# JYL20 Land Leveling System

## A Land Leveling System for Sustainable Agricultural Management

### Overview

The JYL20 Land Leveling System combines GNSS satellite positioning with advanced automation for precise leveling of large-scale agricultural fields. it features real-time map displays, allowing operators to visually track the leveling status via elevation maps, improving accuracy and efficiency.

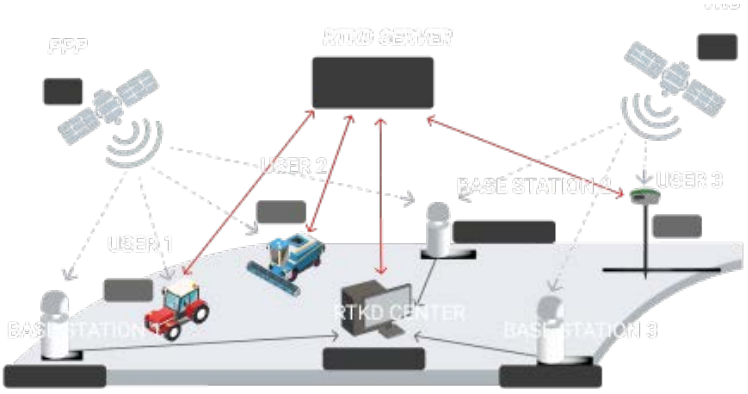
The system can replace traditional laser levelers and is compatible with machinery such as scrapers, bulldozers, and graders. it's ideal for farmland leveling, grid transformations, wasteland reclamation, and site preparation.

The JYL20 system combines GNSS-based positioning, elevation map display, and real-time control to deliver high-precision land leveling. It replaces traditional laser levelers and adapts to scrapers, dozers, and graders, enabling efficient operation for farmland, reclamation, and site preparation tasks.

- IP67
- CORRECTION SERVICES
- NETWORK RTK TECHNOLOGY
- LEVELING ACCURACY ≤2.5 cm
- TERRAIN COMPENSATION


## VERSATILE FIELD ADAPTABILITY

JYL20 supports diverse terrain environments with horizontal and slope leveling modes. It ensures consistent surface shaping across farmland, reclaimed areas, or uneven construction plots with centimeter-level accuracy.
Compatible with scrapers, bulldozers, and graders, enables rapid switching between equipment without additional calibration. This improves operational flexibility and reduces downtime during land preparation projects.




## Stable And Reliable Performance

The system allows continuous and stable operation in areas without network coverage by connecting to fixed or mobile base stations,even under adverse weather conditions, such as strong winds, fog, or dust storms.

## Remote And Efficient Control

The system supports remote control handsets, buttons, and touchscreens offering a user-friendly operation experience.The hardware device is easy to disassemble and install, and has an IP67 protection standard that you can use with confidence

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# Technical Specifications - T101 plus Control Tablet

## System

| | |
|---|---|
| Operating System: | Android 10 |
| CPU: | MT8768CA |
| Memory: External | 2GB RAM +32GB |
| Flash: | T-Flash, up to 64GB |
| LCD Resolution: | 10.1' Capacitive Touch Screen<br>1280x800 pixels |

## Communication

| | |
|---|---|
| Wi-Fi: | IEEE 802.11 a/b/g/n/ac/r<br>2.4G&5G |
| Cellular: | 4G:B1/B2/B3/B4/B5/B7/B8/<br>B12/B17/B18/B19/B20/B25/<br>B26/B28/B34/B38/B39/B40/<br>B41<br>3G: B1/B2/B4/B5/B6/B8/B19<br>GSM: B2/B3/B5/B8 |
| Bluetooth: | V5.0 |
| USB: | USB 2.0 (host & debug) x1 |
| AMP26P: | 1 |

## Electrical

| | |
|---|---|
| Power Input: | 9V~36V DC |
| Power Failure Fetection: | supported |
| Power Output: | 12V DC x1 |

