QUICK START GUIDE

T SERIES

N SERIES

ACTIVE & HITECH



YOUR WORKING MACHINE

VALTRA CONNECT

REMOTE SERVICES & CONNECTED SUPPORT FOR YOUR VALTRA MACHINES

OVERVIEW OF THE MOST IMPORTANT MACHINE DATA - ANYTIME, ANYWHERE!



Simple fleet management using a computer, smartphone or tablet

Increased economic efficiency and operating material savings thanks to fact-based analysis of the field management



•1

Effective dealer support via AGCOConnect Direct help with suitable & fast solutions – Ask about retrofit



 \cap

Gt

Optimised machine adjustment and reduced inputs to improve performance

Minimised downtime due to early identification of error codes

ACTIVATE NOW

valtraconnect.com

5 years free of charge for new machines

Data Security: Valtra Connect complies with the stringent European IT security standards





Plan services in advance around seasonal peaks and maximise your uptime. For Valtra G, N and T Series machines. Check now if your machine is ready for Connect: **get.agcoconnect.com**

VALTRA N & T SERIES ACTIVE & HITECH

This guide has been assembled to help Valtra operators to quickly become familiar with their tractor. Please note that this is NOT an operator's manual. Before operating the tractor, it is important that you read the operator's manual with all safety points.

With a state-of-the-art tractor there has to be also

a reliable transmission in pure Finnish design. HiTech / Active have a Powershift transmission with 4 ranges and 5 powershift steps. The high level automatics included in this tractor brings the driving of a powershift tractor to a completely new level. The most modern way of driving is combined to mechanically controlled working hydraulics. All that together with market leading operating comfort in a totally new cab gives you the driving experience of

a lifetime.

- Revolutionary Powershift (5PS / 20+20 / 30+30)
- Open centre (HiTech) or Load Sensing (Active) hydraulics with mechanical control
- Hydraulic assistant with front valves
- Very easy to operate
- /HillHold
- Made in Finland by Valtra

ACTIVE & HITECH

KINGS of new generation of powershift transmissions

YOUR

Valtra connect	2
Valtra N & T Series Active & Hitech	3
Smart A-pillar display	4
A-pillar display settings	6
Valtra ARM & Side panel	7
A-B-C-D = four speed ranges	9
How to select speed range	10
How to select Powershift gear	11
Driving with gear lever	12
Auto shift	13
Features	14
AutoTraction	15
HillHold	16

WORKING

EcoPower mode	17
Cruise Control	. 18
Engine RPM cruise	. 19

MACHINE

Hydraulics - front	20
Hydraulics assistant	21
Hydraulics - rear	22
Hydraulics - adjusting rear valves	22
Hydraulics - front valve operations	23
Rear controls and connections	25
ASR - Automatic Slip Regulator	26
Pick-up hitch and linkage	27
Pulling work on the field	28
Transport on the road	29
PTO work Auto 1	30
Front loader work	31

SMART A-PILLAR DISPLAY

The brand new Valtra smart A-pillar display brings all the information you need to exactly where you need it. With the essential information always displayed up top in a clear and easy way you'll never be left searching for what you need to know. The lower drive displays can be configured to show exactly what you want to see.



THE DISPLAY CONSISTS OF SEVERAL DISPLAY TECHNOLOGIES FOR SHOWING TRACTOR'S STATE AND CONTROLLING ITS BEHAVIOR.

The uppermost area is a LCD Screen showing: Outside temperature, clock time, Engine RPM, Ground Speed, Fuel & AdBlue level and Engine temperature.

Then there are two LED Icon Matrix Contents, upper one showing information marking lights and another one in the bottom of the instrument, showing warning lights.

Between them is a large TFT (thin-film-transistor) screen, which can be configured in many ways as well as used for tractor settings.

SMART A-PILLAR DISPLAY

1.	Use the wheel encoder and two buttons to navigate screen
2.	Via the settings menu select "Drive Display Mode" and select whether you want two, one or zero displays
3.	Using the encoder select the desired Drive Display and configure it to display the information you want
4.	The brightness of the A-pillar display can be adjusted via the left stalk.
5.	Via the settings menu you can activate Auto Dim and set the speed you want the display to automatically darken.













