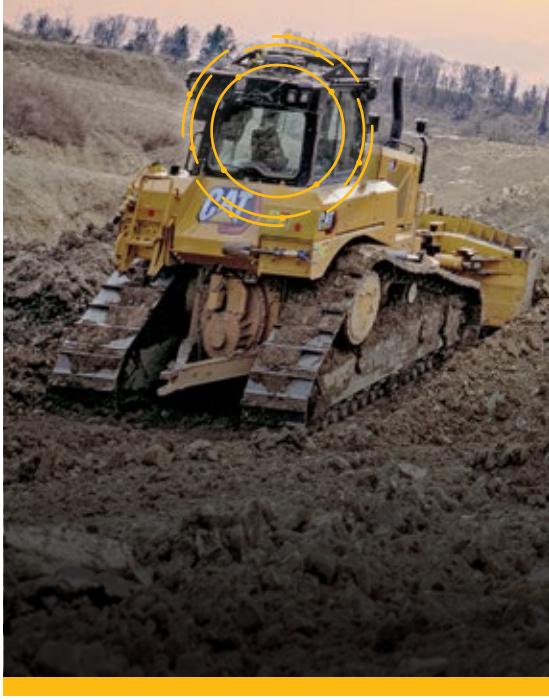
COMMAND

FOR DOZING







CAT®

CAT® COMMAND REMOTE CONTROL

SAFE. EFFICIENT. PRODUCTIVE.

Operating near high walls. Working on unstable surfaces or steep slopes. Moving hazardous materials. Any of these situations can put dozer operators at risk. Even traveling to a remote jobsite poses its own safety issues.

Cat® Command for Dozing helps address all of these challenges by enabling the operator to work outside the machine.



IN THE FIELD OR OFF SITE

COMMAND HELPS OPERATORS WORK SAFELY

It's a sophisticated remote control system that takes operators off the machine and away from potential dangers when working with hazardous materials or in unsafe conditions. Plus, it maintains the option to utilize other advanced control technologies like Grade and Assist features for dozers.

Once operators become familiar with the feel of the remote control system, they can operate as efficiently, accurately, and confidently as in the cab. In fact, because they experience dramatically less noise and no vibration, operators can work efficiently for longer periods of time with less fatigue.

TWO SYSTEMS TO MATCH JOB NEEDS

CAT® COMMAND CONSOLE

Portable, lightweight system allows the user to work outside of the cab while remaining on site and in direct visual contact with the machine.

+ Ideal for short-term and emergency use.
+ Requires no on-site communications infrastructure.



CAT COMMAND STATION

Enables the operator to work remotely in a seated indoor "virtual cab" located on site or many miles away.

+ Helps reduce operator fatigue with a comfortable working environment.
+ High quality video delivers a clear view of the work area.



SAFETY COMES FIRST

Allows operators to work away from hazardous conditions, dust, noise, and vibration. Eliminates risk of an operator being injured climbing on or off the machine.

OPERATION IS SIMPLE AND FAMILIAR

Easy to learn and use. Common jobs like dozing and grading materials in hazardous areas become safer for operators – without sacrificing control or accuracy.

FLEET INTEGRATION IS EASY

Your Cat dealer can install Command on a wide range of new Cat dozers, wheel loaders, and excavators.



REMOTE CONTROL CONSOLE

LINE-OF-SIGHT OPERATION

LINE-OF-SIGHT

+ Remote control functions deliver smooth, precise blade, ripper, and steering control.
+ Provides line-of-sight operation from up to 400 meters (1,312 ft) away.
+ Operator inputs are sent to the machine via a dedicated radio transmitter/receiver link for real-time implement control.
+ The machine will shut down if the controller is tipped more than 45 degrees; this feature was designed in the case of the operator tripping or falling.



CAT COMMAND CONSOLE

+ Ergonomic controls provide complete access to all dozer functions.
+ Integrated electronics provide nearly the same response as if operating from the cab.
+ Console LED display delivers comprehensive dozer status information.
+ Console comes with batteries, charger, and shoulder harness.

REMOTE OPERATING STATION

NON-LINE-OF-SIGHT OPERATION



+ Provides a comfortable, indoor environment with familiar controls.
+ Operators can switch between machines, changing jobsites with no downtime.
+ Controls deliver virtually the same response time as in the cab, maintaining precise control for all dozer applications.
+ Enables trainers to stand beside an operator without noise or movement.

CAT COMMAND STATION includes universal controls and an ergonomic design for long-term operation.

