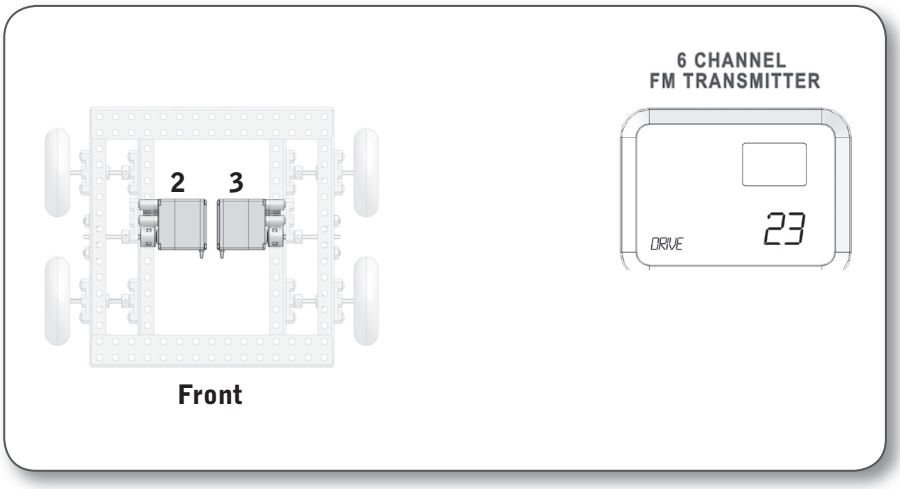
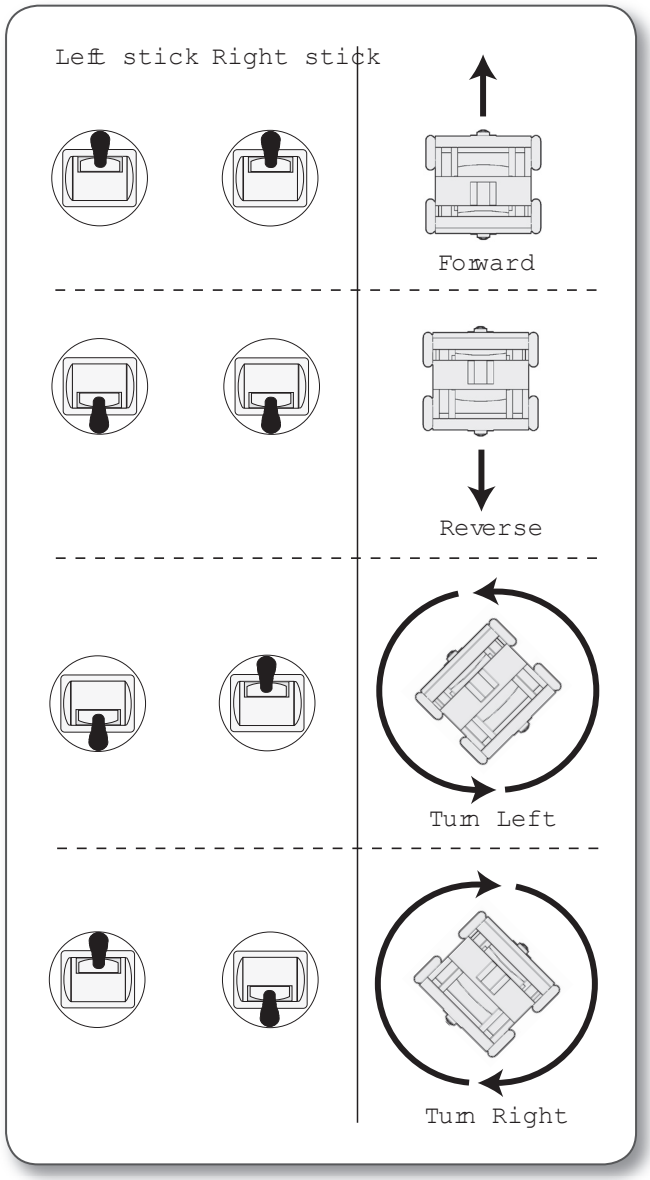
tank-style controls

For a 2-motor configuration, the left motor should plug into Motor Port 3, and the right motor should plug into Motor Port 2. The following controls will then apply.



In this configuration, every joystick "control channel" controls its same-numbered motor port.



tank-style controls, continued

Transmitter in "23 mode", no jumpers set on Micro Controller

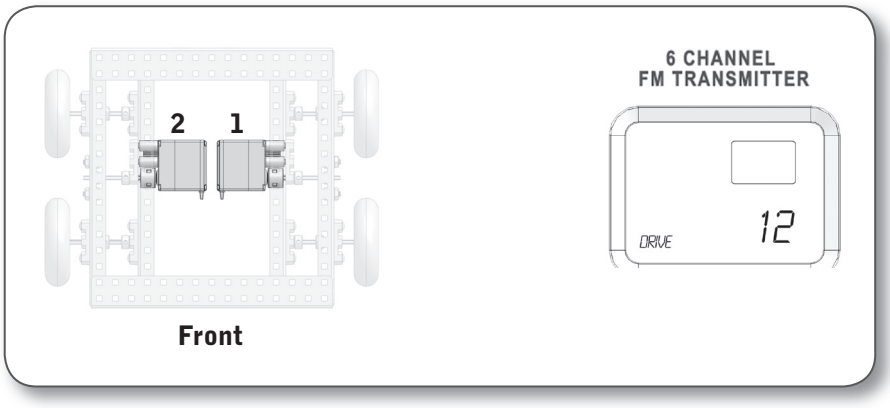
CW= clockwise
CCW = counter-clockwise

	Motor 1	Motor 2	Motor 3	Motor 4	Motor 5	Motor 6	Motor 7	Motor 8
Channel 1								
Stick Left	CW							
Stick Right	CCW							
Channel 2								
Stick Up		CW						
Stick Down		CCW						
Channel 3								
Stick Up			CCW					
Stick Down			CW					
Channel 4								
Stick Left				CW				
Stick Right				CCW				
Channel 5								
Top Button					CCW		CW	
Bottom Button					CW		CCW	
Channel 6								
Top Button						CCW		CW
Bottom Button						CW		CCW

