HiTech Systems Limited

altuS Clip Controller
HT252/HT262

Users Manual

Software version: HT252 - 2.00
HT262 – 2.1

CE

History

Date	Description	Version
Jan 2015	Amendment to Record stop	2.2
Jan 2012	HT262 Loop mode (Menu item 15)	2.1
June 2009	HT262 added – altuS manual Version 2	2.0
Oct 2007	altuS manual Version 1.0	1.0
April 2008	Loop play added	1.01

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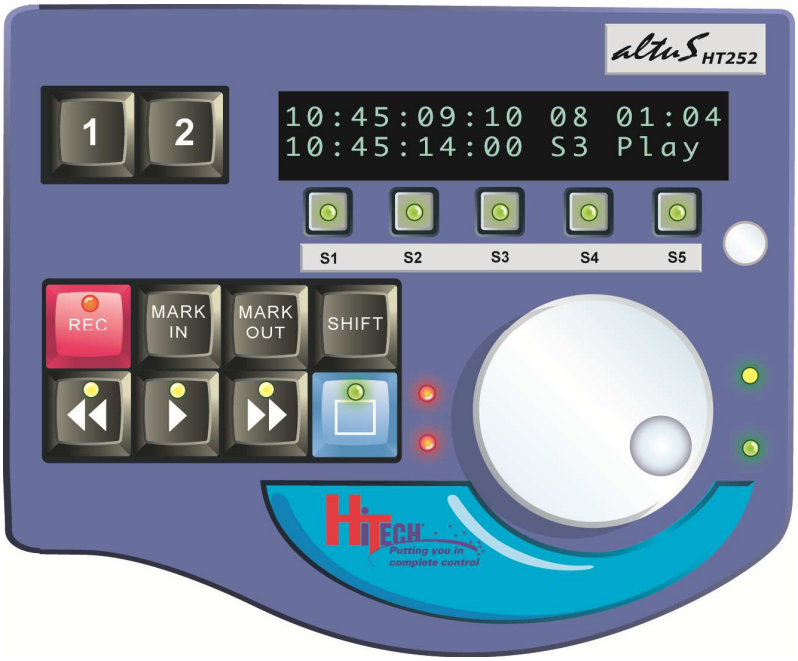
Contents

1 Introduction

The Hi Tech altuS clip controller provide a user-friendly remote control interface for professional and broadcast disk recorders (servers) that support either the Odetics or AMP protocol (HT252) or the VDCP protocol (HT262).

The controller utilises a control wheel, called "smart wheel" an implementation of Haptic technology – "Haptic" is Greek for the science of touch. The controller can be programmed to give the operator different tactile and kinesthetic sensations depending on the mode of operation, such as jog, indented incremental shuttle speeds and so on.

altuS clip controller



HT252/HT262

Accessories supplied:

- 2 RJ45 to 9 pin ‘D’ type adaptors
- User’s manual (this manual) on CD

Available options:

- Spare RJ45 to 9 pin ‘D’ type adaptor male for direct connection to server channel
- Spare RJ45 to 9 pin ‘D’ type adaptor female for connection to end of "standard" RS422 cable

2 Installation

The altuS clip controller is designed as desk-top unit.

Unpacking

The Hi Tech Systems altuS clip controller is shipped in a carton, which contains other optional items within the packing, and care should be taken to ensure that these are not thrown away. The contents of the carton are as indicated on the delivery note. Carefully unpack and check for shipping damage and shortages. Report without delay, any damage or shortages to Hi Tech Systems Ltd.

Desk mounting

The altuS desk mounting controller require no special fixings, but can be mounted into a desk as a ‘drop through’ unit.

Outline dimensions for all models are given in the Addendum at the back of this manual.

Warnings – read before installation or use

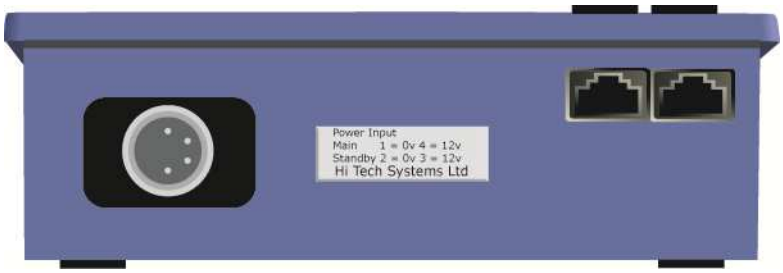
Only suitably qualified engineers should carry out maintenance.

The controller consists of electronic parts. Do not drop the controller or bump it against other objects or place the controller near heat sources such as radiators or air conditioning ducts.

Care should be taken so that solid objects or liquid do not fall into the controller enclosure.

Clean the case with a soft dry lint free cloth, or a soft cloth lightly moistened with a mild detergent solution. Do not use any type of solvent such as alcohol, which might damage the special finish.

External connections



altuS HT252/HT262 rear view

altuS HT252/HT262 side view

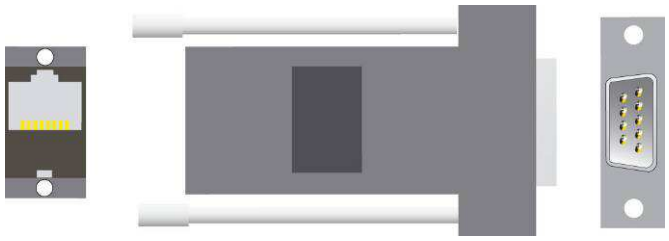
Power requirements

The HT252 and HT262 are shipped with an adaptor for a 12V DC supply. The adaptor should be connected to Mains AC 100V – 240V. The 4 pole XLR should click into the rear of the controller.