DISPLAY OPTIONS



STANDARD

+ Television Size: 43-50" (110 cm-130 cm)
  – Not Included
+ Television Interface: TV Wall Mount
  – Not Included
+ Touch Screen Size: 22" (56 cm)
  – Not Included
+ Touch Screen Mount: Dynamic Arm
  – Included



OPTIONAL

+ Secondary Site Television Size: 43-50" (110 cm-130 cm)
  – Not Included
  – Optional Dual Interface Bracket
+ Secondary Touch Screen Size 22" (56 cm)
  – Not Included
+ Touch Screen Size: 22" (56 cm)
  – Not Included
  – Optional Dynamic Arm



CONFIGURABLE

+ Remove Mounting Mast
+ Wall Mount Any Size TV

STATION CONTROLS



PEDALS

+ Adjustment Range: 3" (7.5 cm)

JOYSTICKS

+ Adjustment Range: 7" (17.5 cm)
+ ISO/SAE Pattern Configurable

SEAT

+ Adjustment Range: 9" (23 cm)
+ Recline Adjustment Range: 35°
+ Lumbar Adjustments: Five Positions
+ Headrest: Adjustable
+ Seat Material: Cloth
+ Operator Presence Switch

SWITCHES

+ Station Power
+ Park Lock
+ Implement Lock
+ Remote Shutdown Switch

STORAGE

+ Mouse Pad Area
+ Keyboard Shelf
+ Two Cup Holders
+ Storage Tray
+ Cell Phone/Tablet Holder