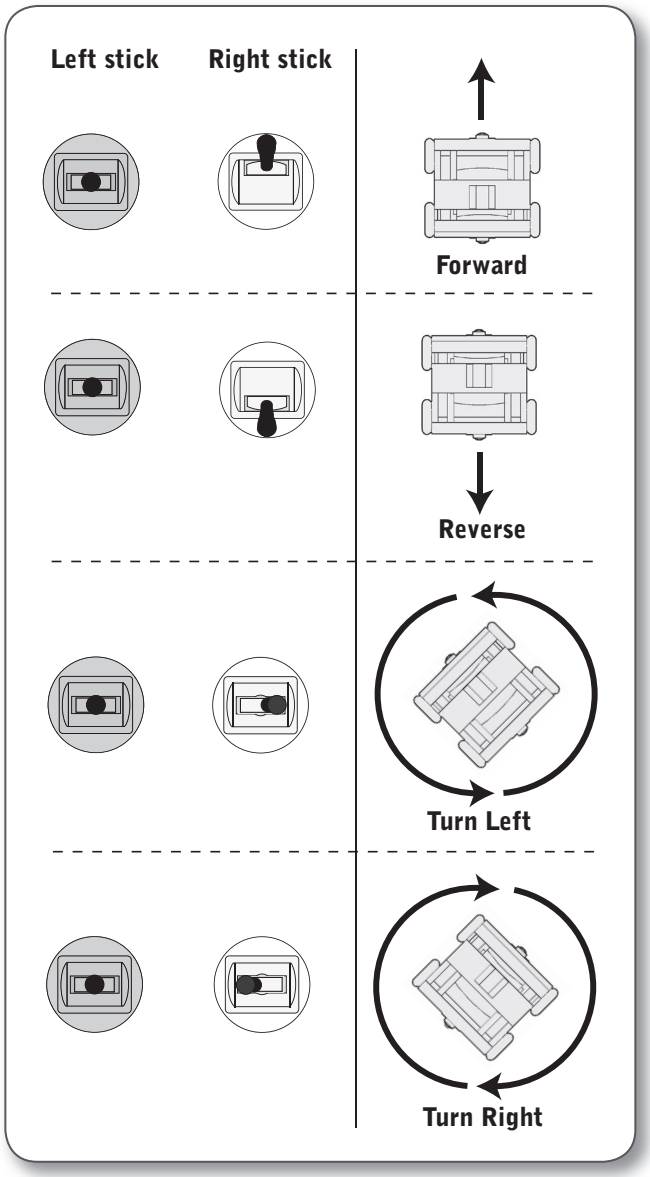
The directions listed in this table indicate the direction of spin for a standard Vex Motor Module. Vex Servo Modules will turn in the opposite direction.

arcade-style controls

For a 2-motor configuration, the left motor should plug into Motor Port 1, and the right motor should plug into Motor Port 2. The following controls will then apply.



In this configuration, the first two control channels are mixed controls that affect both Motor Ports 1 and 2. The remaining joystick "control channels" controls their same-numbered motor ports directly.



arcade-style controls, continued

Transmitter in "12 mode", no jumpers set on Micro Controller

CW= clockwise
CCW = counter-clockwise

	Motor 1	Motor 2	Motor 3	Motor 4	Motor 5	Motor 6	Motor 7	Motor 8
Channel 1								
Stick Left	CW	CW						
Stick Right	CCW	CCW						
Channel 2								
Stick Up	CCW	CW						
Stick Down	CW	CCW						
Channel 3								
Stick Up			CCW					
Stick Down			CW					
Channel 4								
Stick Left				CW				
Stick Right				CCW				
Channel 5								
Top Button					CCW		CW	
Bottom Button					CW		CCW	
Channel 6								
Top Button						CCW		CW
Bottom Button						CW		CCW

The directions listed in this table indicate the direction of spin for a standard Vex Motor Module. Vex Servo Modules will turn in the opposite direction.

