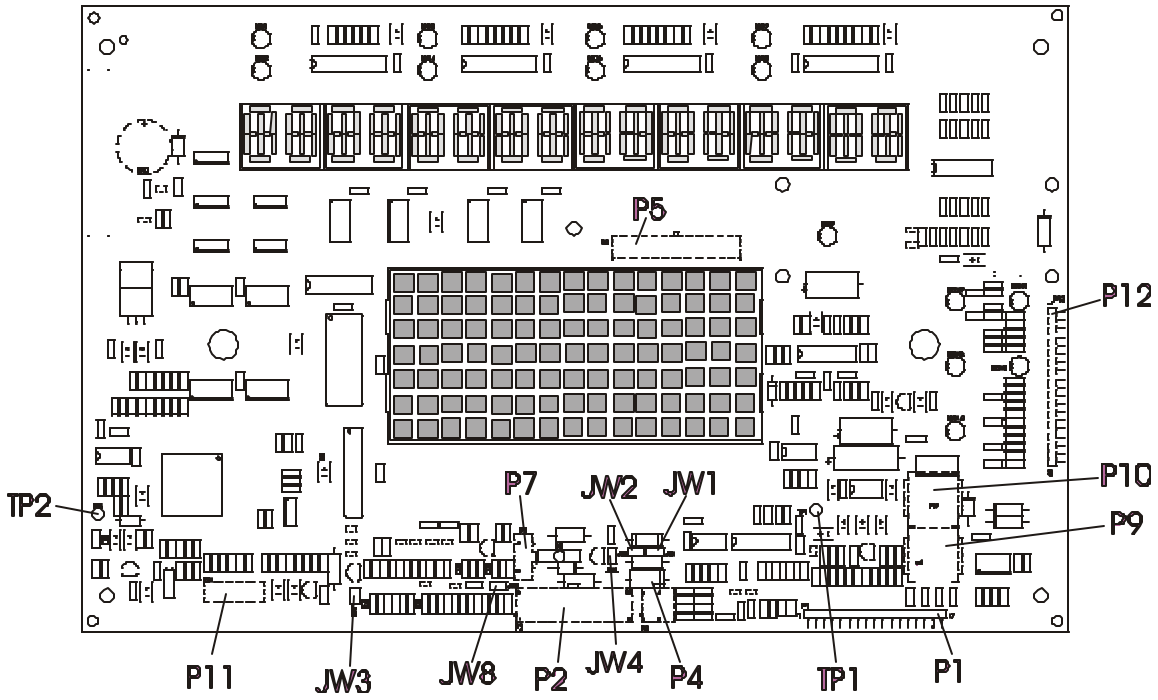
SECTION IV

ELECTRONICS OVERVIEW AND WIRING BLOCK DIAGRAMS

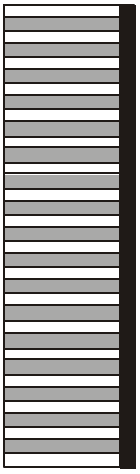
DISPLAY CONSOLE BOARD CT9500



Functional Description

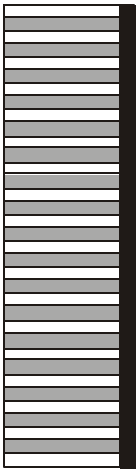
The Display Console Board is designed to work in conjunction with the Alternator Control Board. It reads the keypad input for changes or updates by the user, and refreshes the status LEDs, data display, and profile display matrix.

Connector and Pin Descriptions

Connector	Location	Pin	Functional Description
UPPER KEYPAD P12 is a 19 pin ribbon connector that connects to the upper keypad switch membrane.		1	Ground
		2	Strobe 4
		3	Return 3
		4	Strobe 5
		5	Strobe 6
		6	Return 0
		7	Strobe 4
		8	Return 2
		9	Strobe 6
		10	Return 4
		11	Return 5
		12	Strobe 6
		13	Return 6
		14	Strobe 5
		15	Return 5
		16	Strobe 4
		17	Return 1
		18	Strobe 6
		19	Ground