FULLY INTEGRATED REMOTE CONTROL SOLUTION

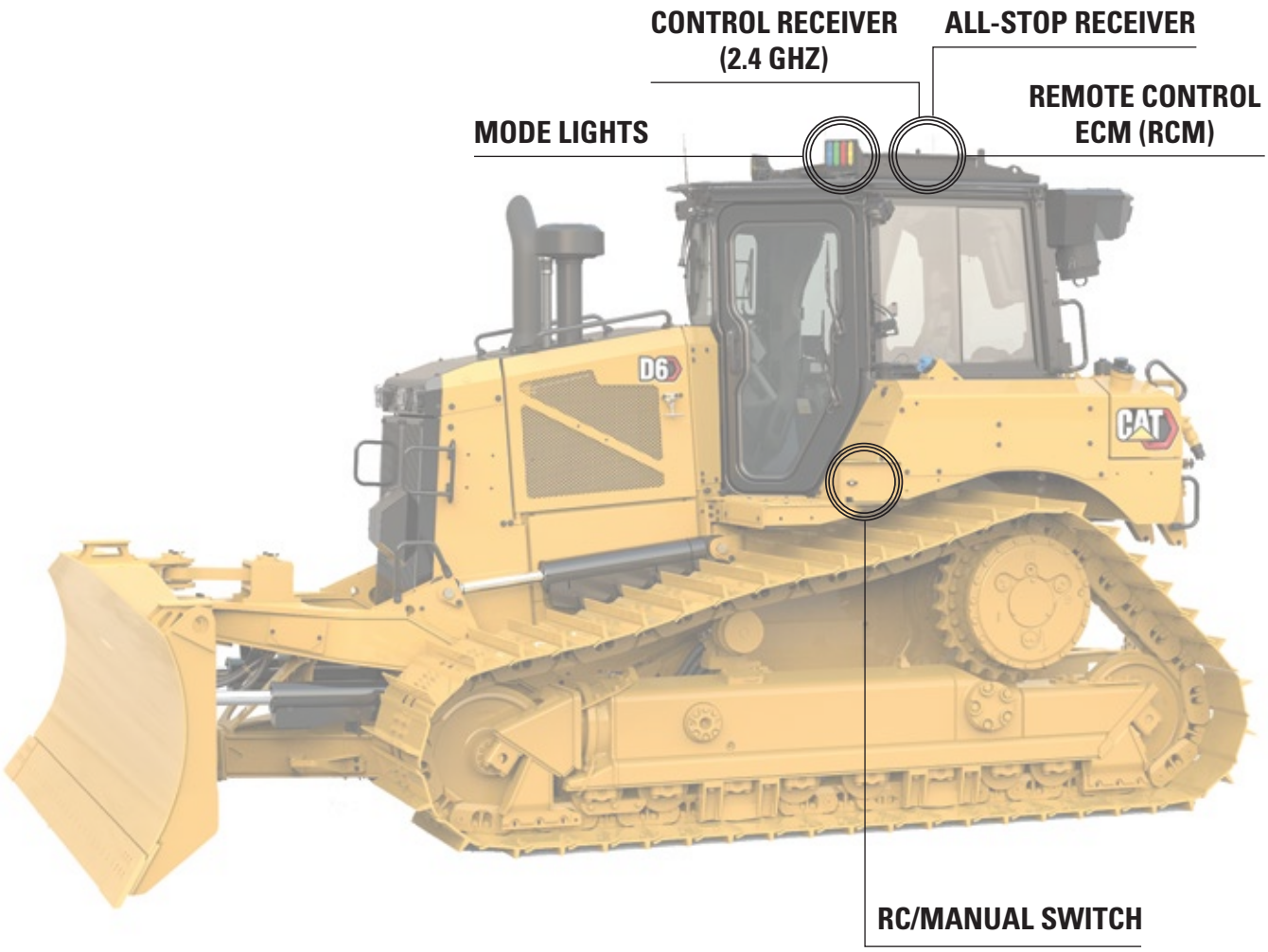


Cat Command Console and Cat Command Station controls are fully integrated with the dozer's electronic and hydraulic systems.

+ Ground-level switch toggles between manual and remote operation.
+ Can be retro-installed on many existing Cat dozers, wheel loaders, and excavators.

ONBOARD DOZER COMPONENTS

Most components that make Command for Dozing possible are already integrated into next generation machines. Getting the operator started is fast and easy with only a few additional parts needed.





CAT COMMAND CONSOLE



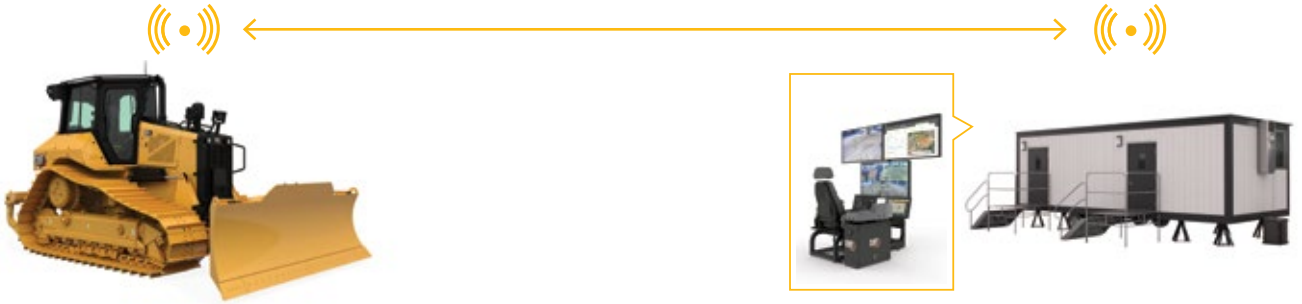
CAT COMMAND STATION

COMMAND FOR DOZING
HOW IT WORKS

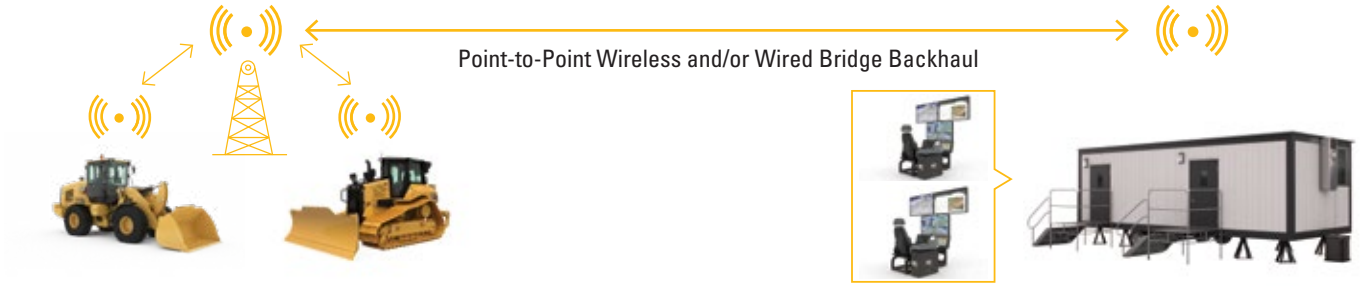
LINE-OF-SIGHT



POINT-TO-POINT COMMUNICATION



SINGLE ACCESS POINT



MULTIPLE ACCESS POINT/MACHINE ROAMING



COMMAND STATION OPERATION IS INTUITIVE AND PRECISE

Operating from the Command Station is remarkably similar to running a dozer from the cab. Multiple monitor views show everything the operator needs to see, including additional views that they can't get from the cab.

SMOOTH STEERING AND LIFT/TILT CONTROL

The control layout of the Command Station mirrors what operators will find in most Cat dozers. Controls are familiar and precise, reflecting what is happening on the machine in the field.