Connecting a server channel

The RS422 server control ports are implemented as RJ45 connectors to make the best use of space at the rear of a desk-top unit.
To convert RS422 ports on the server and other controlled devices to use RJ45 patch cables use the

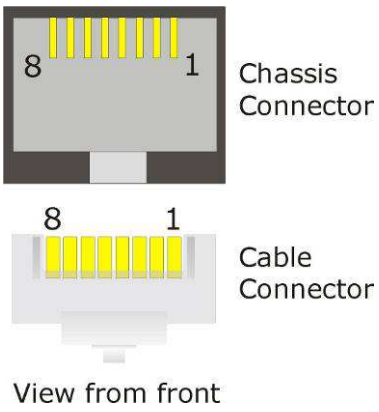
supplied converter at the server end.
Either channel can be connected as a player OR recorder, the controller does not distinguish between the two. It up to the user to correctly connect and configure the server channels as players or recorders.



Converts server serial ports to RJ45

RJ45 connector pin out

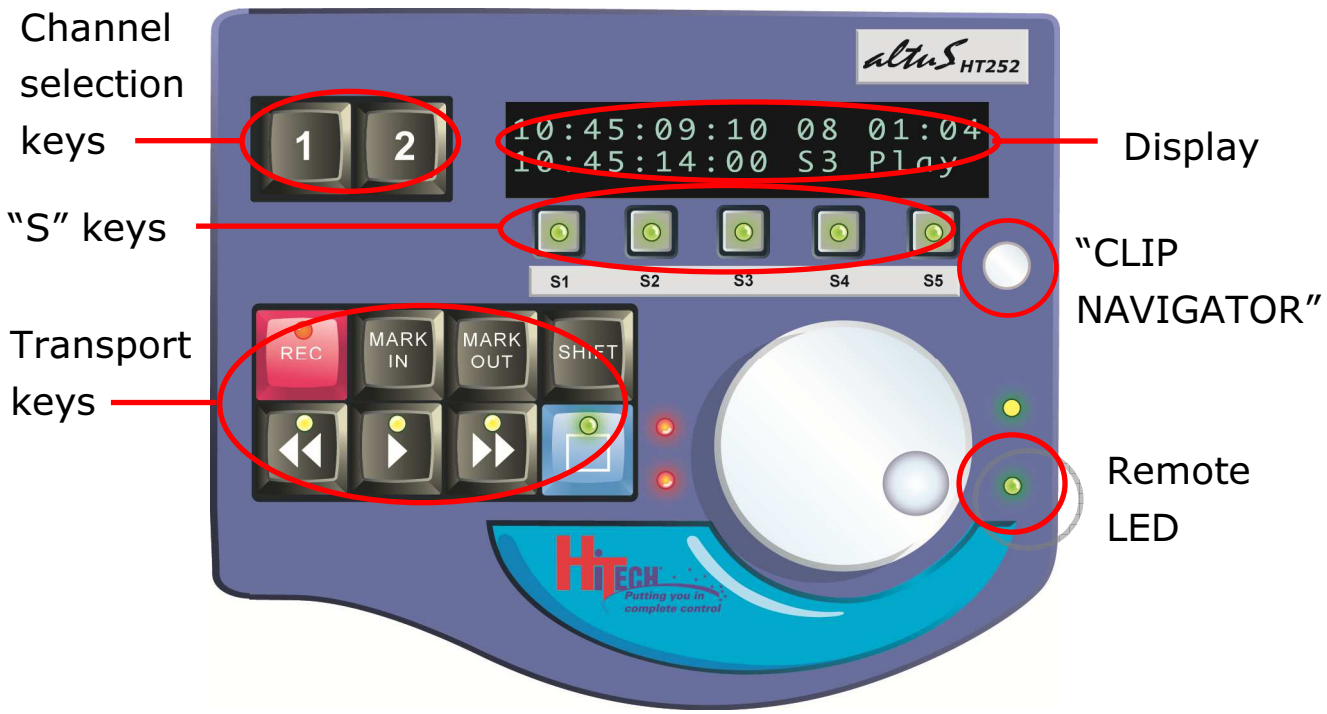
Pin No	Description	RJ45 Connector
1	Chassis Gnd	
2	Rx A data	
3	Tx B data	
4	Tx Gnd	
5	N.C	
6	Rx Gnd	
7	Rx B data	
8	Tx A data	



CAT 5 remote cables are connected to the RJ45 sockets

It is recommended not to exceed 100 metres of CAT 5 cable.

3 Operation



The server MUST be enabled for Odetics or AMP remote control when using a HT252. A HT262 is for VDCP protocol only. If the server is set to operate locally then the controller will not function, only status will be displayed.