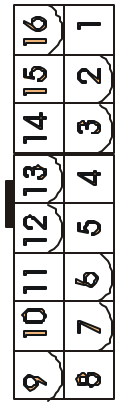
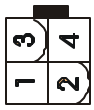
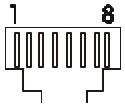
DISPLAY CONSOLE BOARD CT9500

Connector and Pin Descriptions

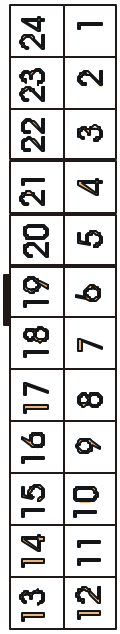
Connector	Location	Pin	Functional Description
LOWER KEYPAD P1 and 17 pin ribbon connector that connects to the lower keypad switch membrane.		1	Ground
		2	Strobe
		3	Return
		4	Strobe
		5	Strobe
		6	Return
		7	Strobe
		8	Return
		9	Strobe
		10	Return
		11	Ground
		12	Strobe
		13	Strobe
		14	Return
		15	Strobe
		16	Return
		17	Ground

DISPLAY CONSOLE BOARD - Model 9500

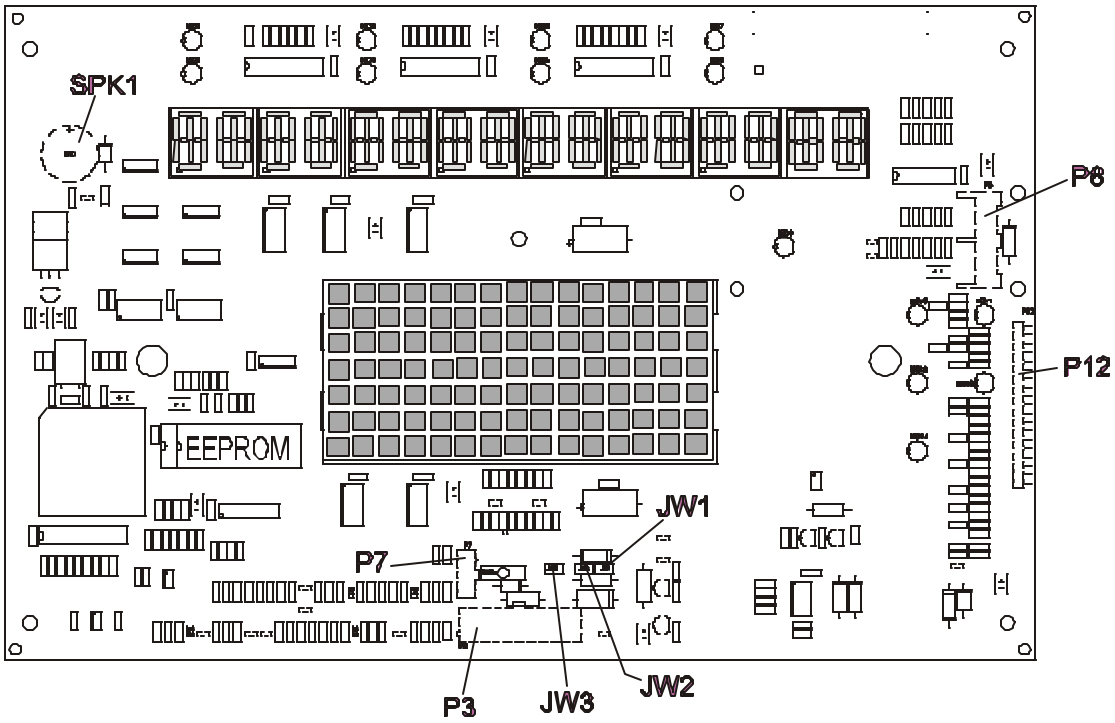
Connector and Pin Descriptions

Connector	Location	Pin	Functional Description
P2 is a 16-pin connector that connects to the alternator control board.		1	N.C.
		2	GND (NOT USED)
		3	(NOT USED)
		4	VBAT
		5	RPM REED
		6	RPM ALT
		7	ASTART
		8	VALT.
		9	RELAY
		10	GND
		11	GND
		12	VBAT
		13	FIELD-KICK
		14	FIELD
		15	LOAD-CMD
		16	VSYS
P4 is 4-pin connector that connects to the heart rate sensor.		3	LEFT +
		1	LEFT -
		2	RIGHT -
		4	RIGHT +
P7 is a 3-pin connector that connects to the polar signal.		1	+VCC (5VDC)
		2	POLAR SIGNAL
		3	GROUND
P9 and P10 are 8-pin connectors that connect to the CSAFE and Cardio Theater or broadcast vision interface.		1	N/U - not used
		2	N/U - not used
		3	Receive Data
		4	Transmit Data
		5	+8 Vdc
		6	CTS
		7	Ground
		8	N/U - not used
P11 is a 10-pin connector that connects to the background debug mode signals.		1	/DS
		2	/BERR
		3	Ground
		4	/BKPT /DSCLK
		5	Ground
		6	FREEZE/QUOT
		7	/RESET