REAL-TIME MACHINE STATUS INFORMATION

Along with the exterior camera views, the Command Station monitors provide essential machine status information in real time such as fuel usage, engine speed, travel mode and more, plus information from other Cat dozer technologies such as Cat Grade.

COMMAND FOR DOZING

EASY-TO-LEARN CONTROLS



COMMAND CONSOLE OVERVIEW

Experienced operators will quickly pick up how to use the Command Console. Joystick control is intuitive and designed to allow operators to work efficiently and comfortably.*

1. LEFT JOYSTICK - STEERING & SPEED CONTROLS
2. MACHINE STATUS DISPLAY
3. RIGHT JOYSTICK - BLADE, RIPPER, & WINCH CONTROLS
4. SYSTEM STOP LED
5. ACTIVE FAULT LED
6. IMPLEMENT LOCKOUT LED
7. PARK BRAKE LED
8. CONSOLE DISPLAY MODE (SIDE OF CONSOLE)
9. HORN (SIDE OF CONSOLE)
10. CONSOLE POWER (SIDE OF CONSOLE)
11. BLADE FLOAT / WINCH FREE SPOOL
12. IMPLEMENT SELECT SWITCH
13. ENGINE START SWITCH
14. ENGINE THROTTLE DIAL
15. PARK BRAKE SWITCH
16. IMPLEMENT LOCKOUT SWITCH
17. FIRE SUPPRESSION - IF EQUIPPED (SIDE OF CONSOLE)
18. MACHINE WORK LIGHTS (SIDE OF CONSOLE)
19. BLADE FEATURE (SIDE OF CONSOLE)

Systems are shipped with a console and onboard receiver that share a 2.4 GHz frequency communications protocol.

** Partial list only. Consult the operation and maintenance manual for a detailed description of available controls.*

COMMAND STATION OVERVIEW

1. SITE CAMERA DISPLAY (DEALER/CUSTOMER SUPPLIED)
2. REMOTE VISION DISPLAY (DEALER/CUSTOMER SUPPLIED)
3. REMOTE OPERATOR INTERFACE DISPLAY AND GRADE CONTROL OPTIONAL DISPLAY (DEALER/CUSTOMER SUPPLIED)
4. RIGHT-HAND SIDE CONSOLE
5. PARK BRAKE SWITCH
6. IMPLEMENT LOCKOUT SWITCH
7. FIRE SUPPRESSION SWITCH (OPTIONAL)
8. COMMAND STATION REMOTE SHUTDOWN
9. RIGHT CONTROL
10. OPERATOR NOT PRESENT SENSOR (WITHIN SEAT BOTTOM CUSHION)
11. LEFT CONTROL





SUPPORTED OPERATOR FEATURES

The operator can select a wide range of dozer and technology features using the menus on both the Command Station and Console.* Some features are not available on all dozer models. Consult your Cat dealer for details.

- **Cat Grade -** Helps operators of varied skill levels hit target grade faster and more accurately.
- **Slope Assist -** Automatically maintains pre-established blade position without a GPS signal – no additional hardware or software needed.
- **Stable Blade -** Seamlessly works with operator inputs to help reduce imperfections and produce a smoother surface.
- **Slope Indicate -** Shows machine cross-slope and fore/aft orientation right on the main display to help operators with slope work.
- **AutoCarry™ -** Automates blade lift to help get more consistent blade loads with each pass and reduce track slip.
- **Blade Load Monitor -** Actively monitors machine load and track slip to help reach optimal pushing capacity.
- **Traction Control -** Automatically reduces track slippage with no operator interaction, resulting in less ground disturbance and fewer passes.
- **Power Pitch -** Provides operators with the ability to quickly adjust the blade pitch on the go for applications that require multiple adjustments.
- **Power Turn -** Provides power to each track to allow dozer to carry heavy loads around turns.
- **Eco Modes -** Optimizes engine speed, while maintaining ground speed and power, to save fuel in lighter blade load applications like finish grading.

** Not all technology features are available on the Command Console.*



REMOTE CONTROL IN ACTION

Preston Contractors, a full-service construction contractor based in West Virginia (USA), is using Cat Command Consoles for dozer push outs at fine coal slurry impoundments.

Eliminating the need for people to work in potentially hazardous situations – such as working close to the water's edge – operators now work away from the unforgiving quicksand like composition of slurry. The ability to work outside the cab and control the dozer remotely keeps operators out of the danger zone.



SAIIA, an industrial/heavy civil contractor in northern Alabama (USA), is using three Cat Command Stations and a Command Console around an ash pond site. The materials around these ponds can be unpredictable, especially during rainy conditions.