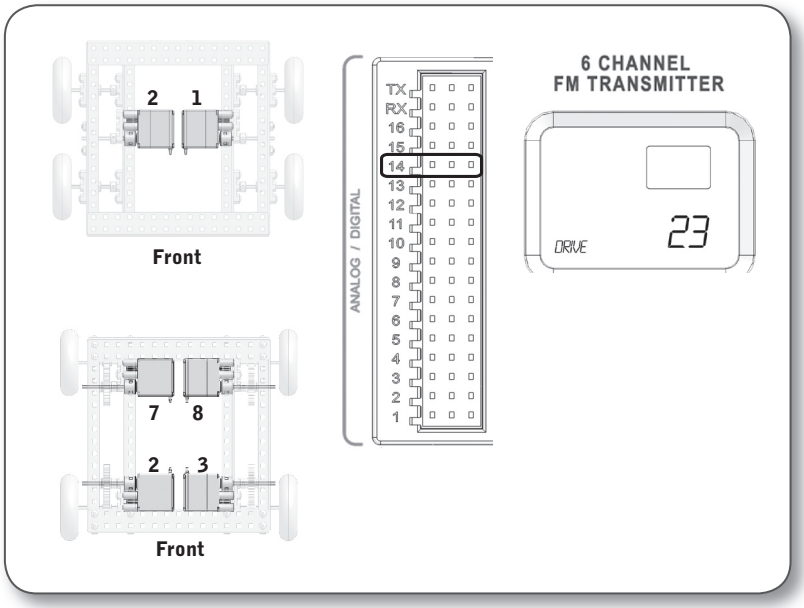
alternate arcade-style controls

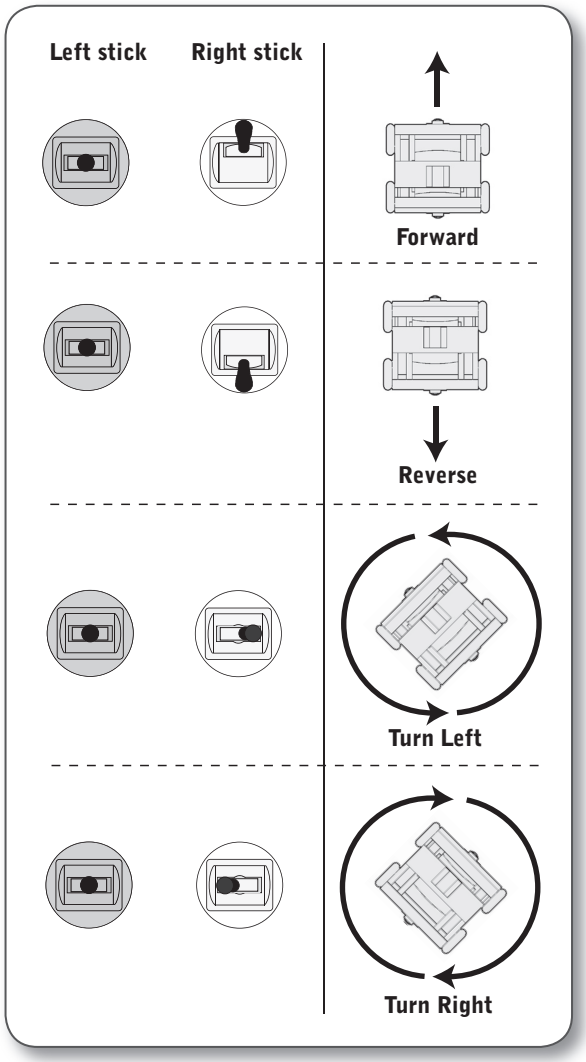
For a 2-motor configuration, the left motor should plug into Motor Port 1, and the right motor should plug into Motor Port 2.

For a 4-motor configuration, the front left motor should plug into Motor Port 3, and the front right motor should plug into Motor Port 2. The rear left motor should go into Motor Port 8, and the rear right motor should go into Motor Port 7. The following controls will then apply.

In this configuration, the first two control channels are mixed controls that affect both Motor Ports 1 and 2. This mode is set to also allow the use of a four-motor design (requires an additional motor, sold separately), so Motor Ports 7 and 8 are also tied into the sticks so that both of the left side motors move together, and both of the right side motors move together. The remaining joystick "control channels" controls their same-numbered motor ports directly.

The difference between the Transmitter "12" and using Jumper 14 is that the Transmitter "12" will perform the mixing functions before the signal is sent out from the Transmitter, while the Jumper 14 version will perform those calculations on the Micro Controller. They perform the calculations in slightly different ways. The Transmitter version will only allow you to move 60% of full power straight forward or backward, but will speed up going into turns. The Jumper version will allow you to go full speed forward or backward, but will slow down going into turns.





alternate arcade-style controls, continued

Transmitter in "23 mode", Jumper 14 set on Micro Controller

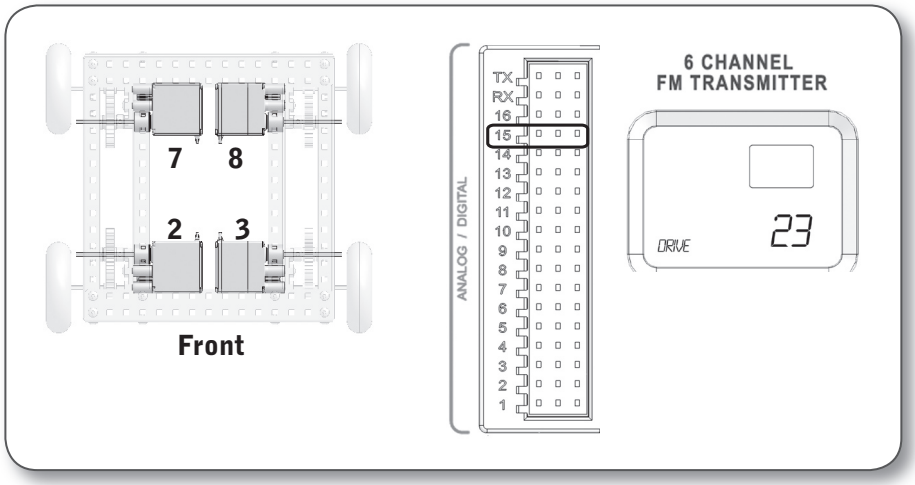
CW= clockwise
CCW = counter-clockwise

	Motor 1	Motor 2	Motor 3	Motor 4	Motor 5	Motor 6	Motor 7	Motor 8
Channel 1								
Stick Left	CW							
Stick Right	CCW							
Channel 2								
Stick Up		CW					CW	
Stick Down		CCW					CCW	
Channel 3								
Stick Up			CCW					CCW
Stick Down			CW					CW
Channel 4								
Stick Left				CW				
Stick Right				CCW				
Channel 5								
Top Button					CCW			
Bottom Button					CW			
Channel 6								
Top Button						CCW		
Bottom Button						CW		

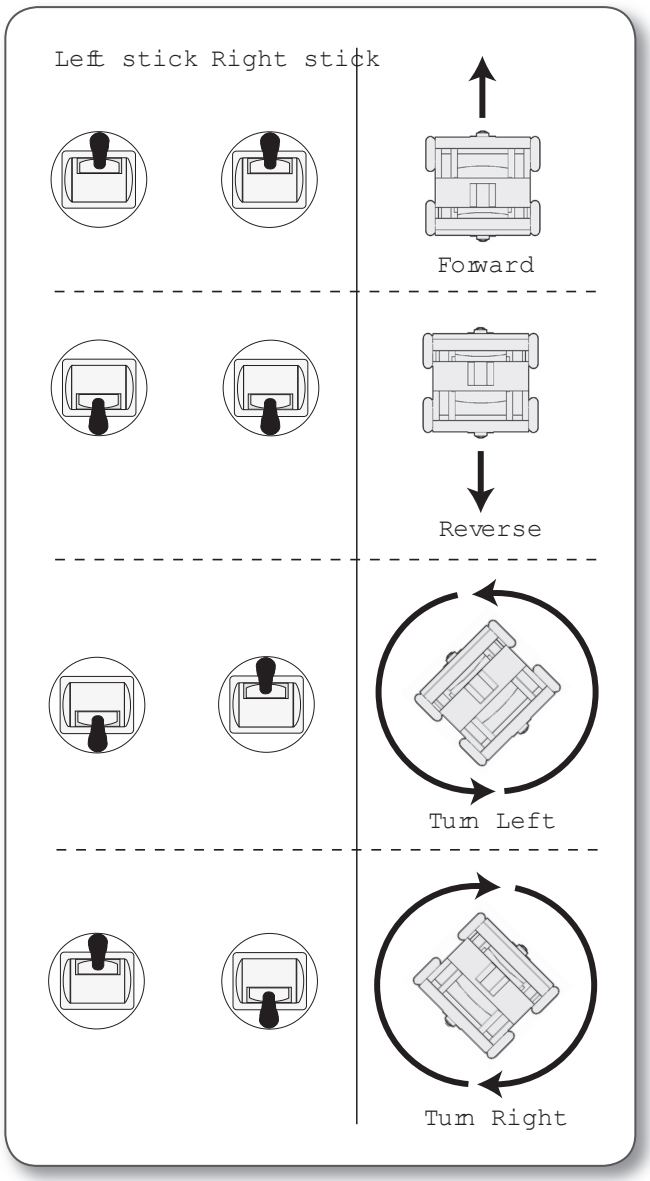
The directions listed in this table indicate the direction of spin for a standard Vex Motor Module. Vex Servo Modules will turn in the opposite direction.