		8	IPIPE1/DS1
		9	+5 Vdc
		10	IPIPE0/DS0

Connector and Pin Descriptions

Connector	Location	Pin	Functional Description
P5 is a 24 pin connector that connects to the lower console display board.		1	DIGIT STROBE – S9B
		2	DIGIT STROBE – S10B
		3	DIGIT STROBE – S11B
		4	DIGIT STROBE – S12B
		5	DIGIT STROBE – S13B
		6	DIGIT STROBE – S14B
		7	DIGIT STROBE – S15B
		8	LOWER CONSOLE DETECT
		9	SEGMENT DATA – D0
		10	SEGMENT DATA – D1
		11	SEGMENT DATA – D2
		12	SEGMENT DATA – D3
		13	SEGMENT DATA – D4
		14	SEGMENT DATA – D5
		15	SEGMENT DATA – D6
		16	SEGMENT DATA – D7
		17	SEGMENT DATA – D8
		18	SEGMENT DATA – D9
		19	SEGMENT DATA – D10
		20	SEGMENT DATA – D11
		21	SEGMENT DATA – D12
		22	SEGMENT DATA – D13
		23	SEGMENT DATA – D14
		24	SEGMENT DATA – D15

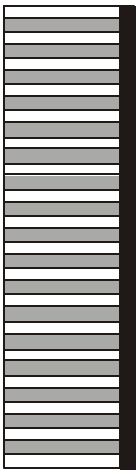
DISPLAY CONSOLE BOARD - Model CT9100, 8500, and X9i



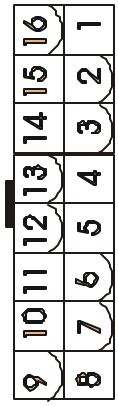
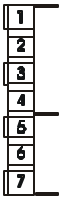
Functional Description

The Display Console Board is designed to work in conjunction with the Alternator Control Board. It reads the keypad input for changes or updates by the user, and refreshes the status LEDs, data display, and profile display matrix.

Connector and Pin Descriptions

Connector	Location	Pin	Functional Description
UPPER KEYPAD P12 is a 17 pin ribbon connector that connects to the upper keypad switch membrane.		1	Ground
		2	Strobe
		3	Return
		4	Strobe
		5	Strobe
		6	Return
		7	Strobe
		8	Return
		9	Strobe
		10	Return
		11	Ground
		12	Strobe
		13	Strobe
		14	Return
		15	Strobe
		16	Return
		17	Ground