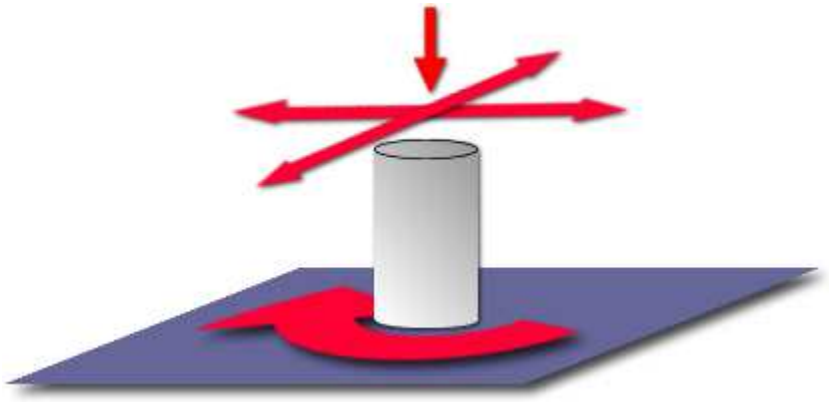
Using the main controller keys

To select a server channel for control, press the desired numbered channel selection key. The controller will be updated with the timecode and transport status appropriate for the attached server channel.

Once the controller has control of the server, the REMOTE LED will illuminate. If the server is switched into local, or the RS422 communications becomes disconnected, the controller will sound several short warning 'bleeps' (if the

bleeper has been turned ON in the menu) and the REMOTE LED will go off.

What is the CLIP NAVIGATOR?



A multi directional switch that enables several operations to be performed from one control. For instance when:

The controller is in playback mode

Push forward and back to move a frame at a time through the clip.
Push left and right to move to the start and end of the clip.
Rotate clockwise and anti-clockwise to scroll forward and backwards through clips.
Push to load a clip.

Entering characters

Push left and right to move the curser back and forth. Rotate to change the character at the curser.

What are the S keys?

The S keys are shortcut keys to 5 memory locations. Any clip or trimmed clip can be stored to any of the 5 keys for immediate shot recall or, indeed, any of the 99 internal memory locations.

How to Load Clips

Clips can be loaded onto a channel in the following ways:

The first 255 clips are displayed, then wraps around to 0. There is no limit to the number of clips that can be browsed.

When browsing backwards there is a short delay while the next set of clips is stored into memory.

1. From the server, by browsing (BROWSE DSK).
Press SHIFT + S1. Rotate the CLIP NAVIGATOR clockwise and anti-clockwise to scroll forward and backwards through the server's database of clips. The number at the top right hand corner of the display is the "clip counter", and indicates the position of the clip in the server's database. Press the CLIP NAVIGATOR to load the clip. Press SHIFT to exit browse mode and return the display to show the previously loaded clip.

Press and release the SHIFT key to esc from any operation.

2. From internal memory (if a clip has already been stored), by browsing (BROWSE MEM).
Press SHIFT + S2. Rotate the CLIP NAVIGATOR clockwise and anti-clockwise to scroll forward and backwards through the

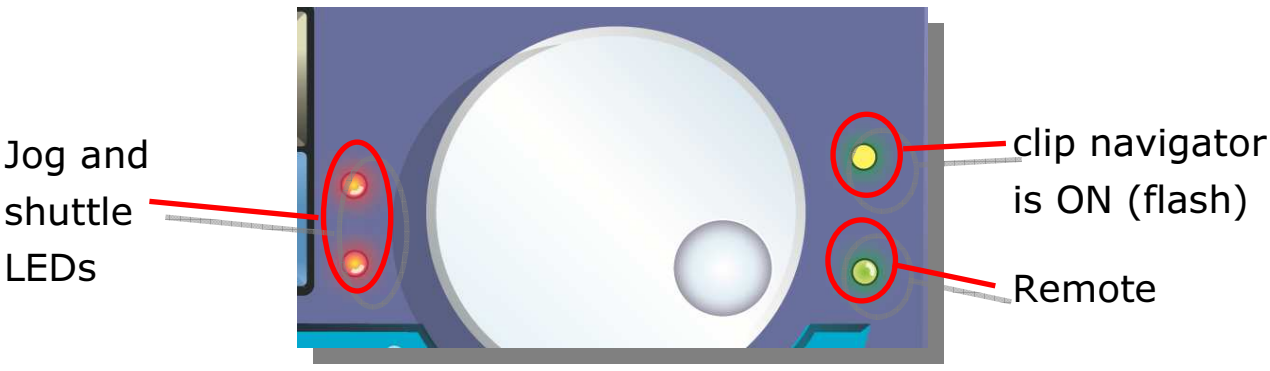
controller's memory. The number at the top right hand corner of the display is the "mem counter", and indicates the position of the clip in the controller's memory. Press the CLIP NAVIGATOR to load the clip. Press SHIFT to exit browse mode and return the display to show the previously loaded clip.

3. By entry of clip name using the CLIP NAVIGATOR or keyboard (KBD ENT).
Press SHIFT + S3. Enter a clip name from the pc keyboard or CLIP NAVIGATOR. Press the CLIP NAVIGATOR to load the clip. Press SHIFT to exit and return the display to show the previously loaded clip.

4. From an S-KEY directly (if a clip has already been stored).
Press any "S" key that is illuminated to load clip. Wait until the key flashes to indicate the clip has cued before playing the clip, unless the controller has been set to play the clip immediately on recall.

How to Jog, shuttle and variable

Press the wheel to enter JOG mode. Press again to go into shuttle. Press and hold the wheel to go into variable playback mode.