tank-style controls (4WD)

For a 4-motor configuration, the front left motor should plug into Motor Port 3, and the front right motor should plug into Motor Port 2. The rear left motor should go into Motor Port 8, and the rear right motor should go into Motor Port 7. The following controls will then apply.



This configuration is the same as the basic "23 mode" as far as driving goes, except that pushing the stick causes both motors on the same side to be powered at once rather than just one.



tank-style controls (4WD), continued

Transmitter in "23 mode", Jumper 15 set on Micro Controller

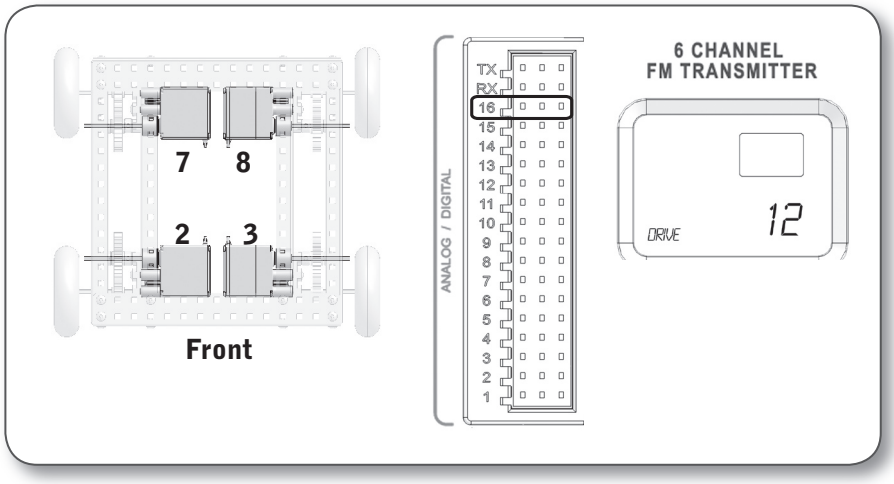
CW= clockwise
CCW = counter-clockwise

	Motor 1	Motor 2	Motor 3	Motor 4	Motor 5	Motor 6	Motor 7	Motor 8
Channel 1								
Stick Left	CW							
Stick Right	CCW							
Channel 2								
Stick Up		CW					CW	
Stick Down		CCW					CCW	
Channel 3								
Stick Up			CCW					CCW
Stick Down			CW					CW
Channel 4								
Stick Left				CW				
Stick Right				CCW				
Channel 5								
Top Button					CCW			
Bottom Button					CW			
Channel 6								
Top Button						CCW		
Bottom Button						CW		

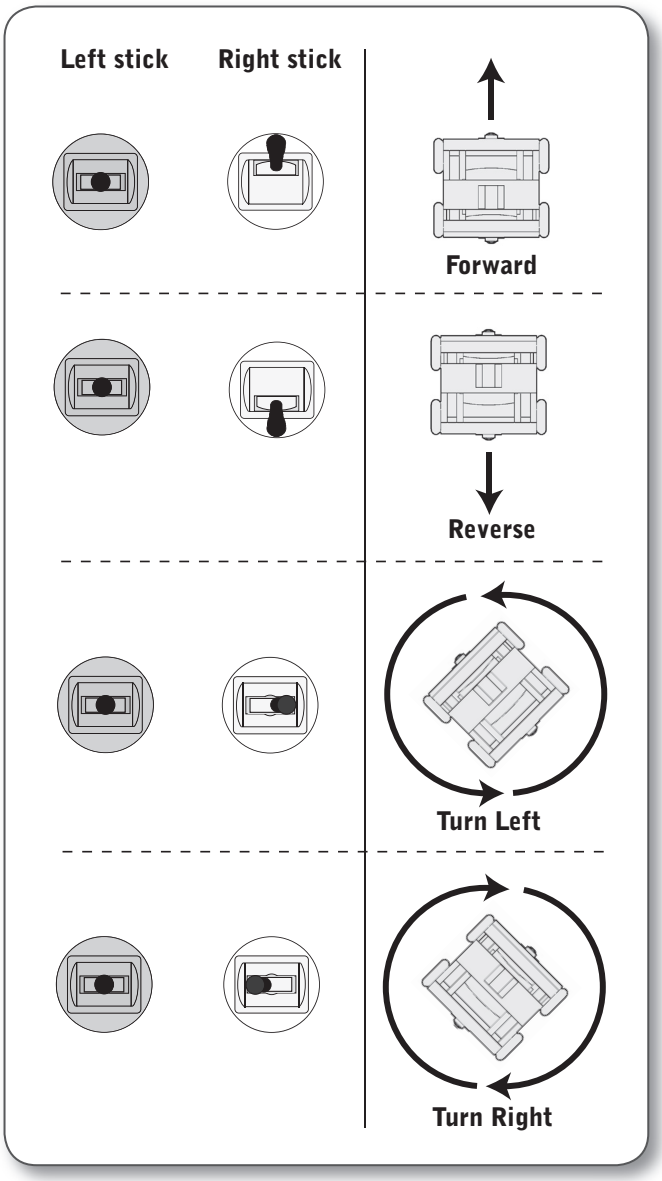
The directions listed in this table indicate the direction of spin for a standard Vex Motor Module. Vex Servo Modules will turn in the opposite direction.

arcade-style controls (4WD)

For a 4-motor configuration, the front left motor should plug into Motor Port 3, and the front right motor should plug into Motor Port 2. The rear left motor should go into Motor Port 8, and the rear right motor should go into Motor Port 7. The following controls will then apply.