A-PILLAR DISPLAY SETTINGS

Settings are now easy to make with the A pillar display. Clear text and graphics tell you what to do. There are settings for engine, transmission, PTO, hydraulic (front valves), counter, display Settings





Driving / transmission

Hydraulics

Electrics

3-point linkage

Power take-off

VALTRA ARM & SIDE PANEL DRIVER'S ARMBEST

AND MAIN CONTROLS



Basic controls

- 1. HiShift push button
- 2. Range speed push button
- 3. Powershift push button
- 4. AutoGuide remote activation button (optional)
- 5. Hand throttle
- 6. Engine RPM memory button
- 7. Position control knob
- 8. Lift/Stop/Lowering switch
- 9. Override button for quick/drop entry (overrides position)
- 10. Switch for front PTO
- 11. Switch for rear PTO when front PTO is included

Some controls are optional.

Valtra ARM

- i. Front hydraulics on/off button
- 2. Button for hydraulic implement locking
- 3. Button for SoftDrive
 - Changeover button for front lift / front loader
- 5. Joystick

4

13.

- 6. Hand throttle
- . Gear lever
- 8. PowerShift limit push button
- 9. Cruise control (off, memory 2, memory 1)
- 10. Cruise control speed adjustment wheel
- . Autocontrol (lift/stop/lower switch)
- Position Control override button for Quick drop/entry
- AutoGuide remote activation button
- 14. Engine RPM memory button
 - . Position control knob
- 16. Hydraulic paddle (3F)
- 17. Switch for front PTO
- 18. Switch for rear PTO when front PTO is included
- 19. Joystick fingertip lever for auxiliary hydraulics front valve 3F (optional)



- Flow adjustment control 6.
- 7. Lighter / power outlet
- 8. 3-pin current socket
- 9. 3-pin current socket
- SmartTouch extend and ISOBUS terminal 10. connectors.
- Implement signal connector (optional) 11.
- 12. Power switch for 2-pin current socket
- 13. 2-pin current socket (controlled by power switch)
- 14. 2-pin current socket
- 15. Double USB port (quick charge) (optional)

- 17. Switch for differential lock
- Button for rear PTO 20. automatics, start/stop
- 21. Speed control for rear PTO
- 22. QuickSteer control knob
- 23. QuickSteer activation button
- AutoGuide steering valve on/off button 24.
- 25. AutoGuide receiver on/off button

- Fuel-operated heater in-cab start button (optional)
- 27. Lowering speed selection
- Max. lifting height selection
- Draft control selection
- Drive balance control, slip control system
- Switch for rear on/off valve
- Lifting/lowering switch
- Trailer hitch release lever

A-B-C-D = FOUR SPEED RANGES

Four speed ranges – less strain = increased efficiency. With a choice of speed ranges YOU can set the transmission to work as effectively as possible, cutting fuel usage and increasing component life. LA and LB creeper is optional in some models

_	40 km/h	50 km/h or 40km/h EcoSpeed	
LA	0.4-1.4	0,5-1,7	High power & torque requirement, very low speed.
	km/h	km/h	E.g. special crop tasks.
LB	0.9-3.0	1,0,-3,7	High power & torque requirement, very low speed.
	km/h	km/h	E.g. special crop tasks.
А	2-7	3-8	High power & torque requirement, low speed.
	km/h	km/h	E.g. subsoiling and de-stoning.
В	4-15	5-18	Medium/high torque requirement, medium speed.
	km/h	km/h	E.g. ploughing, bed forming, power-harrowing, drilling.
С	6-22 km/h	8-28 km/h	Medium torque, variable forward speed. E.g field transport, light ploughing, mowing, hedge-cutting, drilling, starting with heavy loads.
D	14-40 km/h	16-50 (57) km/h	16-57 km/h (High Speed) Low torque, high forward speed, no PTO. Road transport range.

* Note Approximate speed ranges between 1400-2200rpm and 20.8-38 tyres.
Maximum speed with the engine speed of 1920 rpm1
** Note that all the work areas have lower top speeds on

40 km/h transmissions compared to 50 km/h or High Speed.

HOW TO Select speed range

Valtra ARM

Basic controls





Selecting the correct speed range for the task means that the tractor will perform best of its ability.

TO CHANGE RANGE



Simply push + or - button located on gear lever or use the lower rocker switch on the basic handle.

These processes can also be conducted whilst moving.