How to record

The altuS range does NOT perform editing functions.

1. Press the REC key – you are prompted to enter a clip name (clip id).

2. Use the pc keyboard or CLIP NAVIGATOR to enter a name.

3. Press Enter from the pc keyboard or the CLIP NAVIGATOR to create the clip – now ready to start recording.

4. Pres REC + PLAY to start recording.

How to stop record

Press and hold the shift button and press the blue stop key, this stops the clip recording or stops the clip playback if that port is controlling the play out of the server.

How to eject a clip

Press and hold the blue stop key for more than 1 second.

How to store clips into memory

When a clip is displayed on the controller it is possible to store into many locations. There are 5 S keys and another 99 memory locations. By pressing and holding the shift key then pressing the S 5 key it is possible to select a location with the navigation wheel. Once the desired location has been found, press down on the navigation wheel to store the clip.

Trimming clips (non destructive)

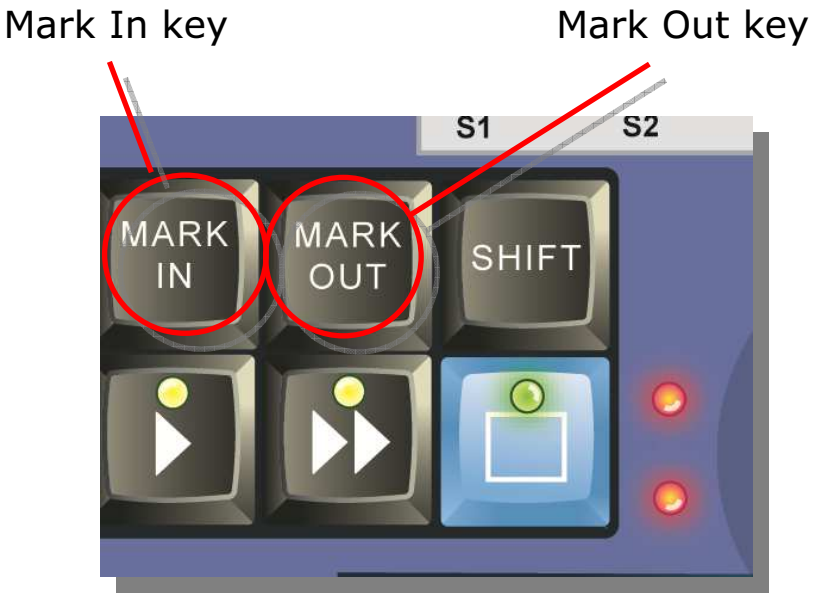
Any clip that was loaded by browsing the server can be trimmed, but if another clip is loaded then the trim points are lost. Only clips stored in memory can have permanent trims.

Trimmed clips are timecode reference points that are stored with a clip that has been stored in the memory on the controller. Each clip memory location is stored with a clip name and an In point and / or Out point.

How to enter trim points

A clip must have a trim In point. Otherwise put a 1 frame trim In point.

A trim IN point can be entered 'on the fly' while the server is in play by pressing the MARK IN key, and a trim OUT point can be similarly entered by pressing the MARK OUT key.



How to loop a clip

The clip MUST have a trim IN and OUT point, and re- loaded to work correctly.

It is possible to loop a clip indefinitely until STOP is pressed. Press and hold the illuminated channel selection key and the PLAY key.

HT262 – Adjust amount of frames required by the server to re-load the clip for looping. Loop cmd delay – Menu item 15.

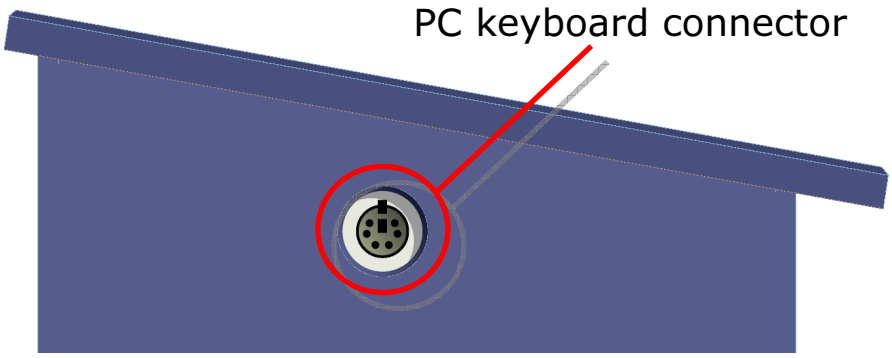
Advanced Operations

Entering clip names for loading or recording clips

Some servers my not distinguish between upper and lower case characters.

KEYBOARD -> A standard PC keyboard can be connected to the controller to aid in naming clips for recording and loading clips for playback.

Connect a standard PC keyboard to the left side of the controller.



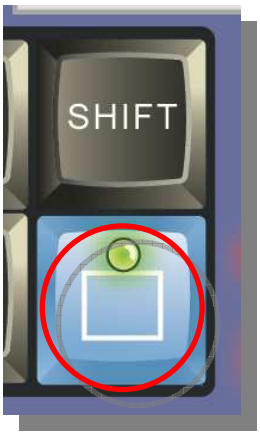
How to select both server channels for group control

The device selected first is treated as the Master and its status (e.g. PLAY, STOP etc) is shown in the display. If a different channel is then selected it now becomes the Master.