This configuration is the same as the basic "12 mode" as far as driving goes, except that the command mixes will drive both motors on the same side at once. Remember that the "Jumper 14" / "software 12 mix" mode will also allow the use of 4WD in an arcade-style control, but with slightly different control characteristics (see original User Guide pages on control layout).



arcade-style controls (4WD), continued

Transmitter in "12 mode", Jumper 16 set on Micro Controller

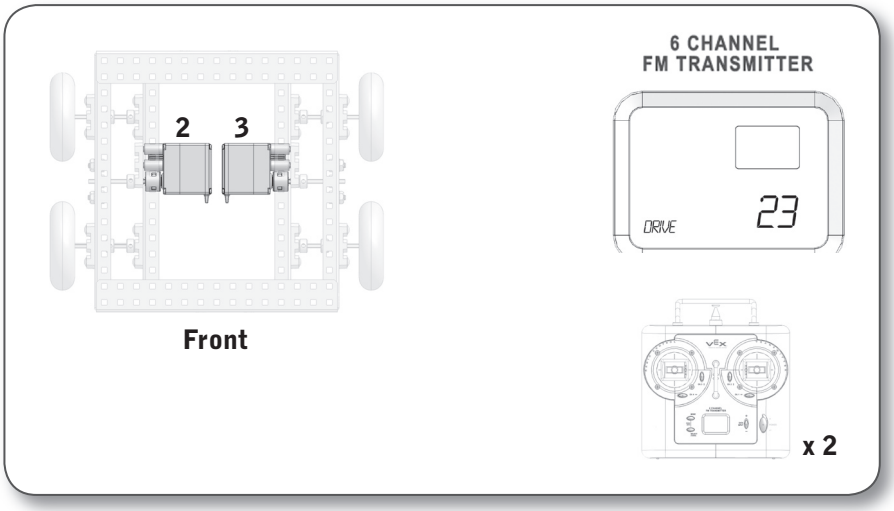
CW= clockwise
CCW = counter-clockwise

	Motor 1	Motor 2	Motor 3	Motor 4	Motor 5	Motor 6	Motor 7	Motor 8
Channel 1								
Stick Left	CW	CW					CW	CW
Stick Right	CCW	CCW					CCW	CCW
Channel 2								
Stick Up	CCW	CW					CW	CCW
Stick Down	CW	CCW					CCW	CW
Channel 3								
Stick Up			CCW					
Stick Down			CW					
Channel 4								
Stick Left				CW				
Stick Right				CCW				
Channel 5								
Top Button					CCW			
Bottom Button					CW			
Channel 6								
Top Button						CCW		
Bottom Button						CW		

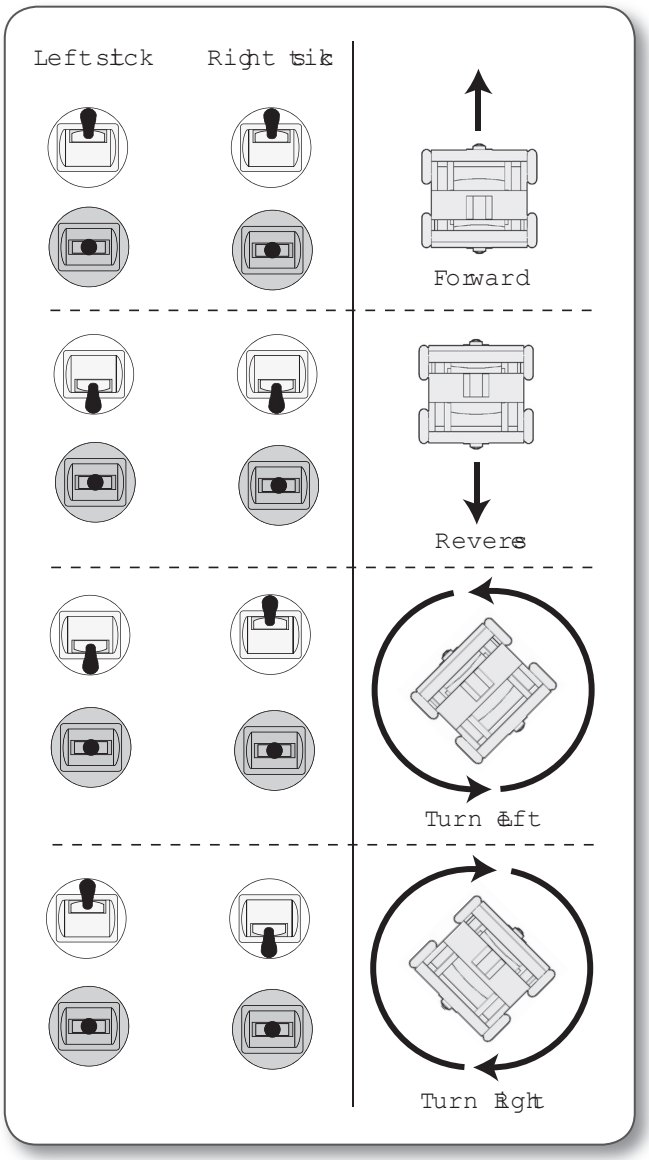
The directions listed in this table indicate the direction of spin for a standard Vex Motor Module. Vex Servo Modules will turn in the opposite direction.

tank-style controls (two transmitters)

For a 2-motor configuration, the left motor should plug into Motor Port 3, and the right motor should plug into Motor Port 2. The following controls will then apply for the driver (operator on the first transmitter).



