



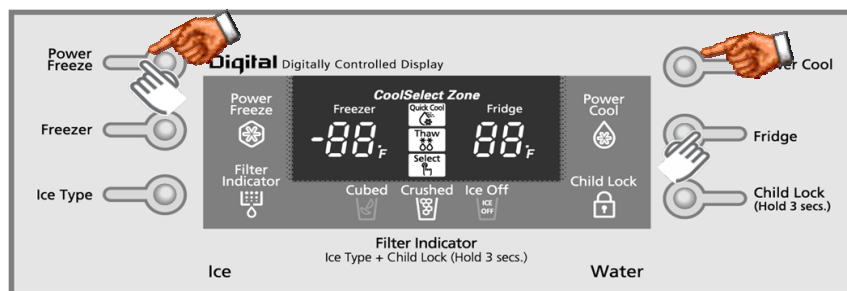
Fast Track Troubleshooting

Publication # tsRS267LA Creation Date 11/02/2009

Models Covered:
 RS267LABP/XAA
 RS267LASH/XAA
 RS267LAWP/XAA
 RS267LAWW/XAA
 RS269LARS/XAA
 SxS Refrigeration

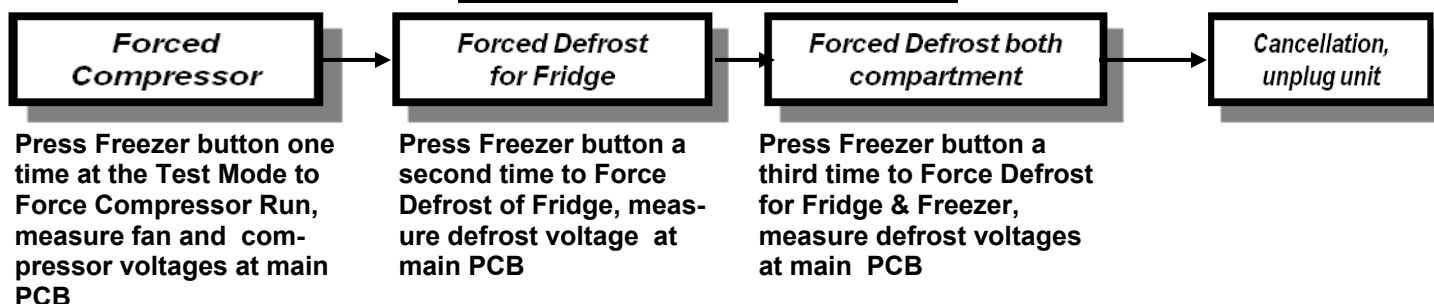
IMPORTANT SAFETY NOTICE – “For Technicians Only” This service data sheet is intended for use by persons having electrical, electronic, and mechanical experience and knowledge at a level generally considered acceptable in the appliance repair trade. Any attempt to repair a major appliance may result in personal injury and property damage. The manufacturer or seller cannot be responsible, nor assume any liability for injury or damage of any kind arising from the use of this data sheet.

Self Diagnosis: Press both buttons (Power Freeze—Power Cool) *simultaneously* (No sound when both buttons are pressed at the same time) 'til the display quits blinking and beeps, 8-12 seconds, then release and read Fault Codes.
 This will also cancel the Fault Mode created by self-diagnosis at power up.



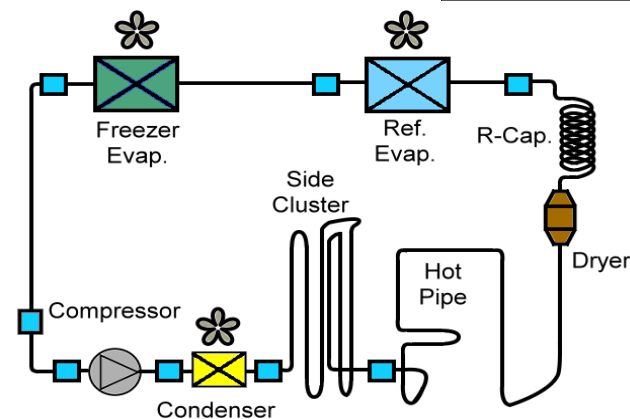
Forced Mode: Press both buttons (Power Freeze – Fridge) *simultaneously* (No sound when both buttons are pressed at the same time) 'til it beeps and goes blank, 8-12 seconds

Wait 5 seconds between button pushes



Sealed System

Refrigerant Charge
 R134a 7.76 oz.