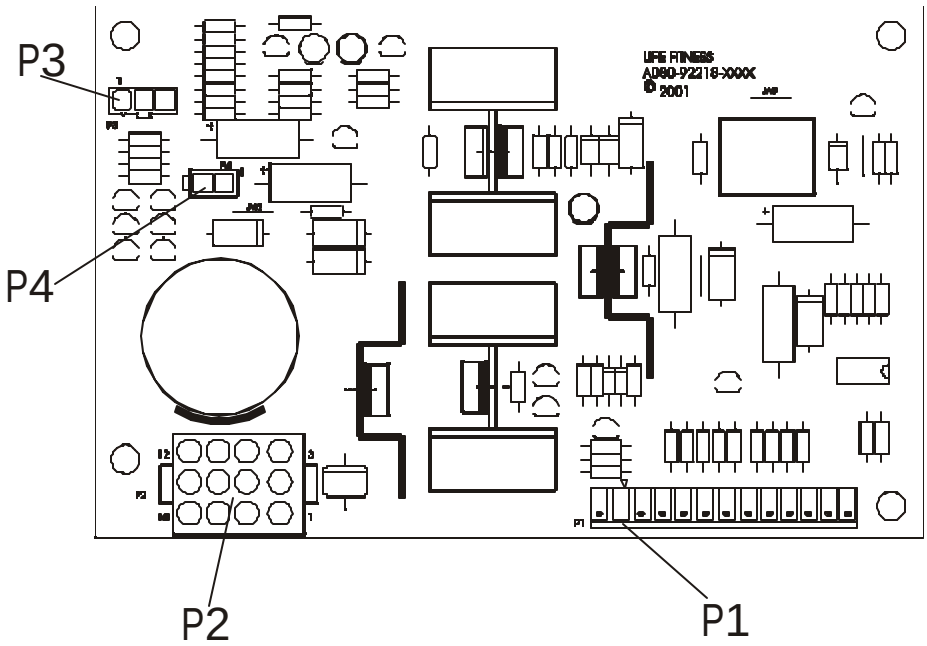
Connector and Pin Descriptions

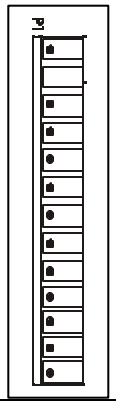
Connector	Location	Pin	Functional Description
P2 is a 16-pin connect that connects to the alternator control board.		1	N.C.
		2	GND (NOT USED)
		3	VSYSC (NOT USED)
		4	VBAT (NOT USED)
		5	RPM REED (NOT USED)
		6	RPM ALT
		7	ASTART
		8	VALT.
		9	RELAY
		10	GND
		11	GND
		12	VBAT
		13	FIELD-KICK
		14	FIELD
		15	LOAD-CMD
		16	VSYS
P7 is a 3-pin connector that connects to the polar signal.		1	+VCC (5VDC)
		2	POLAR SIGNAL
		3	GROUND
P8 is a 7-pin connector that connects to the network adapter board.		1	GND
		2	LEU
		3	TDO
		4	RDI
		5	CTS
		6	VCC
		7	V CARDIO

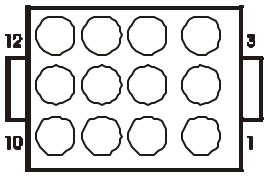
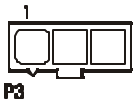
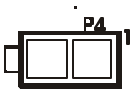
Power Control Board