Press both selection keys at the same time. To ungroup press both keys again.

How to clear the memory, and restore to factory default?

There are times when you may want to completely erase all the memory locations of the controller and return the menu settings to there factory defaults for example after a software upgrade.



1 Turn off the power.

2 Press and hold the STOP key.

3 Turn the power back on.

4 Release the STOP key.

How to change the timecode source

Change the timecode settings in the menu (see the menu section in this manual for entering the menu). The TC setting changes the time code source data (hours, minutes, seconds and frames) that is displayed on the time code display of the controller for the connected server.

The selections are different on the HT252 to the HT262. If the display shows [--:--:--:--] then no valid time code can be read.

The HT252 has the following timecode source options.

CTL Tape running time (hours, minutes, seconds and frames) is computed from the recorded control (CTL)

signal during playback, or a count of control signal pulses during recording. These counters do not usually keep a highly accurate track of tape position.

LTC or Longitudinal time code in either 24 hour or +/- 12-hour format is usually recorded on an audio track on the tape.

LTC is read by the internal time code reader during playback or longitudinal time code reader during recording.

VITC - Vertical interval time code. This is recorded on an invisible area in the video track, and during playback read by the internal time code reader or vertical interval time code reader during recording.

Time code source is selected globally for both channels

AUTO Time code is selected automatically by the server depending on the speed of the tape. Typically VITC is selected when the tape transport speed is up to half speed, and LTC when it is more than half speed.

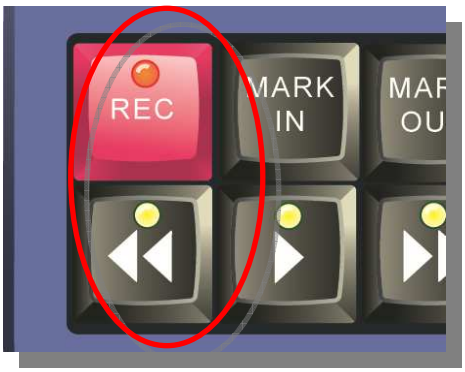
The HT262 has the following timecode source options.

SOM – Start of Message / Media. The recording starts when Video/Audio is detected.

ZERO – Resets the counter and always records from 00:00:00:00

TC – Records from a set Timecode position.

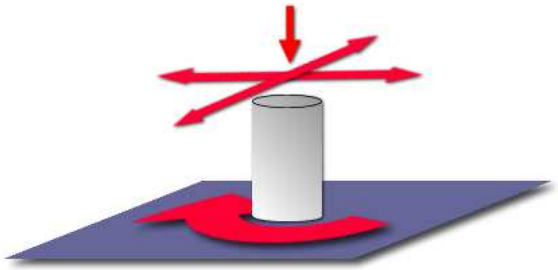
How to enter and exit the altuS SETUP menu.



There are times when you may want to change certain altuS operational parameters. This is accomplished via its SETUP menu. It is here where you will be offered setup parameters to choose from. To enter and exit SETUP:

Press and hold the REC key and the REW key.

How to change operational parameters in the SETUP menu



Turn the CLIP NAVIGATOR to "point" the display chevron to the line item you wish to change, a chevron > indicates the active display line.

Press and hold down the CLIP NAVIGATOR to change the parameter of interest.

Change the parameter by turning the WHEEL.

Menu Operational settings for HT252

01. TC Mode

CTL, LTC, VITC, AUTO AUTO **DEF**

Description: Set the timecode standard.

02. Load method

Load on S key, Load on NAV SW Load on S key DEF

Description: Effects the loading of the clips when loading from the S keys.

Load on S key Pressing an S key loads stored clip immediately.

Load on NAV SW Pressing an S key displays stored clip, now have to press CLIP NAVIGATOR.

03. Load mode

Stop, Play Stop DEF

Description: Effects how the loaded clip behaves.

Stop Loads the clip and goes into still.

Play Loads the clip and immediately goes into play.

04. Rec Inhib DSKx

NO or Yes NO **DEF**

Description: Inhibits recording on selected channel.

05. Lock DSK

NO or YES NO **DEF**

Description: Locks the PLAY and RECORD transport controls only. Note: the controller must be in PLAY or RECORD first before turning this mode on. Enter menu again to turn OFF lock.

06, 07 & 08 Jog Rate, Var Rate and Shuttle Rate

Min, Slow, Norm, Fast, Max Normal **DEF**

Description: Changes the reaction time of the wheel input to the tape being replayed to compensate for disk and operator preference. For example if the Jog speed is set to Min, then more than one complete turn of the wheel is required to advance a frame.

Setting	Jog reaction time	Shuttle range	Var range
Min	Minimum	+/- 1.0	+/- 0.25
Slow	Slow	+/- 2.0	+/- 0.33
Norm	Norm **DEF**	+/- 15 **DEF**	+/- 0.5
Fast	Fast	+/- 24	+/- 1.0 **DEF**
Max	Maximum	+/- 50	+/- 2.0

09. Clear MEM

NO, YES

Description: Clears all the clips stored in the memory of the controller.

10. Clear Config

NO, YES

Description: Restores the factory default conditions. See all items marked as **DEF**.

11. Bleeper

Off, On, Error Off **DEF**

Description: Turn the beeper function on/off.