Compressor → Condenser → Side Cluster → Hot Pipe →
 Dryer → R Capillary → R Evaporator → F Evaporator →
 Suction Pipe → Compressor

Sales Mode, No Compressor Operation
 Press Power Freeze & Freezer temp buttons simultaneously for 3 sec (you will hear a “Ding Dong”) to remove or put into Sales Mode. When in the Sales Mode the Display will show "OF" "OF"
 Removing power will not cancel this mode.

Component Value Chart

Component	Resistance	Wattage	Voltage
Freezer Defrost Heater	58Ω	215	120vac
Fridge Defrost Heater	103Ω	140	120vac
Freezer Drain Heater	320	45	120vac
Dispenser Heater	2880Ω	5	120vac
Water Tank Heater	3600Ω	4	120vac
Fill Tube Heater	2880Ω	5	120vac
Sensors	2.5kΩ-89kΩ	N/A	1~4.5vdc
Fans	N/A	N/A	7~12vdc

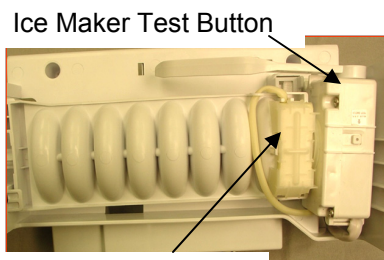
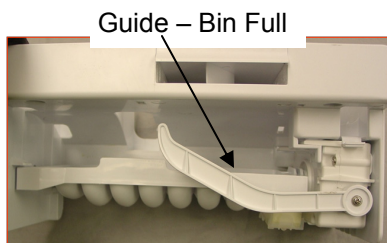
FLEX TRAY Ice Makers

When the initial power is applied, the ice tray will stand by for 2 hours. After the 2-hour standby time, the Ice Maker Sensor will check the temperature, when it is lower than 1.5°F for more than 5 minutes, it will do a harvest, with or without ice in the tray, then fill with water. 58 minutes after water is supplied to the Ice Tray, the Ice Maker Sensor temperature will be checked. When the Ice Maker Sensor maintains lower than 1.5°F for 5 minutes, it completes the harvest (if the ice bin is not sensed as full).

Thermistor senses temperature to determine water fill on newer units

Filling the tray

After the water fill is completed, the ice maker sensor will evaluate the water volume one and a half minutes later. When it detects no or low water level, it will add more water. First supply time will be 1.5 sec, next one will be 1 sec and the last will be 2 sec.



Ice Maker Thermistor

Shattered Ice – Flex Tray

When all ice shatters, it's because of a bad tray or ice cube temp that is too cold (lower than -5 degrees). In some areas, there are water issues that can also cause shattered cubes. The temp in the freezer should not have any effect on this issue, as long as it's below 1.5 degrees F, as a properly installed sensor will not read the freezer temp, only the water/ice temp.

Check the Ice tray for defects in the plastic. Ice that is too cold will shatter during harvest. This can be from the (1) sensor not reading the correct temp (2) or the sensor not mounted correctly (3). By programming the icemaker offset value to a lower number (4), the board not understanding the reading. To check the sensor, you must check the tray temp (not air temp) and compare it to the sensor reading. The sensor should read 3.7 volts at the main board connector when the cube temperature is 1 degree. After the fill, the sensor will read water temp 1.5 to 2.2 volts. To clear offsets, put unit into Diagnostics mode.

Please note, some shattering is normal for a flex tray icemaker.

FREEZER TEMPERATURE CONTROL BY THE ICE MAKER

Interior Temperature of the freezer will be set to -14 degrees Fahrenheit until the ice bucket is full. When the ice bucket is full, the freezer will maintain original set temperature. Also, whenever the ice is used, the freezer will again set to -14 degrees Fahrenheit. Selecting "Ice Off" will allow the freezer to be controlled by the set temperature. If water is not hooked up, the freezer will always be at -14 unless "Ice Off" is selected.

DEFROST

This model series uses a Defrost Heater in the Fridge and the Freezer compartment that is part of the Evaporator Coil.

NOTE: Evaporator Covers May Break If Removed While Frozen To Coil. They must be replaced if there is any damage, as this will cause "ice" to form at top or bottom of the evaporator coil or in the drains.