Functional Description

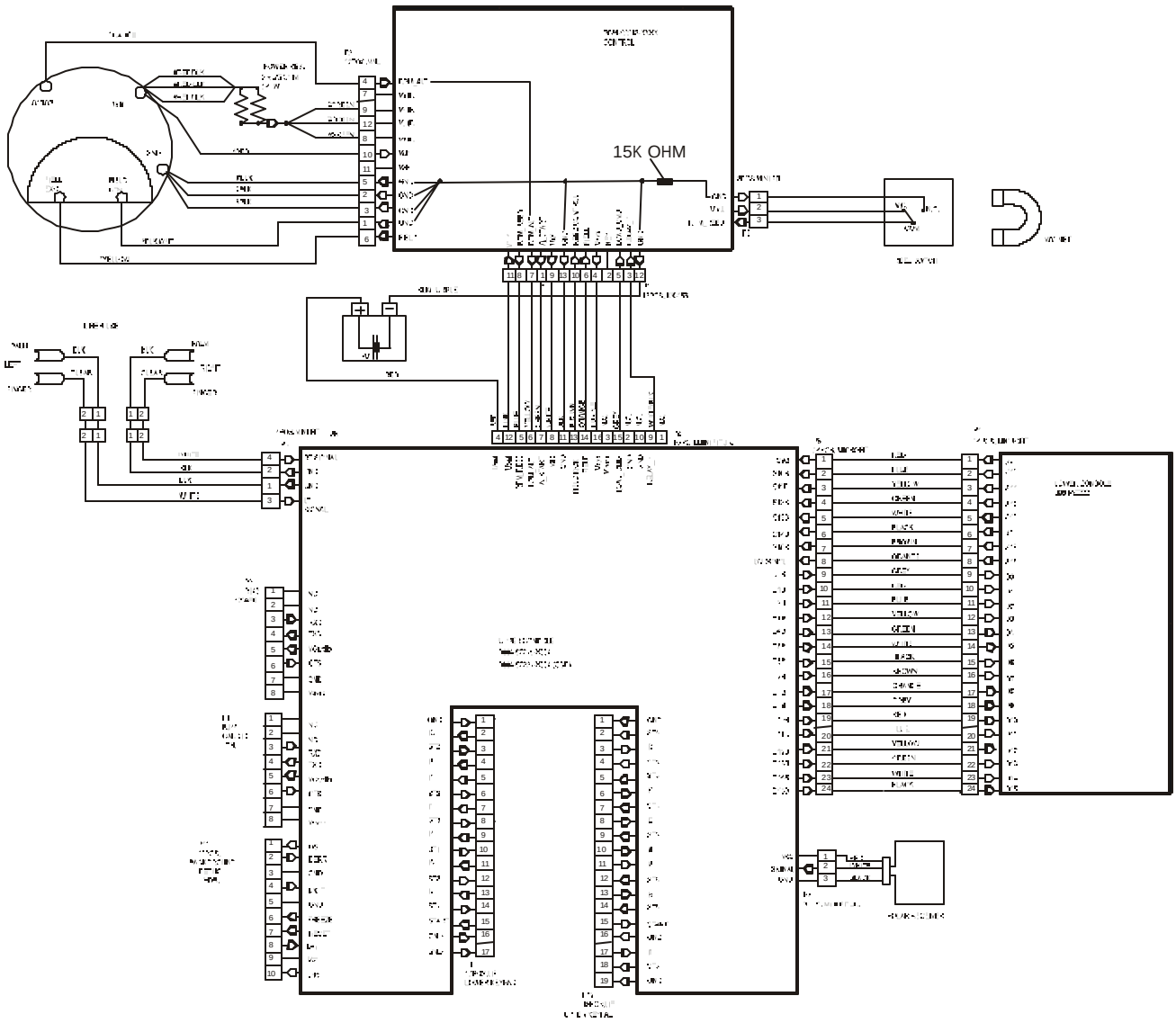
The Power Control Board is designed to regulate the alternator voltage by modulating the field current. It regulates the pass current (RPM signal) from the Alternator to the Console, and the pass current form the alternator to the load resistor while providing supply voltage for the console while charging the system battery.