In this configuration, the first two control channels on the first transmitter are mixed controls that affect both Motor Ports 1 and 2. The second transmitter is used to control some sort of attachment, based on the challenge being attempted. The second transmitter is not placed into "12 mode," as it is designed to work precisely with challenge-based robot attachments by using different sticks (so you can't accidentally affect robot operation by moving the stick on an axis you didn't want—the horizontal axes don't do anything).



tank-style controls (two transmitters), continued

Both transmitters in "23 mode", no jumpers set on Micro Controller

CW= clockwise
CCW = counter-clockwise

TRANSMITTER 1

	Motor 1	Motor 2	Motor 3	Motor 4	Motor 5	Motor 6	Motor 7	Motor 8
Channel 1								
Stick Left	CW							
Stick Right	CCW							
Channel 2								
Stick Up		CW						
Stick Down		CCW						
Channel 3								
Stick Up			CCW					
Stick Down			CW					
Channel 4								
Stick Left								
Stick Right								
Channel 5								
Top Button				CCW				
Bottom Button				CW				
Channel 6								
Top Button								
Bottom Button								

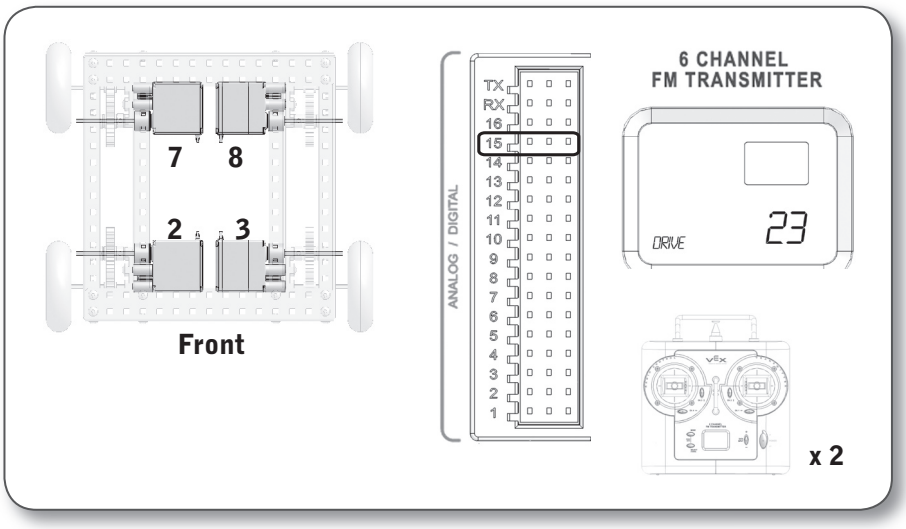
TRANSMITTER 2

	Motor 1	Motor 2	Motor 3	Motor 4	Motor 5	Motor 6	Motor 7	Motor 8
Channel 1								
Stick Left								
Stick Right								
Channel 2								
Stick Up					CW			
Stick Down					CCW			
Channel 3								
Stick Up						CCW		
Stick Down						CW		
Channel 4								
Stick Left								
Stick Right								
Channel 5								
Top Button							CCW	
Bottom Button							CW	
Channel 6								
Top Button								CCW
Bottom Button								CW

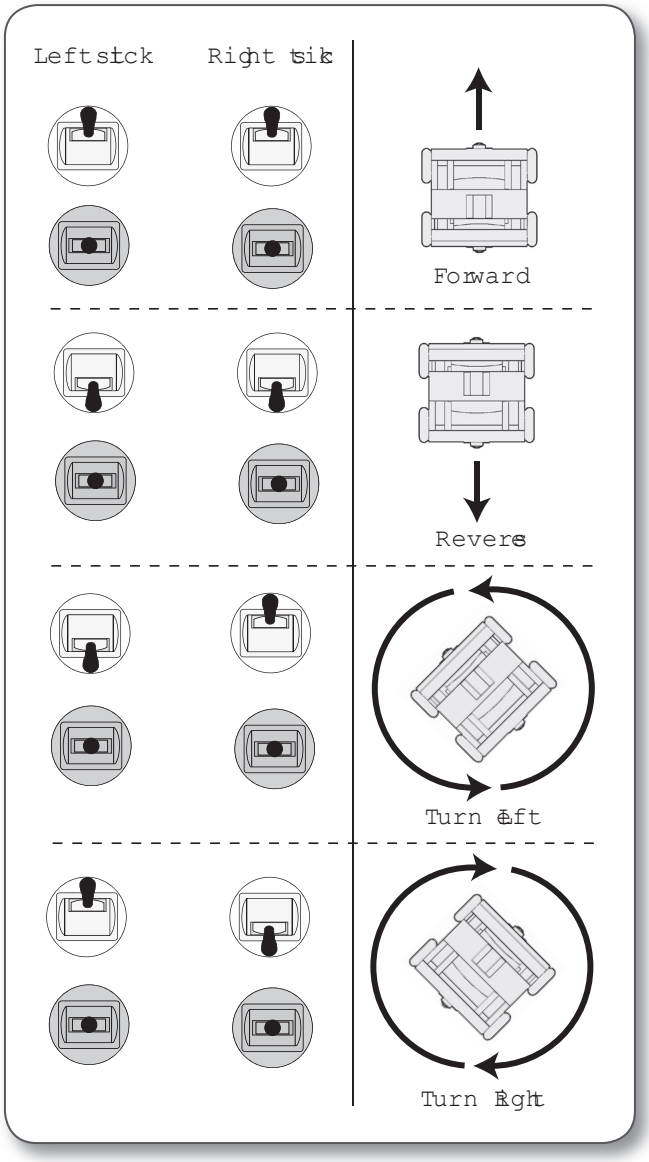
The directions listed in this table indicate the direction of spin for a standard Vex Motor Module.
Vex Servo Modules will turn in the opposite direction.

tank-style controls (4WD, two transmitters)

For a 4-motor configuration, the front left motor should plug into Motor Port 3, and the front right motor should plug into Motor Port 2. The rear left motor should go into Motor Port 8, and the rear right motor should go into Motor Port 7. The following controls will then apply.



This configuration is the same as the basic dual-transmitter "23 mode" as far as driving goes, except that pushing the stick on the driver's transmitter causes both motors on the same side to be powered at once rather than just one.



tank-style controls (4WD, two transmitters), continued

Both transmitters in "23 mode", Jumper 15 set on Micro Controller

CW= clockwise
CCW = counter-clockwise

TRANSMITTER 1

	Motor 1	Motor 2	Motor 3	Motor 4	Motor 5	Motor 6	Motor 7	Motor 8
Channel 1								
Stick Left								
Stick Right								
Channel 2								
Stick Up		CW					CW	
Stick Down		CCW					CCW	
Channel 3								
Stick Up			CCW					CCW
Stick Down			CW					CW
Channel 4								
Stick Left								
Stick Right								
Channel 5								
Top Button								
Bottom Button								
Channel 6								
Top Button								
Bottom Button								