Temperature/Resistance/Voltage Chart for Samsung Refrigerators Sensors

Temp.	(Ω)	Volts	Temp.	(Ω)	Volts	Temp.	(Ω)	Volts	Temp.	(Ω)	Volts
-29.2°F	64227	4.326	1.4°F	28021	3.685	32.0°F	13290	2.853	62.6°F	6771	2.019
-27.4°F	61012	4.296	3.2°F	26760	3.64	33.8°F	12749	2.802	64.4°F	6521	1.974
-25.6°F	57977	4.264	5.0°F	25562	3.594	35.6 °F	12233	2.751	66.2°F	6281	1.929
-23.8°F	55112	4.232	6.8°F	24425	3.548	37.4 °F	11741	2.7	68.0°F	6052	1.885
-22.0°F	52406	4.199	8.6°F	23345	3.501	39.2 °F	11271	2.649	69.8°F	5832	1.842
-20.2°F	49848	4.165	10.4°F	22320	3.453	41.0°F	10823	2.599	71.6°F	5621	1.799
-18.4°F	47431	4.129	12.2°F	21345	3.405	42.8°F	10395	2.548	75.2°F	5225	1.716
-16.6°F	45146	4.093	14.0°F	20418	3.356	44.6°F	9986	2.498	77.0°F	5000	1.675
-14.8°F	42984	4.056	15.8°F	19537	3.307	46.4°F	9596	2.449	78.8°F	4861	1.636
-13.0°F	40938	4.018	17.6°F	18698	3.258	48.2°F	9223	2.399	80.6°F	4690	1.596
-11.2°F	39002	3.98	19.4°F	17901	3.208	50.0°F	8867	2.35	86.0°F	4218	1.483
-9.4°F	37169	3.94	21.2°F	17142	3.158	51.8°F	8526	2.301	87.8°F	4072	1.447
-7.6°F	35433	3.899	23.0°F	16419	3.107	53.6°F	8200	2.253	89.6°F	3933	1.412
-5.8°F	33788	3.858	24.8°F	15731	3.057	55.4°F	7888	2.205	91.4°F	3799	1.377
-4.0°F	32230	3.816	26.6°F	15076	3.006	57.2°F	7590	2.158	95.0°F	3547	1.309
-2.2°F	30752	3.773	28.4°F	14452	2.955	59.0°F	7305	2.111	96.8°F	3428	1.277
-0.4°F	29350	3.729	30.2°F	13857	2.904	60.8°F	7032	2.064	100.4°F	3204	1.213

DC FAN MOTORS

Brushless DC Fan motors are used to save energy. The fans operate at two speeds. Fan speed information is read by the Main PCB. If the fan speed exceeds 600 RPM or the speed is too slow, or stopped the fan drive circuit is disabled, After 10 seconds the circuit tries again with 3 seconds of DC voltage. If the fan continues this activity for 5 cycles, 10 seconds off 3 seconds on, the fan drive circuit is disabled for 10 minutes.

TO TEST THE FAN CIRCUIT VOLTAGE.

Power off and back on to check the DC voltage to the motor, wait from 10 to 60 seconds for the fan voltage to kick in, and then check fan voltage, the average reading is 9 VDC. If you get 3 seconds of voltage every 10 seconds for the 5 fan power up cycles, then the Main PCB is good.

NOTE: You may need to put unit in FORCED FREEZE mode to activate the fans/compressor.

If the fan blade is blocked by ice, then defrost and check the motor again, after removing power from the unit.

If the evaporator is ice blocked and thus blocking the air flow, the fan will over RPM and will be stopped. Remove ice and check the motor again. If everything is clear around the fan blade then the motor would be at fault. Continuous fan errors will be displayed on the front panel display. **PLEASE NOTE:** The door switches control the evaporator fan motors. Have them closed to test the motors. Delay time 10 – 60 seconds.