Operators control Cat dozers and excavators from inside a heated office trailer. Along with the comfortable work space, they appreciate not having to walk through muddy conditions or risk getting their vehicles stuck on the way to their machines.

STANDARD & OPTIONAL EQUIPMENT

Standard and optional equipment may vary. Consult your Cat dealer for details.

COMMAND STATION (NON-LINE OF SIGHT)

MACHINE BASE KIT	STANDARD	OPTIONAL
Mode Indicator Lights	●	
RC/Manual Mode Switch	●	
Electronic Control Modules, Harnesses, Brackets, Fuses, Relays	●	

MACHINE VISION AND COMMUNICATIONS	STANDARD	OPTIONAL
HD Cameras	●	
Microphone	●	
ECMs, Harnesses, Brackets	●	
Machine Radio Installation Kit	●	
Machine Radio, Antennas	○	

STATION DISPLAY SETUP	STANDARD	OPTIONAL
Machine Vision Television	○	
– Tilt Mount and Cables	○	
Operation Info Touch Screen	○	
– Dynamic Mount Arm	●	
– Cables	○	
Site Camera Television	○	
– Tilt Mount and Cables	○	
Secondary Touch Screen (Ex. Cat Payload)		○
– Dynamic Mount Arm		●
– Cables		○
Configurable 3rd Television		○
– 3rd Television Bracket		●
– Television Tilt Mount and Cables		○
Configurable – Remove Mounting Mast – Wall Mount Any Size TV	●	

STATION CONTROLS AND ERGONOMICS	STANDARD	OPTIONAL
Pedals	●	
– Adjustment Range: 3” (7.5 cm)	●	
Joysticks	●	
– Adjustment Range: 7” (17.5 cm)	●	
Seat	●	
– Adjustment Range: 9” (23 cm)	●	
– Recline Adjustment Range: 35°	●	
– 5 Lumbar Positions	●	
– Adjustable Headrest	●	
– Cloth Seat	●	
– Operator Presence Sensor	●	
Switches	●	
– Station Power Switch (Lockable)	●	
– Park Brake Switch	●	
– Implement Lock Switch	●	
– Fire Suppression Enable Switch	●	
– Remote Shutdown Switch	●	
Storage	●	
– Mouse Pad Area	●	
– Keyboard Shelf	●	
– Two Cup Holders	●	
– Storage Tray	●	
– Phone/Tablet Holder	●	

● – Caterpillar supplied equipment
○ – Cat dealer or customer supplied equipment

(Continued on next page)

STANDARD & OPTIONAL EQUIPMENT

Standard and optional equipment may vary. Consult your Cat dealer for details.

COMMAND STATION (NON-LINE OF SIGHT)

STATION MODULAR STRUCTURE	STANDARD	OPTIONAL
Detachable Display Mounting Mast	●	
Two-Piece Rigid Frame	●	
Detachable Cat Electronics Enclosure	●	

STATION POWER AND CONNECTIVITY	STANDARD	OPTIONAL
Personal Computers	○	
– Personal Computer for Machine Vision and Interface	○	
– Personal Computer for Site Camera and Cat Productivity	○	
– Wireless Keyboard/Mouse	○	
AC-to-DC Power Supply (24VDC, 10A)	○	
AC Power Strip Extension	○	
Caterpillar Validated Ethernet Switch	○	
4 × Ethernet Cables	○	
2 × Power Cables	○	

SITE COMMUNICATIONS	STANDARD	OPTIONAL
Site Access Point – Manages wireless communication with the machine	○	
Site Backhaul – Manages communication between the Station and Access Point		○
Site Camera – Operator can monitor site-level hazards	○	

A-STOP	STANDARD	OPTIONAL
Handheld Transmitter		●
Machine Receiver		●
– Harness, Brackets, Hardware		●

COMMAND CONSOLE (LINE OF SIGHT)

STATION CONTROLS AND ERGONOMICS	STANDARD	OPTIONAL
Mode Indicator Lights	●	
RC/Manual Mode Switch	●	
Electronic Control Modules, Harnesses, Brackets, Fuses, Relays	●	
Console Control	●	
– Batteries, Charger, Shoulder Harness, RFID Chip	●	
Machine Receiver	●	
– Harness, Brackets, Hardware	●	

● – Caterpillar supplied equipment
○ – Cat dealer or customer supplied equipment

Cat Command availability may vary by region and model. Consult your Cat dealer for details.

For more complete information on Cat products, dealer services and industry solutions, visit us on the web at www.cat.com

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Materials and specifications are subject to change without notice. Featured machines in photos may include additional equipment. See your Cat dealer for available options.

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