSA Head, P&T, Position Feedback	AM-HS-105PSA
HS-105PESA Head, P&T, Environmental, Position Feedback	AM-HS-105PESA
HS-105SPAWAR Head, P&T, Environmental, Military Desert Tan	V3995-0001
HS-105SPAWAR Head, P&T, Environmental, Military Olive Drab	V4027-0001
HS-105PIT Head, studio version with VR output	AM-HS-105P-IT
HS-105PITE Head, environmental version with VR output	Am-HS-105P-ITE

Power Supply Unit

HS-105 rack mount power supply	AM-PSD27-5R
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Cabling

HS-105P studio head power/data cable	AM-SP-CAB-XXXm
HS-105P environmental head power/data cable	AM-HLE-CAB-XXXm
HS-105P native lens drive power/data cable	V3990-5005
HS-105PE-NLD environmental head, native lens drive cable	V3980-5035
Fujinon focus 12-pin lens drive cable	V3990-5008
Fujinon zoom 12-pin lens drive cable	V3990-5009
Fujinon zoom (non-pos.) 8-pin lens drive cable	V3990-5010
Fujinon serial digital 10-pin lens drive cable	V3990-5011
Canon focus 6-pin lens drive cable	V3990-5012
Canon zoom (non-pos.) 8-pin lens drive cable	V3990-5013
Canon zoom 12-pin lens drive cable	V3990-5014
Canon serial digital 20 pin lens drive cable	V3990-5015
Canon super box analogue lens drive cable	V3990-5018

Refer to Vinten Radamec for information on further cabling options including cabling for supported servo lens drives.

Optional accessories

Image Tracker (HS-105P studio heads)	AM-HS-IT
Image Tracker (HS-105PE environmental heads)	AM-HS-ITE
Vinten Radamec Native Lens Drive	V3977-0001

HS-105P Pan and Tilt Head

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V4058-4980/1

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