Samsung 'Refrigerator' Diagnostic Code Quick Guide

Error Items	LED	TROUBLE	TESTING
I/M-SENSOR		Ice Maker Sensor Error- open or short-circuit, connector failure. Cause is also a temperature reading > 122° or < -58 ° F	The voltage at MAIN PCB Sensor between 4.5V~1.0V
R-SENSOR		Refrigerator Room Sensor Error- open or short-circuit, connector failure. Cause is also a temperature reading > 122° or < -58 ° F.	The voltage at MAIN PCB Sensor between 4.5V~1.0V
DEFROST SENSOR OF ROOM		Ref. Defrost Sensor Error- open or short-circuit, connector failure. Cause is also a temperature reading > 122° or < -58 ° F	The voltage at MAIN PCB Sensor between 4.5V~1.0V
R-FAN ERROR		This error indicates the Refrigerator Evap Fan is not spinning at the correct RPM or the fan feedback line is open.	Fan voltage at MAIN PCB shall be between 7V~12V
I/M FUNCTION ERROR		This error indicates the Ice tray has not returned to level after an ice harvest. The error is displayed after three failed attempts.	Replace I/M
COOL SELECT ZONE SENSOR		Cool Select Zone Sensor Error- open or short-circuit, connector failure. Cause is also a temperature reading > 122° or < -58 ° F	The voltage at MAIN PCB Sensor between 4.5V~1.0V
R-DEFROSTING ERROR		Refrigerator Room defrost heater- open or short-circuit, connector failure, or defective temperature fuse/bi-metal. Defrost on over 80 minutes	Disconnect defrost connector from PCB, check resistance
EXT-SENSOR		Ambient Temp. Sensor Error- open or short-circuit, connector failure. Cause is also a temperature reading > 122° or < -58 ° F	The voltage at MAIN PCB Sensor between 4.5V~1.0V
F-SENSOR		Freezer Compartment Sensor Error- open or short-circuit, connector failure. Cause is also a temperature reading > 122° or < -58 ° F	The voltage at MAIN PCB Sensor between 4.5V~1.0V
F-DEF-SENSOR		Freezer Room Defrost Sensor Error- open or short-circuit, connector failure. Cause is also a temperature reading > 122° or < -58 ° F	The voltage at MAIN PCB Sensor between 4.5V~1.0V
F-FAN ERROR		This error indicates the Freezer Evap. Fan is not spinning at the correct RPM or the fan feedback line is open.	Fan voltage at MAIN PCB shall be between 7V~12V
C-FAN ERROR		This error indicates the Condenser Fan is not spinning at the correct RPM or the fan feedback line is open.	Fan voltage at MAIN PCB shall be between 7V~12V
F-DEFROSTING ERROR		Freezer defrosting heater- open or short-circuit, connector failure, or defective temperature fuse/bi-metal. Defrost on for over 80 minutes	Disconnect defrost connector from PCB, check resistance
Uart ERROR COMMUNICATION		This error is not applicable, if the error is detected during diagnostic testing please ignore it.	No Repair Necessary
L-M ERROR COMMUNICATION		Communication error within the Main PCB	Replace main PCB
P-M ERROR COMMUNICATION		Communication between the Main PCB and Keypad	Check wiring in door & cabinet, Panel PCB, Main PCB

RS269LA, RS267LA

CN72
 6-7 F-Fan (Yel-Gry) **10-11.1vdc**
 5-7 R-Fan (Org-Gry) **10vdc**
 4-7 C-Fan (S/Blu-Gry) **8.3-10vdc**
 3 F-Fan control (Blk)
 2 R-Fan Control (Brn)
 1 C-Fan Control (Red)

CN73
 1-2 Damper Heater (Blk-Blk) **12vdc**
 3-4 Coil Damper Mtr (Wht-Blu)
 5-6 Coil Damper Mtr (Yel-Red)

CN31
 1-4 Ambient Sensor (Wht-Wht) **1.2-2vdc**
 2-3 Ice SW (Org-Org)

CN10 120VAC
 1-3 A/C Line (Blk-Red)

CN30
 1-2 F Door SW (W/Red-Brn)
 5-6 R Door SW (W/Blu-Brn)
 3-2 F Sensor (Yel-Brn) **3.5-4.2vdc**
 4-2 F-Def Sensor (Blu-Brn) **2.3-4.2vdc**
 7-6 R Sensor (Gry-Brn) **2.4-2.8vdc**
 8-6 R-Def Sensor (Prp-Brn) **2-4.2vdc**
 9 Flow Sensor out (Wht)
 10 Flo Sensor GND (Blk)
 11 Flow Sensor Vcc (Red)

CN71 120VAC
 1-(CN70-11) Cube Solenoid (Yel-Red)
 3-(CN70-11) Auger Mtr (Pnk-Red)
 5-(CN70-11) Ice-Motor Solenoid (Prp-Red)
 7-(CN70-11) Cover Ice Solenoid (W/Blk-Red)