## Physical

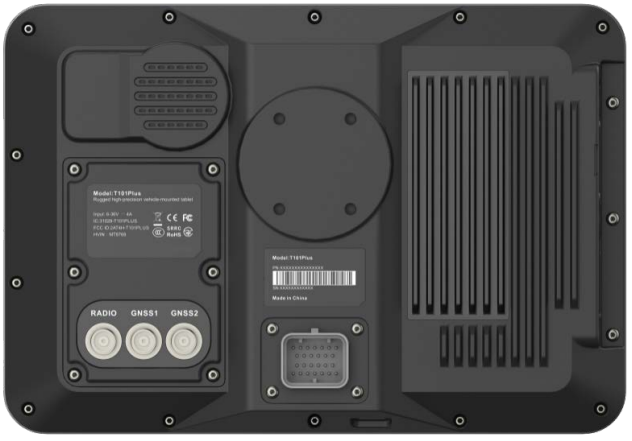
| | |
|---|---|
| Dimension: | 281mmx181mmx42mm |
| Weight: | 1.7kg |
| Operating Temperature: | -20 ℃ ~ +60 ℃ |
| Storage Temperature: | -40 ℃ ~ +70 ℃ |

## Satellite Positioning Parameters

| | |
|---|---|
| Frequency: | BDS: B1I/B2I/B3I<br>GPS: L1C/A/L2P (Y)/L2C/L5<br>Galileo: E1/E5a/E5b<br>GLONASS: G1/G2<br>QZSS: L1/L2/L5 |
| Channels: | 1408 channels<br>based on Nebulas IV |
| RTK (RMS): Horizontal: | Horizontal: 0.8cm + 1ppm,<br>Vertical: 1.5cm + 1ppm |
| Heading Accuracy (RMS): | 0.1°/1m baseline |
| Velocity Accuracy (RMS): | 0.03m/s |
| Differential Data: | RTCM 3.X |
| Data Format: | NMEA-0183 |
| Initialization Time: | <5 seconds (typical) |
| Initialization Reliability: | >99.9% |
| First Position Fix Time: | <25 seconds |
| Data Update Rate: | 20Hz |
| Roll Accuracy: | 0.2 degrees/1m Baseline |

## Radio

| | |
|---|---|
| Frequency Range: | 410-470MHz |
| Operating Mode: | Half-duplex |
| Channel Spacing: | GFSK Mode: 12.5kHz, 25kHz;<br>LoRa Mode: 250kHz |
| Modulation: | GMSK, 4FSK, GFSK, etc. |
| Power Consumption | |
| Transmit High Power: | 6W @ 3.3V DC |
| Receive Mode: | 0.5W @ 3.3V DC |
| Standby: | 0.5W @ 3.3V DC |

# Technical Specifications - GNSS Antenna

## Performance

| | |
|---|---|
| Frequencies: | GPS: LI/L2/L5<br>BDS: B1/B2/B3<br>GLONASS: L1/L2/L3<br>GALILEO:EI/E5a/E5b/E6<br>Qzss: L1/L2/L5/L6<br>IRNSS: L5 L-Band |
| Impedance: | 500Ω |
| Polarization: | RHCP |
| Axial Ratio: | ≤ 53dB |
| Azimuth Coverage: | 360° |
| Output VSWR: | ≤ 2 |
| Peak Gain: | 5.5dBi |
| Phase Center Offsets: | ±2mm |

## Environmental

| | |
|---|---|
| Operating Temperature: | -45°C ~ +85°C |
| Storage Temperature: | -45°C ~ +85°C |
| Humidity: | 95% not condensing |

## LNA

| | |
|---|---|
| LNA Gain: | 40±2dB |
| Noise Figure: | ≤ 2.0dB |
| Output VSWR: | ≤ 2.0 |
| Operation Voltage: | 3.3V∽12V DC |
| Operation Current: | ≤ 45mA |
| Ripple: | ±2dB |

## Mechanical

| | |
|---|---|
| Dimension: | Φ152x62.2mm |
| Connector: | TNC Female |
| Screw Hole for assembly: | 5/8"x11 UNC Female |
| Weight: | 374g |

# NMC101 Controller

## Performance

| | |
|---|---|
| Communication Interface: | CAN |
| Input Control: | 2 analog inputs (voltage) |
| Output Control: | 2 outputs<br>(12 V switching signal/PwM) |
| Operating Voltage: | DC 9-36 v(with power protection) |
| Working Voltage: | ≤ 45 mA |
| Protection Level: | IP67 |

## Environmental

| | |
|---|---|
| Operating Temperature: | -35 to +65 |
| Storage Temperature: | -40 to +70 "C |

## Mechanical

| | |
|---|---|
| Dimension: | 120 x 81 x 34mm (without cable) |
| Weight: | 228g |

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