12. Vid Std

PAL, NTSC PAL **DEF**

Description: Sets the T/C to run on either PAL or NTSC standard

13. Protocol

Odetics, AMP Odetics **DEF**

Description: Use Odetics or AMP (Odetics with extended commands)

14. EE mode auto or full

AUTO ON, AUTO OFF, FULL ON, FULL OFF AUTO ON **DEF**

Description: Change the EE function from automatic to manual.

Menu Operational settings for HT262

01. TC Mode

SOM, ZERO, TC ZERO **DEF**

Description: Set the timecode standard.

02. Rec Len - Hours

Description: Set the amount of Hours to Record 03 **DEF**

03. Rec Len - Mins

Description: Set the amount of Minutes to Record 00 **DEF**

04. Load method

Load on S key, Load on NAV SW Load on S key DEF

Description: Effects the loading of the clips when loading from the S keys.

Load on S key Pressing an S key loads stored clip immediately.

Load on NAV SW Pressing an S key displays stored clip, now have to press CLIP NAVIGATOR.

05. Load mode

Stop, Play Stop DEF

Description: Effects how the loaded clip behaves.

Stop Loads the clip and goes into still.

Play Loads the clip and immediately goes into play.

06. Lock DSK1 or 2

NO or YES NO **DEF**

Description: Locks the PLAY and RECORD transport controls only. DSK1 for port 1 and DSK2 for port 2. Note: the controller must be in PLAY or RECORD first before turning this mode on. Enter menu again to turn OFF lock.

07. Clear MEM

NO, YES NO **DEF**

Description: Clears all the clips stored in the memory of the controller.

08. Clear Config

NO, YES NO **DEF**

Description: Restores the factory default conditions. See all items marked as **DEF**.

09. Bleeper

Off, On, Error Off **DEF**

Description: Turn the beeper function on/off.

10. Vid Std

PAL, NTSC PAL **DEF**

Description: Sets the T/C to run on either PAL or NTSC standard

11. Vari length ID

Off, On Off **DEF**

Description: Sets the Character length from 32 to 8 for Server applications without Variable ID when switched ON.

12. Port Number

001 - 127 001 **DEF**

Description: Both Comm ports can be individually assigned a port number 1 – 127 to match the destination server port number.

13. Port Type

Player, Recorder, Both Player **DEF**

Description: Sets a Comms port behaviour when controlling a server.

14. EE mode

ON, OFF, AUTO ON **DEF**

Description: Switches the EE mode of the controlled device.

15. Loop Cmd delay

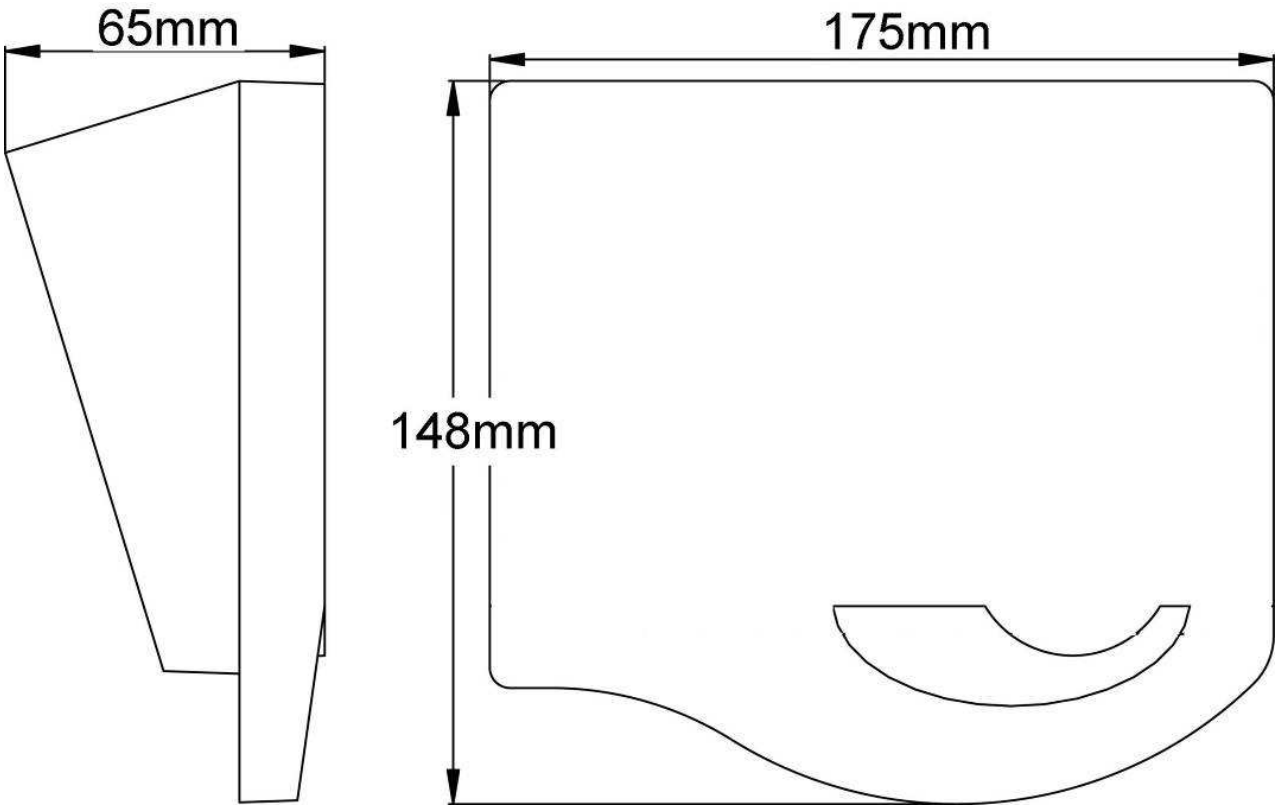
01-50 5 **DEF**

Description: Adjust the amount of frames required by the server to re-load the clip for successful looping.

