



PIONEER III Dxe specifications

Feature	Pioneer 3-Dxe
PHYSICAL	
Length	44,5cm
Width	40cm
Height (body)	24,5cm
Body clearance	6,5cm
Weight (with min. battery capacity)	9kg
Payload of platform with one battery	23 kg flat
CONSTRUCTION	
Body	1.6mm CNC fabricated, painted aluminum
Battery Access	Hinged, latched access door
Assembly	Allen hex screws
POWER	
Battery	12V sealed, lead-acid 252 watt-hr
Charge	
Run time, base platform	4-8 hrs
Recharge time standard charger	12 hrs
Recharge with 1 high-capacity charger	2.4 hrs
Docking station	Yes
MOBILITY	
Drive	2-wheel drive - rear balancing caster
Wheel composition	Foam filled nylon, hard casters
Dr. Wheel Diameter	19 cm
Dr. Wheel width	5 cm
Steering	Differential
Gear ratio	38.3:1
Pushing force	6 kg
Swing radius	32 cm
Turn radius	0cm
Translate speed	1.2 m/sec
Traversable gap max	15.2cm
Traversable slope max	25% grade
Traversable terrains	wheelchair accessible
SENSING & MANIPULATION (not requiring on board PC)	
Front sonar ring	8 optional 1 each side 6 forward @ 15° intervals
Rear sonar ring	8 optional 1 each side 6 forward @ 15° intervals
Sonar range	15cm - 7m (opt)
Std. Position encoders	500 tick encoders
Surveillance option	Yes
IR Table Sensors	No
Compass option	Yes
Arm	Yes
Gripper option	Yes
Bumper option	Yes
Internet Operation option	Yes
ONBOARD COMPUTING, SENSORS AND ACCESSORIES (requiring on board PC)	
Optional onboard computer	Embedded size
Max. no. Cards & ports	3 PC104+

	2 USB
	4 serial
Laser option	Yes
Gyro option	Yes
GPS option	Yes
Vision/ACTS Color-Tracking options	Yes
Speech/Voice option	Yes
StereoCam Rangefinder option	Yes

ELECTRONICS

Processor	Hitachi H8S
Sonar inputs	16 max
Custom I/O connections	8-bit external I/O busw/ up to 16 devices + PC104 I/O boards
Analog/Digital	5 @ 0-5 VDC
Communications ports	3 RS-232 serial ports on microcontroller, 4 RS-232 and 1 Ethernet on optional embedded computer
Wireless Communications options	Radio modem pair without emb. computer; Ethernet station adapter & access point with
Flash Memory	1 mB
Power switches	1 main; 2 auxiliary

CONTROLS, PORTS AND INDICATORS

LCD display	-na-
Reset pushbutton	Warm reboot
Function pushbutton	Self-test
Main power switch	Robot power; 12VDC; red LED indicator
Radio power switch	Radio modem or other 12VDC option
Aux power switch	12VDC
Motors pushbuttons	Single enable/disable
Serial comm ports	9-pin RS232 with Rcv and Xmt LED indicators
Joy drive port	Off & opt. onbd.
Charging	12VDC charge port