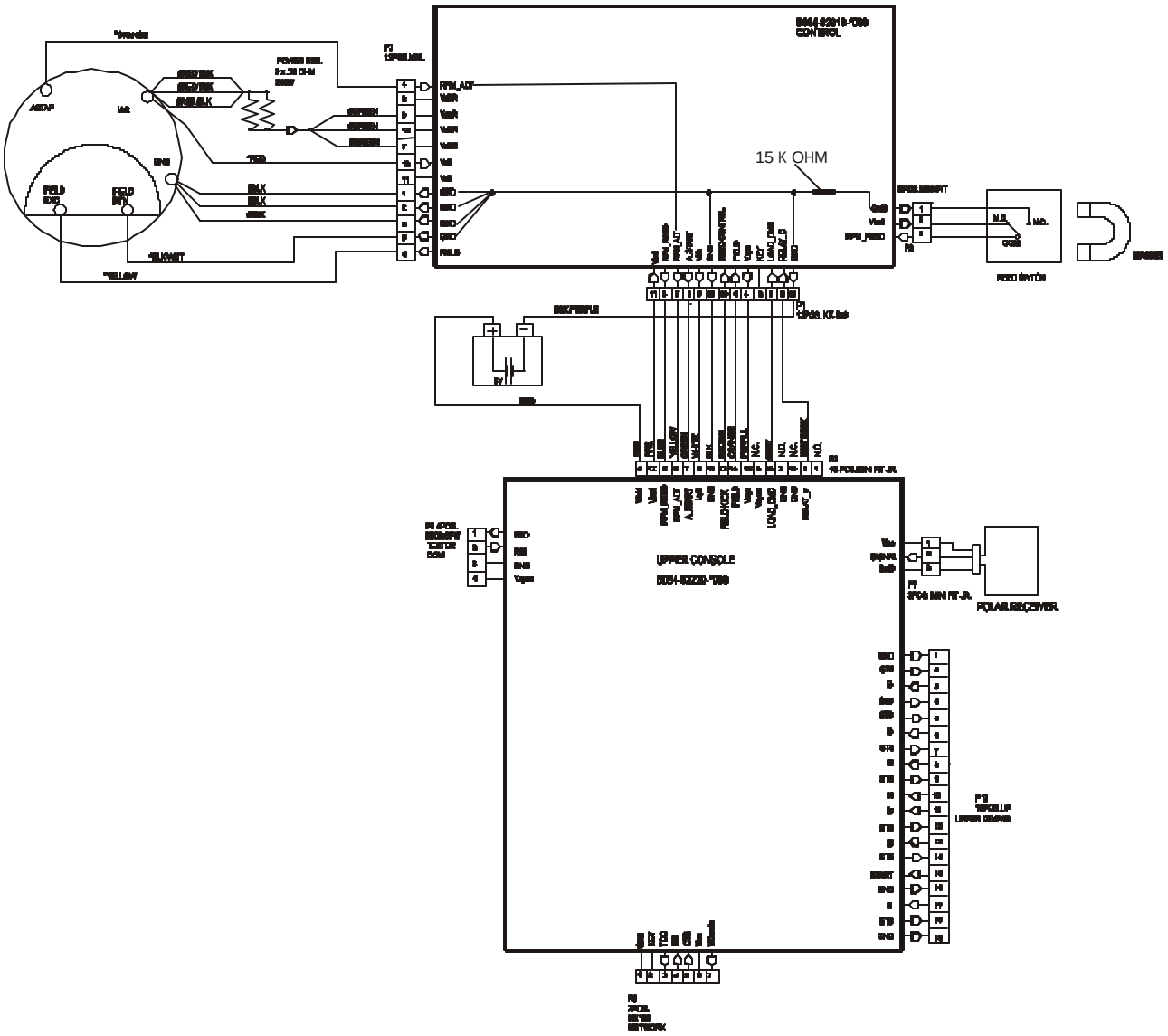
Connector	Location	Pin	Functional Description
P1 is a 13-pin connector that connects to the console and battery		1	A-START
		2	KEY
		3	RELAY-C
		4	Vsys
		5	LOAD-CMD
		6	FIELD
		7	RPM-ALT
		8	RPM-REED
		9	Valt
		10	Reed control
		11	VBAT
		12	GND (from Battery)
		13	GND

Connector	Location	Pin	Functional Description
P2 Connector is a 12 pin Molex connector that connects to the Alternator.		1	GND
		2	GND
		3	GND
		4	RPM-ALT
		5	GND
		6	FIELD
		7	VALTR
		8	VALTR
		9	VALTR
		10	VALT
		11	Valt OPEN
		12	VALTR
Connector	**Location**	**Pin**	**Functional Description**
P3 is a 3 pin connector that connect to the reed Switch		1	GND
		2	Vbat
		3	RPM-REED
Connector	**Location**	**Pin**	**Functional Description**
P4 is unused on all cross-trainers.		1	9VDC
		2	GND

WIRING BLOCK DIAGRAMS CT9500



WIRING BLOCK DIAGRAMS CT9100/8500



WIRING BLOCK DIAGRAM X9i