4 Addendum

Outline dimensions

The altuS has the following outline dimensions:

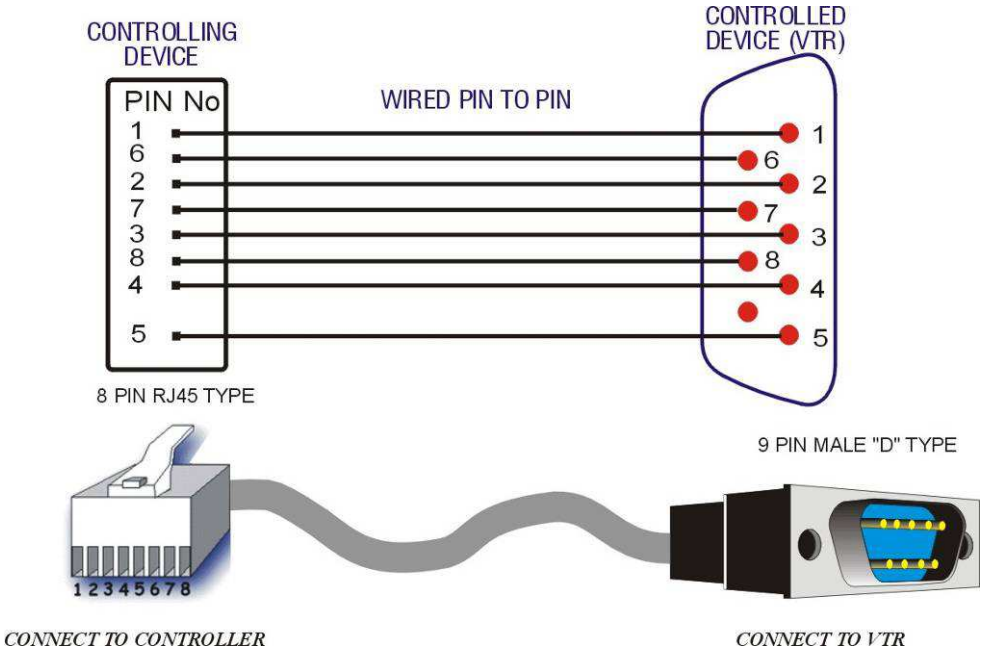


Software Updates

Download the software update wizard actiV8 from the Hi Tech Systems support web site at:

http://www.hitechsys.co.uk/html/support/support_overview.html

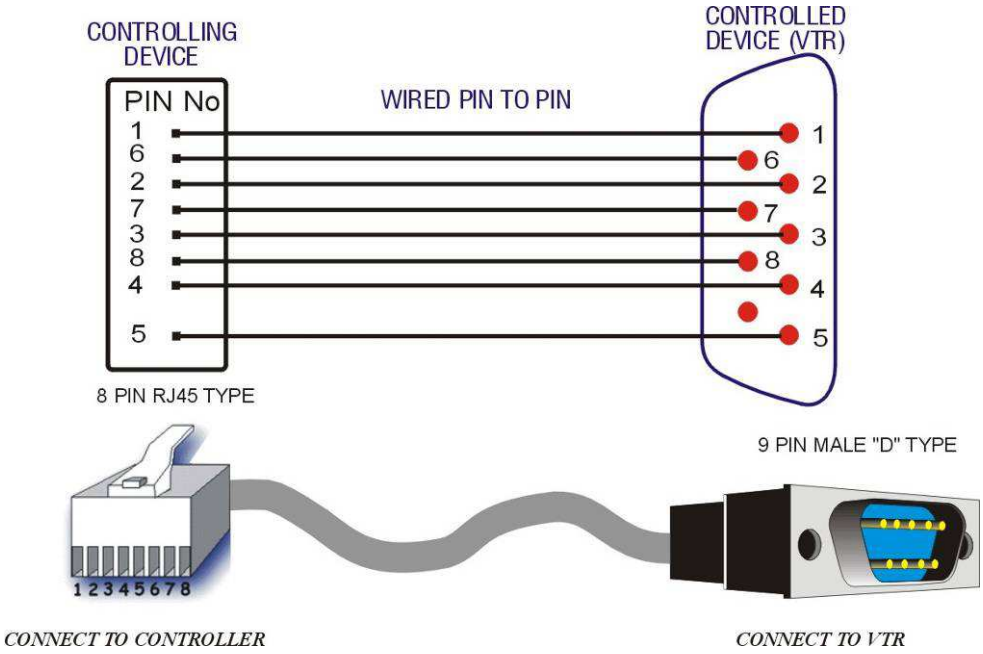
and contact Hi Tech Systems for the latest software version.