CREEPER RANGE SELECTION

Select creeper ranges by pushing - (minus) when in A range, speed less than 2km/h, clutch pedal pressed down. Change transmission to neutral by pushing - (minus) for 3 seconds when in LA.

You will notice that the range will change at the display located on A-pillar.

Tip Try using instant fuel monitoring to see which range works best for the task in hand.







HOW TO Select powershift gear

To change the Powershift gear in manual mode (move gear lever to the left position) simply push the gear lever forward to increase the Powershift gear or backward to decrease the Powershift gear. With basic controls, use the upper rocker switch to change the Powershift gears.

You can change the Powershift gear more than one step at a time, directly from 1 to 3 for example, by quickly moving the gear lever to either direction twice or more or with basic controls use the rocker switch in a similar way.

You can also change the Powershift gear several steps at a time by moving the gear lever / rocker switch in either direction and holding it there, which triggers multiple consecutive Powershift gear changes. The number of the selected Powershift gear blinks on the A-pillar display until the requested Powershift gear has engaged.

These processes can also be conducted whilst moving.

You can preprogram the desired Powershift gear to engage automatically when changing the driving direction. For example, when working with the front loader and changing the direction to forwards, Powershift 1 can be engaged, and when changing the direction to backwards, Powershift 3 can be engaged.

Valtra ARM



Basic controls









Valtra ARM

Basic controls







DRIVING WITH GEAR LEVER

DRIVING VALTRA HITECH AND ACTIVE IS EXTREMELY EASY

Start the engine with the clutch pedal depressed and release the clutch pedal.

- Select the desired range (C-range is default).
- Move the shuttle to the forward/reverse position to initiate drive.

Change the powershift using the gear lever on the ARM rest or the upper rocker switch on basic handle.

Push/pull and hold the gear lever / rocker switch and the tractor will change up/down as quickly as possible. If you have selected lever range shifting, also group will change accordingly.

Tip You can use the HillHold function by pressing the brake pedals when selecting the direction.







AUTO-SHIFT (AUTO 1, AUTO 2)

This feature lets the tractor manage the gear changes within a range, or if selected from settings, including changing the range automatically when required. When driving with Auto 1 the accelerator pedal is changing into drive pedal. That means that it is asking for speed, not engine revs. When driving with a lightload, keeping the drive pedal in the same position, the tractor automatically changes bigger gears without changing the speed. This means that engine revs decrease and you save fuel! Automatic group change can be set separately from B to C (up) or up and down, as well as between C and D up and down.









TO CHANGE POWERSHIFT GEAR AUTOMATICALLY

1.	Simply push gear lever to the right (or with basic controls push Auto-shift button from side panel).
2.	The symbol Auto1 will appear on the A-pillar display.
3.	When drive is initiated, the tractor will automati- cally shift between the gears depending on the speed.
4.	Automatic shifting between the speed ranges B,C and D is possible if you have activated the shifting automatics in the A-pillar display trans- mission settings.
5.	If you wish to alter the RPM at which the trac- tor changes up/down gears you can use Auto2 mode. Change between Auto1 and Auto2 from A-pillar the settings

FEATURES POWERSHIFT REVOLUTION

Your Valtra tractor is packed with features to make your working day easier....

LIMITING MAX. POWERSHIFT GEAR (not with basic controls)

Limit max desired powershift gear with the push button next to the gear lever.

2. No bigger ge appears on f 3. Extremely ge powershift g

Push the button shortly when driving desired max gear.

No bigger gear will go on when driving. The gear set as the limit appears on the tractor A-pillar display.

Extremely good e.g. in arable tasks to avoid continuous powershift gear changes.

PREPROGRAMMING GEAR FOR DRIVING DIRECTION CHANGING

You can pre-program the a gear to engage automatically when changing the driving direction. For example, when working with the front loader and changing the direction to forwards, C1 can be engaged, and when changing to reverse, C3 can be engaged. The setting can be done with A-pillar settings or with pre-programming button.

- Press down the clutch and brake pedals to ensure safety.
- Select the driving direction F or R with the power shuttle lever.
- B. Select the Powershift gear.
 - Press the Powershift preprogramming push button for half a second.

The A-pillar display shows the preprogrammed driving direction and the Powershift gear.

To cancel the preprogramming:



Press down the clutch and brake pedals to ensure safety.

