CHCNAV

Geospatial

MCNAV TD73

3D Automatic Control System for Dozers

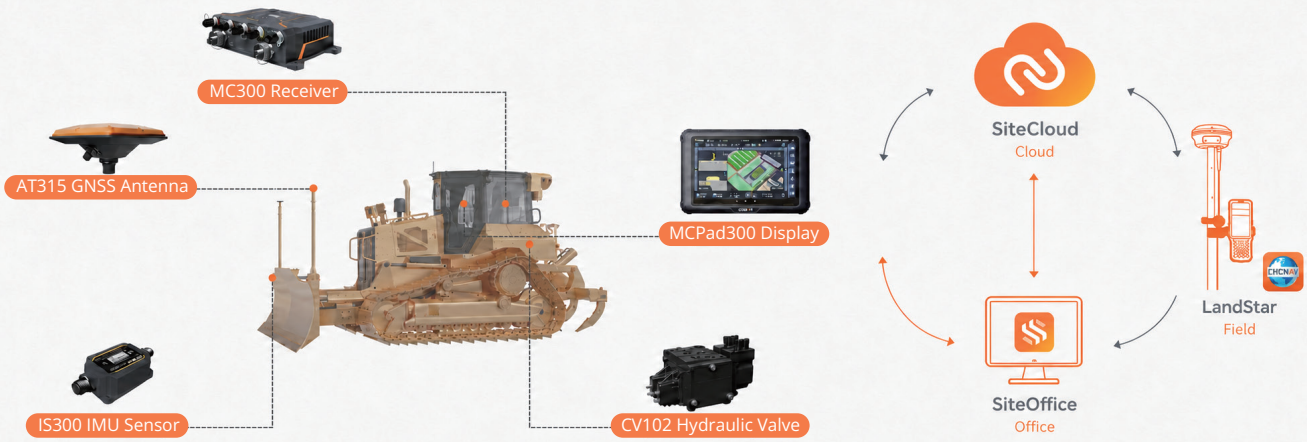


Precise Grading, Easy Control

The MCNAV TD73 is an advanced 3D automatic grade control system for dozers, delivering centimeter-level blade control across different machine models, operating speeds, and material conditions. Built for operators, it integrates with multiple dozer control architectures and features the MetaCAD 4.0 engine for smooth handling of large 3D design files. Its all-in-one hardware design supports fast installation, easy transfer between machines, and efficient grading operations.



3D Automatic Control System for Dozers



Centimeter-Level Blade Control Across Machines, Speeds and Materials



Machine Compatibility[4]

- CAN bus integration
- Pilot proportional hydraulic control
- Hydraulic valve control, PVG



Extreme Conditions

Designed for consistent grading performance across operating speeds, variable materials, and extreme -40 to +70 °C temperature conditions.



Fast, Precise Blade Response

AHRS-powered technology delivers centimeter-level blade control with a response time of less than 350 ms.

Built for Operators, Fits Your Workflow



Easy to Learn and Operate

- No file conversion
- No complex training
- Fewer site revisits



Smarter Management and Support

- Cloud-to-field synchronization
- One-touch backup
- Remote assistance



Flexible Workflow Setup

- Multiple coordinate and design formats
- Mainstream radio compatibility
- 6 shortcuts, 5 preset views, and flexible screen layouts

MetaCAD 4.0 for Fast, Smooth 3D Design Handling

Large CAD Files, Smooth Operation

- **150 MB** CAD files
- **350,000** project elements
- **2 million** TIN surfaces

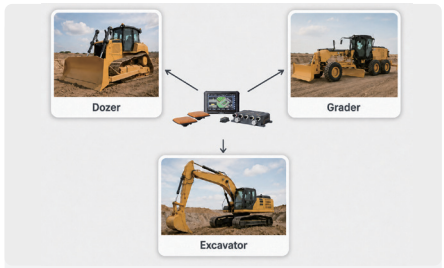


True-to-Design Performance

DXF, DWG, LandXML •

1:1 design fidelity •

All-in-One Design for Easy Setup and Higher ROI



One System, Multiple Machines

- Easy machine transfer
- Higher system utilization
- Greater fleet flexibility



Quick-Release Design

- GNSS antennas and display
- Fast installation and transfer



All-in-One Hardware

- Receiver with built-in radio, Bluetooth and Wi-Fi
- No additional modules required