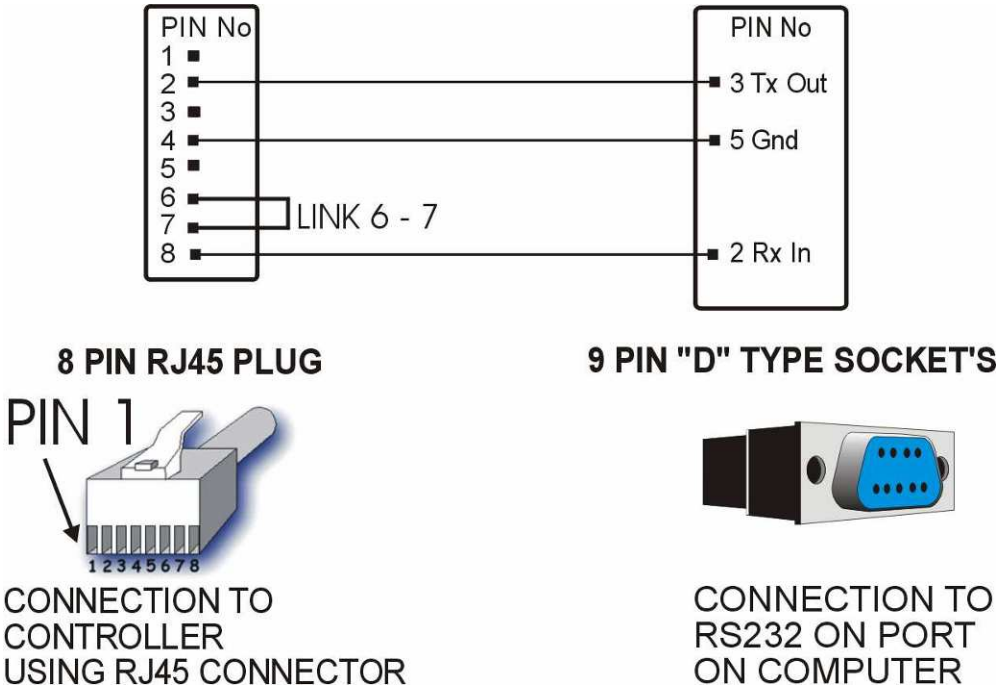
RJ45 to D type - RS422 cable

Cable pin out reference

The following diagrams are provided for those wishing to make their own cables.



RJ45 to D type - RS422 cable

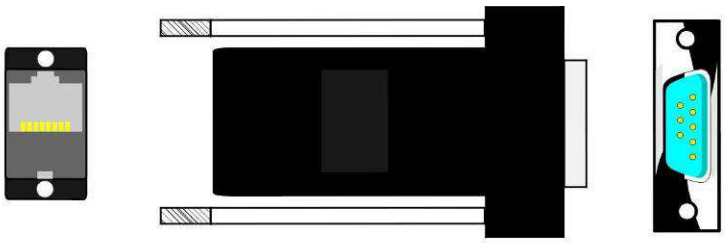


RJ45 to D type – RS232 cable

Making a software upgrade serial cable

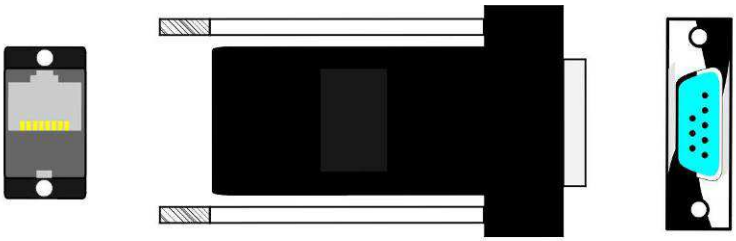
Notes on PC serial connectors

Some computers, particularly laptops have odd earth arrangements on the RS232 connector, making the download problematic. If possible, use a desktop PC for performing s/w updates.



PIN	Description	Colour (shielded)		Colour (un-shielded)
1	Chassis Gnd	BLUE	1	BLACK
2	Rx A data	ORANGE	2	YELLOW
3	Tx B data	BLACK	3	ORANGE
4	Tx Gnd	RED	4	RED
5	N.C	GREEN	5	GREEN
6	Rx Gnd	YELLOW	6	BROWN
7	Rx B data	BROWN	7	GREY
8	Tx A data	WHITE	8	BLUE

*Making the RJ45 to RS422 **male** adapters*



PIN	Description	Colour (shielded)		Colour (un-shielded)
1	Chassis Gnd	BLUE	1	BLACK
2	Rx A data	ORANGE	2	YELLOW
3	Tx B data	BLACK	3	ORANGE
4	Tx Gnd	RED	4	RED
5	N.C	GREEN	5	GREEN
6	Rx Gnd	YELLOW	6	BROWN
7	Rx B data	BROWN	7	GREY
8	Tx A data	WHITE	8	BLUE

*Making the RJ45 to RS422 **female** adapters*

5 Specification

Control ports

Communication Format:	RS-422-A
Communication Channel:	Full Duplex
Data Signalling Rate:	38.4 Kb/s (K bits per second)
Communication Protocol:	Odetics, AMP and VDCP 9 pin RS422
Serial connectors:	2 x RJ45 – 8 pin sockets
servers controlled:	That support the Odetics or AMP RS422 9 pin protocol

Power

Mains input:	DC Mains Adaptor
Voltage:	12V
Power consumption:	Less than 5 watts

General

Operating Temp:	0 - 35 Deg C