Select the driving direction F or R with the power shuttle lever.

Push the preprogramming button for 2 seconds.







*NOTE: Even if the power is turned off, the pre-programming remains. You can programme the other driving direction in the same way. You can make the preprogramming also while driving, except when the creeper gear is engaged.

POWERSHIFT REVOLUTION AUTOTRACTION STANDARD FEATURE

Standard AutoTraction - a feature that revolutionizes the driving of a powershift tractor. With a Active or HiTech tractor you need the clutch pedal only when starting the engine. Otherwise you need only brakes and drive pedal for controlling the tractor. The drive is declutched simply by pressing the brakes and clutched again by releasing them. The most intuitive and easy way to drive a powershift tractor in the market!

Automatic traction control	1.	Conditions for declutching the drive with brakes 1. Both brake pedals are pressed 2. Accelerator pedal is NOT pressed 3. Engine is not in engine braking 4. Speed is less than 20 km/h
	2.	Conditions to clutch the drive 1. Driver is on the seat 2. Direction is on 3. Brake pedals are released 4. OR Clutch pedal is pressed and released 5. OR Accelerator pedal is pressed

Tip Try using when baling, or on stop start operations to minimize clutch use. Can also be used on road operation

This feature can be switched ON /OFF - in settings in A pillar display

POWERSHIFT REVOLUTION HILLHOLD STANDARD FEATURE

The new HillHold function is a standard feature in Active and HiTech tractors. With this function you don't have to keep the brakes pressed down when the tractor is standing still in up- or downhill, for example when waiting for turn in a junction. HillHold can be activated easily:

1.	Stop tractor by pressing brakes. (AutoTraction must be active)
2.	Keep brakes depressed and place shuttle into P and then select direction
3.	Release brakes. Tractor stays stationary
4.	Start off by pressing accelerator pedal









ECOPOWER-MODE Only on N155e and T175e models

ECO mode is designed especially for work that requires high torque, but not constant engine revs e.g. pulling work on the field. With EcoPower the tractor will give highest torque already at very low engine revs. EcoPower lowers the engine speed by 200rpm without affecting the engine max. power. This allows lower noise levels and lower fuel consumption. If higher engine revs are needed, you can change between ECO and power mode with settings in pillar display.

1.	Make sure the engine is running.
2.	Set the ECO mode ON (and OFF) in A-pillar ENGINE settings
3.	You will notice the maximum engine RPM
4.	Use this when operating on the road, or when using implements with high torque requirement.





CRUISE CONTROL (with Valtra ARM)

Traditionally most drivers have used the hand throttle to hold a steady speed, especially on the road. Cruise disengages automatically when clutch or brakes are depressed.



TO SET CRUISE CONTROL WHILST MOVING

- Hold the desired speed steady and press the cruise control button 1 (or 2) shortly* at the same time.
- Cruise will engage and a symbol will appear in the A-pillar display.
- Adjust the stored speed with the cruise control adjustment wheel.
- To cancel the cruise control, depress brakes, clutch or push the OFF button located on the armrest. Speed can be increased momentarily using the drive pedal without deactivating the cruise.

* Note If there is a value in speed cruise memory, you need to push the cruise control button 1 or 2 for 2 seconds to overwrite the value.

ENGINE RPM CRUISE

Valtra Active and HiTech have cruise control also for engine RPM that will keep engine RPM constant regardless of speed. Engine RPM cruise can be stored whilst stationary or moving.

1.	Make sure the engine is running.
2.	Increase the engine RPM to the desired level by using the hand throttle.
3.	Push and hold the engine RPM button until the cruise light stays on in the A-pillar display.
4.	Release the button and RPM will be stored. Also return hand throttle to minimum.
5.	The engine RPM should now stay at the set level.
6.	Push the engine RPM cruise control button to engage and disengage the RPM memory function.

Valtra ARM





Basic controls







ENGINE BRAKING

Engine braking can be done normally in manual mode, keeping small enough gear and powershift step engaged In AUTO 1 the engine braking can be set to work automatically

GO TO ENGINE SETTINGS



Rotate the scroll wheel to select between 1 and 5.

A higher value gives a more aggressive engine brake. In slippery conditions note, that high value can create too strong braking effect and lead to slip!