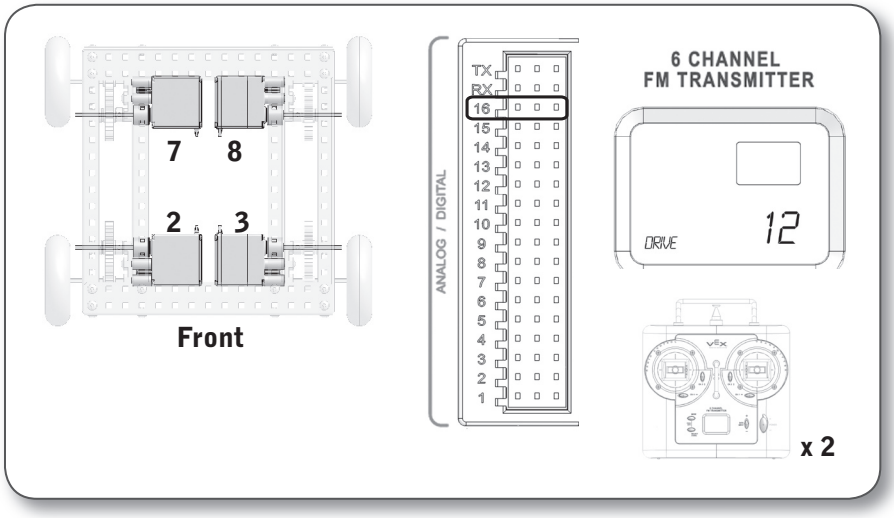
TRANSMITTER 2

	Motor 1	Motor 2	Motor 3	Motor 4	Motor 5	Motor 6	Motor 7	Motor 8
Channel 1								
Stick Left								
Stick Right								
Channel 2								
Stick Up	CW							
Stick Down	CCW							
Channel 3								
Stick Up				CCW				
Stick Down				CW				
Channel 4								
Stick Left								
Stick Right								
Channel 5								
Top Button					CCW			
Bottom Button					CW			
Channel 6								
Top Button						CCW		
Bottom Button						CW		

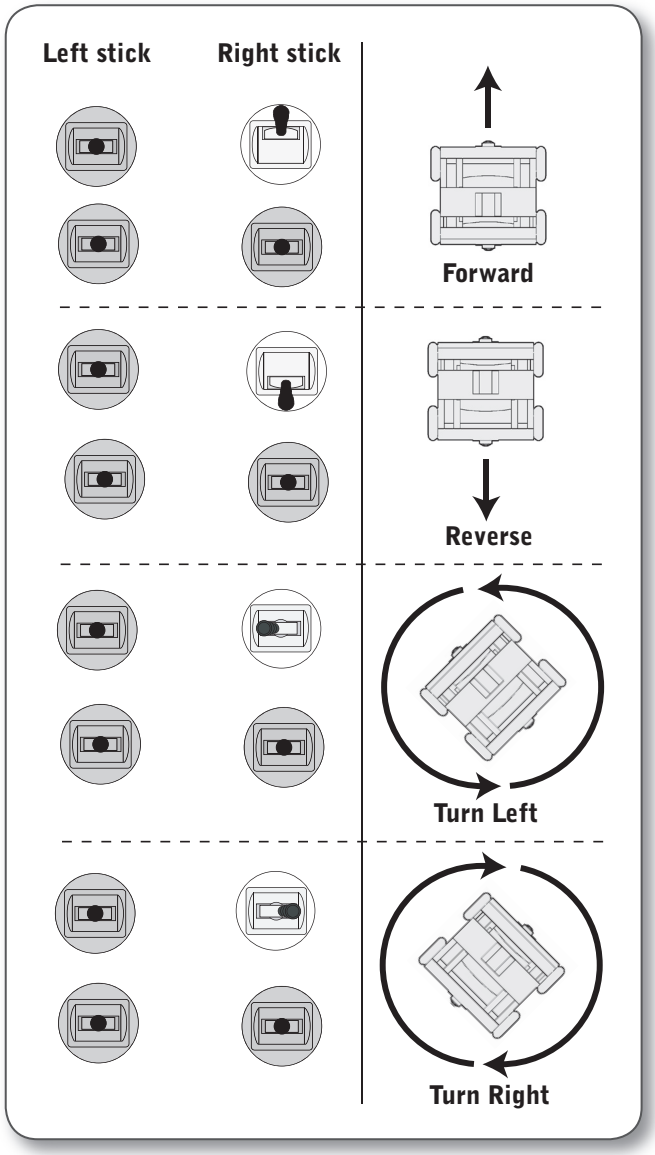
The directions listed in this table indicate the direction of spin for a standard Vex Motor Module.
Vex Servo Modules will turn in the opposite direction.

arcade-style controls (4WD, two transmitters)

For a 4-motor configuration, the front left motor should plug into Motor Port 3, and the front right motor should plug into Motor Port 2. The rear left motor should go into Motor Port 8, and the rear right motor should go into Motor Port 7. The following controls will then apply.



This configuration is the same as the basic dual-transmitter "12 mode" as far as driving goes, except that the command mixes from the driver's right-hand stick will drive both motors on the same side at once.



Note:
"Software 12 mix" ("Jumper 14 mode") cannot be used with dual controllers.

arcade-style controls (4WD, two transmitters), continued

Transmitter 1 in "12 mode", Transmitter 2 in "23 mode", Jumper 16 set on Micro Controller

CW= clockwise
CCW = counter-clockwise

TRANSMITTER 1

	Motor 1	Motor 2	Motor 3	Motor 4	Motor 5	Motor 6	Motor 7	Motor 8
Channel 1								
Stick Left	CW	CW					CW	CW
Stick Right	CCW	CCW					CCW	CCW
Channel 2								
Stick Up	CCW	CW					CW	CCW
Stick Down	CW	CCW					CCW	CW
Channel 3								
Stick Up								
Stick Down								
Channel 4								
Stick Left								
Stick Right								
Channel 5								
Top Button								
Bottom Button								
Channel 6								
Top Button								
Bottom Button								