Application



Road Construction



Bulk Earthworks



Mining Operations



Site Grading



Land Reclamation

SPECIFICATIONS

MCPad300 Display

Dimension(L x W x H)	281 mm x181 mm x 42 mm (11.06 × 7.13 × 1.65 in)
Screen	10.1", 1920 × 1200 pixels, 750 nits
Touchscreen	Capacitive Multi-Touch
Core system	Android 14 8-core up to 2.2 GHz 6 GB RAM + 64 GB ROM
Weight	1.5 kg (3.31 lb)
Network modem	LTE-FDD: B1/B2/B3/B4/B5/B7/B8/B12/B18/ B20/B28 LTE-TDD: B38/B39/B40/B41 WCDMA: B1/B2/B4/B5/B8/B19 GSM: 850/900/1800/1900 MHz
Operation temperature	-30 to +60 °C (-22 to +140 °F)
Storage temperature	-30 to +70 °C (-22 to +158 °F)
Ingress protection	IP67(1) (according to IEC 60529)

IS300 IMU Sensor

Dimension(L x W x H)	48.8 × 108 × 27.3 mm (1.92 × 4.25 × 1.07 in)
Weight	0.115 kg (0.25 lb)
Electrical input voltage	7-36 V DC
Static accuracy(RMS)	±0.05°
IMU update rate	100 Hz
Shock	50 G/11 ms
Vibration	7.7 Grms, 10-1000 Hz
Operation temperature	-40 to +75 °C (-40 to +167 °F)
Storage temperature	-50 to +85 °C (-58 to +185 °F)
Ingress protection	IP69K(2) (according to ISO 20653)

MC300 GNSS Receiver

GNSS channels	1408
Satellite tracking	GPS / BDS / GLONASS / Galileo / QZSS
Position update rate	10 Hz
RTK positioning accuracy(3)	Horizontal: ±8 mm + 1 ppm Vertical: ±15 mm + 1 ppm
Dimension(L x W x H)	215 × 154 × 58 mm (8.46 × 6.06 × 2.28 in)
Weight	1.2 kg (2.65 lb)
Wi-Fi	IEEE 802.11 b/g/n/ac
Built-in UHF radio	Standard internal Rx only: 410-470 MHz Protocols: CHC, Transparent, TT450, Satel 3AS
Electrical input voltage	7-36 V DC
Operation temperature	-30 to +65 °C (-22 to +149 °F)
Storage temperature	-40 to +85 °C (-40 to +185 °F)
Ingress protection	IP67(1) (according to IEC 60529)

AT315 GNSS Antenna

Dimension(L x W x H)	346 × 196.5 × 89.4 mm (13.62 × 7.74 × 3.52 in)
Weight	0.7 kg (1.54 lb)
Electrical input voltage	3.3-12 V DC
Gain	40 ± 2 dB
Noise coefficient	≤ 2 dB
Shock	40 G / 11 ms
Vibration	7.7 Grms, 10-1000 Hz
Operation temperature	-40 to +75°C (-40 to +167°F)
Storage temperature	-50 to +85°C (-58 to +185°F)
Ingress protection	IP68(1) (according to IEC 60529)

Control Performance

Blade control accuracy(3)	Centimeter-level
Hydraulic support(4)	CAN bus Hydraulic Proportional (Pilot) Hydraulic Mechanical (PVG)
Mounting configurations	Dual mast / Single mast
Design formats	LandXML, DXF, DWG, HCT, HCTX
Coordinate formats	CRD, DC, CAL, LOK, LOC, JXL

Compliance with Laws and Regulations

International standards	Complies with EU Radio Equipment Directive 2014/53/EU, RoHS Directive 2011/65/EU, US FCC Rules & Regulations, Canada RSS-247 Issue 3, Japan Radio Act, Japanese Electrical Appliance and Material Safety Law.

*** Specifications are subject to change without notice.**

(1) Splash, water, and dust resistant and were tested under controlled laboratory conditions with a rating of IP67/IP68 under IEC standard 60529.
(2) Tested under controlled laboratory conditions with a rating of IP69K according to ISO 20653 for protection against high-pressure, high-temperature water jets.
(3) Accuracy and reliability are determined under open sky, free of multipaths, with a radio base station in use, optimal GNSS geometry and atmospheric condition. Performances assume a minimum of 5 satellites and follow-up of recommended general GPS practices.
(4) Multiple configurations are supported. Guidance and PILOT automatic control are currently available for trials and pilot sales. Additional configurations will be released later.
All test values above are from CHC Navigation internal labs under typical conditions. Actual results may vary due to product differences, software versions, usage, and environmental factors.

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