HYDRAULICS FRONT HYDRAULICS (with Valtra ARM)

You can use joystick to control front valves.

1.	Every time tractor is turned on, the spools must also be turned on using the ON/OFF button located on the left side of the joystick.
2.	The joystic has three functionalities; forward- reverse and sideways directions and as third function the fingertip lever on top of the joystic. Three proportional front valves can be operated with this joystick.
3.	If 4th front valve is fitted, then an extra paddle contol lever comes to the side of the armrest.
4.	Electric front valves iclude as well the Hydraulic Assistant functionality and all front valves are fully adjustable.



POWERSHIFT REVOLUTION HYDRAULIC ASSISTANT STANDARD FEATURE WITH FRONT VALVES

The first Powershift tractor in the world with patented hydraulic assistant! Engine revs are rising when hydraulic flow is required from front valves, even when driving without affecting the ground speed. Can be set on and off from transmission settings (see user manual).

HYDRAULIC ASSISTANT MAKES OPERATION WITH Front Loader Faster and More Agile:

1.	No longer does the operator have to press accelerator pedal and brake pedal at the same time.
2.	The hydraulic assistant increases engine revs auto- matically when driving with powershift 2 or higher.
3.	Works also when the brake or clutch pedals are pressed or the shuttle in neutral.
4.	Works only when Auto1 is activated.

HYDRAULICS REAR VALVES

In HiTech you have Open Centre and in Active Load Sensing hydraulics with mechanically controlled rear valves. Depending on your hydraulics lay-out, you can have flow control either in cabin or at the valve.



1.	Valve No 1 (blue)
2.	Valve No 2 (brown)
3.	Valve No 3 (green)
4.	Valve No 4 (white)
5.	Flow control adjustment (The flow control adjustment knob in cab adjusts the valve next to it)

HYDRAULICS Adjusting rear valves

Depending on your hydraulics lay-out you are able to adjust the rear spool valves to meet your task in hand. When you have three or more spool valves in rear, you have a possibility to adjust one or more valves to suit your need. In spools 3 and 4 it is possible to adjust the flow as well as from valve mode selector (on the valve) into three different modes. Modes are:



Kick-out mode to be used with cylinders which always goes from end to end e.g. turning the plough.

Spring return mode for universal use for hydraulic cylinders.

Position lock mode. To be used wherever you need constant hydraulic flow e.g. hydraulic motors.

HYDRAULICS FRONT VALVE OPERATIONS

Front valves are fully adjustable via A-pillar display

SETTING OF FRONT VALVE FROM A-PILLAR DISPLAY, Hydraulics Settings



Hydraulic assistant (ON/OFF)

Then select which front valve to be set

DETERMINE VALVE STATE:



Note The flow control can be used especially when the front implement movements are too fast. Particularly this is useful if the tractor is equipped with 160 or 200 l/min hydraulic output.



HYDRAULICS FRONT VALVE OPERATIONS

FLOW ADJUSTMENT OF EACH FRONT VALVE

1.	Select valve
2.	Plus (+) Port Max Flow
3.	Minus (-) Port Max Flow
4.	Plus (+) Port (valve Function) Certain function time or Continuous flow
5.	Minus (-) Port Valve Function Float, Certain function time or Continuous flow

Note that Front loader and front lift have their specific settings, e.g continuous flow may not be possible.

The joystick is proportional, so the flow can be always adjusted lower than max, with the joystic



REAR CONTROLS AND CONNECTIONS

1.	Front linkage shut-off valve (optional)
2.	Trailer coupling, Duo-Matic (optional)
3.	Trailer socket for trailer with ABS brakes
4.	Trailer coupling, 2-line system (optional)
5.	Trailer socket
6.	Quick coupling for air pressure devices (optional)
7.	Power outlet (12 V)
8.	ISOBUS connector (optional)
9.	Hydraulic levelling link (optional)
10.	Automatic side limiter (optional)
11.	Power take-off (PTO) shaft
12.	Pick-up hitch (optional)
13.	Lower link
14.	Side limiter
15.	Levelling screw
16.	Lift link
17.	Pick-up hitch lift links (optional together with the pick-up hitch)
18.	Quick coupling for hydraulic trailer brakes (optional)
19.	Auxiliary hydraulics system return coupling
20.	Case drain coupling for Power Beyond (optional)
21.	Quick couplings, auxiliary hydraulics
22.	Top link
23.	Top link/lower link ball storage bracket
24.	Power Beyond couplings
25	Auxiliary control device for parking brake



The pick-up hitch is optional with many alternatives.