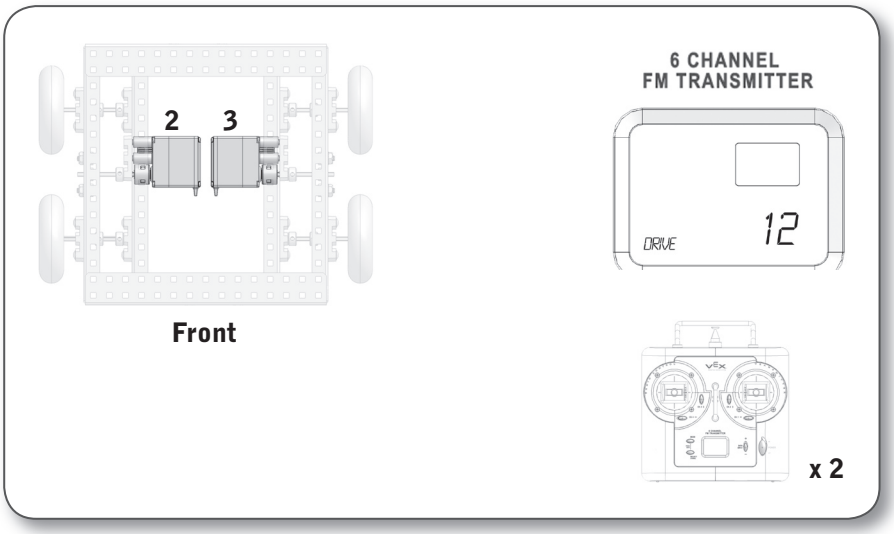
TRANSMITTER 2

	Motor 1	Motor 2	Motor 3	Motor 4	Motor 5	Motor 6	Motor 7	Motor 8
Channel 1								
Stick Left								
Stick Right								
Channel 2								
Stick Up			CW					
Stick Down			CCW					
Channel 3								
Stick Up				CCW				
Stick Down				CW				
Channel 4								
Stick Left								
Stick Right								
Channel 5								
Top Button					CCW			
Bottom Button					CW			
Channel 6								
Top Button						CCW		
Bottom Button						CW		

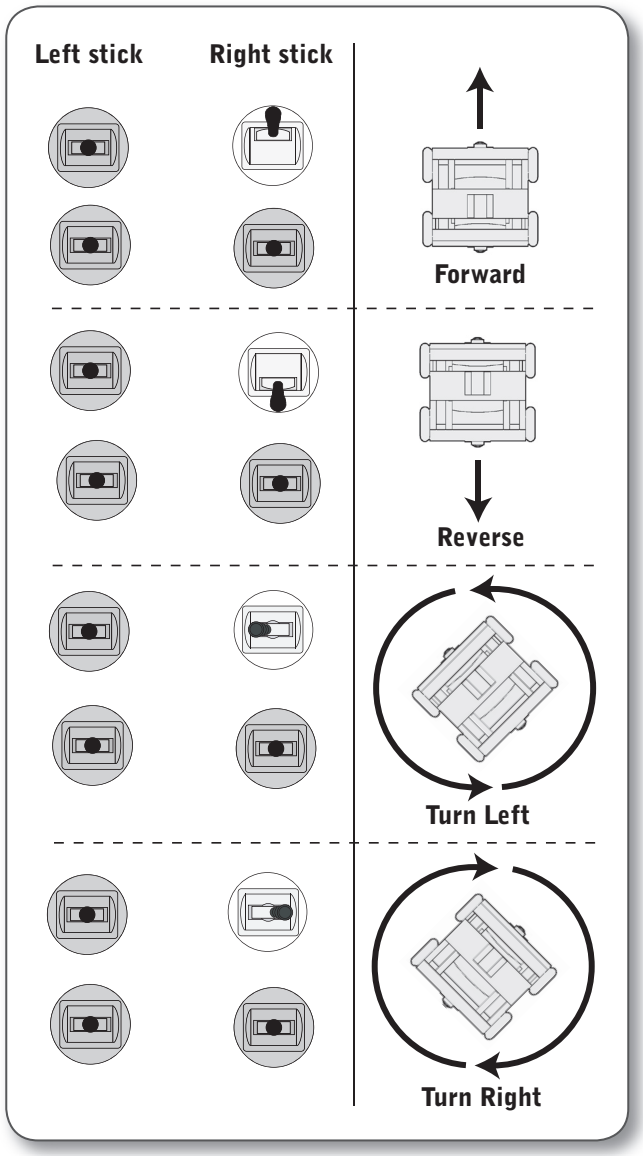
The directions listed in this table indicate the direction of spin for a standard Vex Motor Module.
Vex Servo Modules will turn in the opposite direction.

arcade-style controls (two transmitters)

For a 2-motor configuration, the left motor should plug into Motor Port 1, and the right motor should plug into Motor Port 2. The following controls will then apply.



In this configuration, the first two control channels on the first transmitter are mixed controls that affect both Motor Ports 1 and 2. The second transmitter is used to control some sort of attachment, based on the challenge being attempted. The second transmitter is not placed into "12 mode," as it is designed to work precisely with challenge-based robot attachments by using different sticks (so you can't accidentally affect robot operation by moving the stick on an axis you didn't want—the horizontal axes don't do anything.



Note:
"Software 12 mix" ("Jumper 14 mode") cannot be used with dual controllers.

arcade-style controls (two transmitters), continued

Transmitter 1 in "12 mode", Transmitter 2 in "23 mode",
no jumpers set on Micro Controller

CW= clockwise
CCW = counter-clockwise

TRANSMITTER 1

	Motor 1	Motor 2	Motor 3	Motor 4	Motor 5	Motor 6	Motor 7	Motor 8
Channel 1								
Stick Left	CW	CW						
Stick Right	CCW	CCW						
Channel 2								
Stick Up	CCW	CW						
Stick Down	CW	CCW						
Channel 3								
Stick Up			CCW					
Stick Down			CW					
Channel 4								
Stick Left								
Stick Right								
Channel 5								
Top Button				CCW				
Bottom Button				CW				
Channel 6								
Top Button								
Bottom Button								

TRANSMITTER 2

	Motor 1	Motor 2	Motor 3	Motor 4	Motor 5	Motor 6	Motor 7	Motor 8
Channel 1								
Stick Left								
Stick Right								
Channel 2								
Stick Up					CW			
Stick Down					CCW			
Channel 3								
Stick Up						CCW		
Stick Down						CW		
Channel 4								
Stick Left								
Stick Right								
Channel 5								
Top Button							CCW	
Bottom Button							CW	
Channel 6								
Top Button								CCW
Bottom Button								CW

The directions listed in this table indicate the direction of spin for a standard Vex Motor Module.
Vex Servo Modules will turn in the opposite direction.