Battlecode 2016 Simplified Specs

Objective:

- Destroy your opponent, or survive longer.

Basics:

- Turn-based
  - Limited bytecode
- Units called robots
  - several types
  - HP<=0 destroys robot
  - runs RobotPlayer.java
- Four factions
  - Team A
  - Team B
  - Zombie
  - Neutral

Zombie mechanics:

- Several robot zombie types
- Dens spawn zombies according to schedule specified in xml map file
- Zombies stronger over time
- Zombie AI
  1. attack a random unit within range
  2. move toward closest player-controlled unit
  3. if path blocked by rubble, clear blockage

Neutral robots:

- Do nothing until activated
- Your archon activates a neutral robot → it joins your team
- Not attacked by zombies unless blocking zombie path

Robot Types

Non-zombie:

Robot Type	Parts & Turns	Hit Points	Attack	Attack Range	Sight Range	Move delay	Attack Cooldown delay	Zombie delay
Archon	n/a	1000	n/a	24	35	2	1	1 Big
Scout	25p 15t	100	n/a	n/a	53	1.4	n/a	1 Fast
Soldier	20p 10t	50	4	13	24	2	2	1 Standard
Guard	20p 10t	120	1.5	2	24	2	1	1 Standard
Viper	100p 30t	100	2	13	24	3	3	1 Ranged
Turret	75p 25t	100	18	48	24	n/a	3	3 Ranged
TTM	10t	50	n/a	24	2	2	n/a	2 Ranged

Robot Type	Sprite	Bytecode per turn	Abilities
Archon		20000	Spawn robots. Activate neutral robots. Repair robots. Message signals. Generates .75 part per turn. Cannot attack.
Scout		20000	Not obstructed by rubble. Message signals. Cannot attack.
Soldier		10000	
Guard		10000	Bonus damage vs zombies.
Viper		10000	Can infect robots. Infection also deals damage over time.
Turret		2000	Cannot move. Cannot clear rubble. Can transform into TTM.
TTM		2000	Cannot attack. Cannot clear rubble. Can transform into Turret

Zombie:

Robot Type	Sprite	Hit Points	Attack	Attack Range	Sight Range	Move delay	Attack delay
Standard		60	3	2	3	2	1
Ranged		40	3	13	3	1	1
Fast		80	3	2	2	1.4	1
Big		500	25	2	3	3	1

Map rules

- 30 x 30 to 100 x 100 grid
- Each square may have rubble and or parts
- 3 to 6 archons per team
- any number of dens
- schedule for zombie spawns
- symmetric

Parts

- Used to construct new robots
- Team-shared parts stockpile
- Archons generate 0.75/round
- Archons can pick up parts around the map by moving onto those tiles
- Both teams start with 200

Rubble

- A robot moving onto a tile with >50 rubble suffers 2x actionDelay penalty
- >100 rubble blocks movement
- Scouts, fast zombies, and big zombies exempt
- destroyed robots increase rubble by max health
- Robots can clear rubble a little at a time
    - Amount left after clearing = max(95%*(original amount)-20,0)

Signaling

- Each robot has an incoming signal queue
- All robots can send a basic signal to all robots within signal range
- Costs bytecode and actiondelay to send signal
- Basic signal contains location, team, and ID of sending robot
- Archons and scouts can send message signals
- Message signals also contain 2 ints
- Non-player-controlled robots do not use or react to signals whatsoever.

Sensing and Vision

- Robots can sense squares within their robottype-specific sight range
  - Amount of rubble and parts
  - onTheMap()
  - Robots and RobotInfo: delays, teams, type, health, infection status
- Vision is NOT shared between robots
- Sensing range is measured in units of square range (Euclidean distance)^2.
- Zombies can sense player-controlled units wherever they are on the map.
- Can sense amount of rubble and parts on tiles in range

Victory and Tiebreaks

- If one team has 0 archons, other team immediately wins
- Otherwise, game goes to turn 3000, tiebreaks apply:
  1. Number of Archons controlled
  2. Total Archon health
  3. Sum of part stockpile plus part costs of all surviving robots
  4. Highest Archon ID

More resources:

- forum (https://www.battlecodeforum.org)
- IRC Channel (#battlecode on irc.freenode.net)