ASR - AUTOMATIC SLIP Reculator

Automatic Slip Regulator (ASR, Option), which offers a completely new way of managing wheel slip, when working on the field or in slippery conditions.

ASR uses the radar to measure the ground speed and the wheel sensor to calculate the wheel slip. Usually, when working on the field with "soft spots", where the wheels start to slip more, the tractor starts to "dig" into the wet field resulting soil damage, loss of time and fuel - and implement control turns difficult.

ASR works similar to traction control in a car. If the slip goes over set value then it works to reduce slip by reducing wheel speed. The tractor speed goes down - but less compared to situation when slip increases fast without control. And in slippery roads increased slip can be very dangerous.

In settings menu, select a value from 1-5 to engage the ASR.

- With value 1, the ASR engages already with a small slip
- Value 5 gives allows a lot of slip before the ASR engages.

Higher value is more like situation driving without ASR, so start with big value and adjust to lower if there is still too much slip.

• The ASR works only on AUTO 1 mode.

Select OFF to disengage the ASR.

3.

 Push the drive pedal fully down to pass the ASR (drive the tractor momentarily without the ASR)



PICK-UP HITCH

TO UNLOCK THE PICK-UP HITCH:







1.	Press the symbol side of the lifting/lowering switch to fully raise the linkage.
2.	Pull the hitch latch lever open to unlatch the hitch. Keep the lever pulled.
3.	Press the lifting/lowering switch side opposite to the symbol to lower the linkage. Release the hitch latch lever when the hitch has passed the locking latch.

TO LOCK THE PICK-UP HITCH:

4.	F tł Y ju
5.	F

Press the symbol side of the lifting/lowering switch or the lifting push button until the hitch latches. You can hear a click and the trailer hitch release lever jumps a little.

Press the lifting/lowering switch side opposite to the symbol or the lowering push button to lower the linkage slightly.



PULLING WORK ON THE FIELD

HIGH NEED FOR POWER, LOWER SPEED

1.	Start the engine.
2.	Select the range B using the + and - buttons.
3.	Switch 4WD ON (symbol side position) and set differential lock to AUTO. (MID-position).
4.	Activate Auto 1.
5.	Limit max desired powershift gear if needed (with Valtra ARM).
6.	Optional: Set Auto-2 according to the task (see page 10).
7.	Engage ASR (optional in Active)
8.	Select driving direction and press accelerator pedal. Use cruise control when suitable speed is reached.

Valtra ARM



















N & T Series Quick Guide / Active & HiTech



Valtra ARM





Basic controls



TRANSPORT ON ROAD













HIGH NEED FOR SPEED, TEMPORARY NEED FOR FULL POWER

Start the engine. Select the desired range according to the situation (max C-range always when start driving). Switch 4WD to OFF when driving on the road. Optional: Set speed cruise when moving (with Valtra ARM). Optional: Set Auto-1 by moving to right position if you want tractor to manage Powershift changes automatically. Select driving direction using the shuttle lever and press accelerator pedal. Note that you can prevent automatics to change to lower range in nexT 10 seconds by pressing "+" button. Helps in TEMPORARY SLOWDOWNS!

29



PTO WORK Auto 1

PTO USE – HIGH POWER NEEDED – MEDIUM/HIGH SPEEDS



Note Stationary use of the PTO If the PTO is in operation and you get up from the driver's seat, the operator presence sensor normally stops the PTO. To avoid this, push the PTOswitch and hold it in the ON position for three seconds before leaving the seat (PTO must be in operation when doing this).

Valtra ARM























Valtra ARM

Basic controls











FRONT LOADER WORK

- Start the engine with the clutch pedal depressed.
- 2. Select the desired range (B or C recommended).
- Move the shuttle to the forward/reverse position to initiate drive.
- 4. Activate hydraulics (with Valtra ARM).
- Activate hydraulic assistant from A-pillar display.
- 6. Start working.



Valtra Inc. Valmetinkatu 2 FI-44200 Suolahti

Tel. +358 (0)2045 501 www.valtra.com

YOUR WORKING MACHINE

 ∇