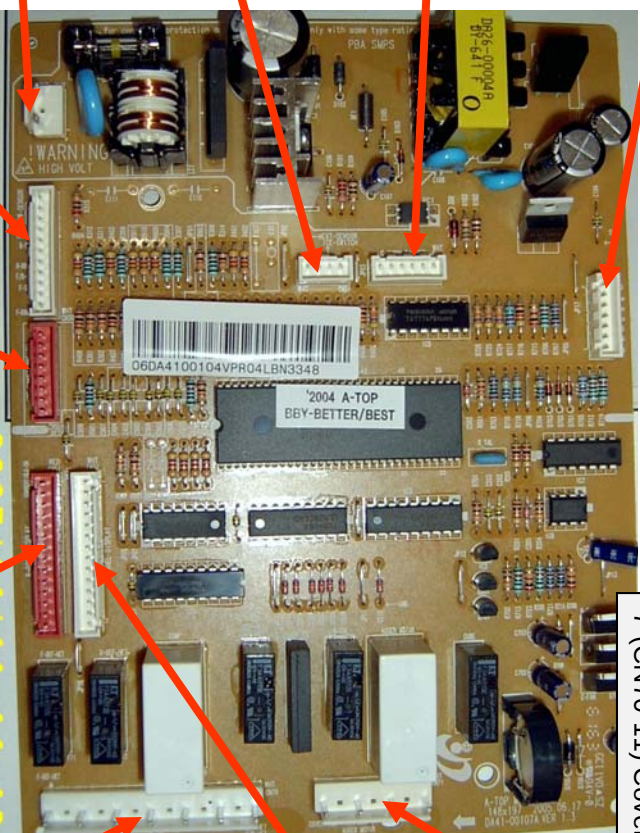
CN50 Panel PCB

CN51 Cool Zone
 13-14 Cool Zone Sensor (W/Red-W/Blu) **2.6-2.8vdc**
 12-13 (W/Blk-W/Red) **12 VDC**

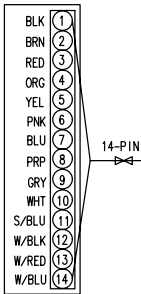
CN90
 1-2 I/M Motor (Red-Blk) **12vdc**
 3-4 I/M Sensor (Wht-Wht) **2.3-3.3vdc**
 5-8 Test SW (Gry-S/Blu)
 6-8 Horiz check SW (Blu-S/Blu)
 7-8 Ice Check SW (Prp-S/Blu)

CN70 120VAC
 1-11 Dispenser / Water Tank / R Home Bar HTRs (Blu-Red)
 5-11 Compressor (S/Blu-Red)
 9-7 R-Def/Ice Pipe HTR (Wht-Org)
 13-7 F-Def HTR (Brn-Org)

BLU-BLUE
 BRN-BROWN
 RED-RED
 GRAY-GRAY
 ORG-ORANGE
 PNK-PINK
 E-EARTH
 PRP-PURPLE
 S/BLUE-SKY BLUE
 WHT-WHITE
 YEL-YELLOW
 BLK-BLACK
 W/BLK-WHITE/BLACK
 W/RED-WHITE/RED
 W/BLU-WHITE/BLUE
 W/YEL-WHITE/YELLOW

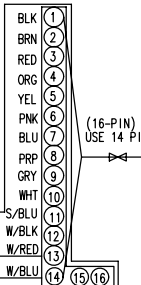
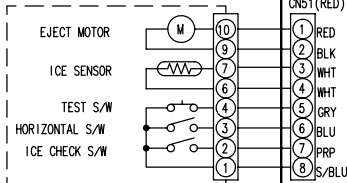
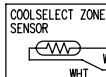


PBA PANEL



14-PIN

PBA COOLSELECT ZONE

(16-PIN)
USE 14-PIN

EJECT MOTOR

ICE SENSOR

TEST S/W

HORIZONTAL S/W

ICE CHECK S/W

F-ROOM DOOR-S/W

F-ROOM SENSOR

DEFROST SENSOR, F

R-ROOM DOOR-S/W

R-ROOM SENSOR

DEFROST SENSOR, R

OUT

HAL

I

E

Flow sensor

RS269LA, RS267LA

BLK 1

RED 3

CN10(WHT)

DEFROST HEATER, F

BIMETAL THERMO

F-DRAIN HEATER

DEFROST HEATER, R

ICE MAKER PIPE HEATER

PTC RELAY

S/BLU 5

GRY 3

RUNNING CAPACITOR

WATER TANK HEATER

CN70(WHT)

DISPENSER HEATER

W/BLK 7

PRP 6

PNK 3

YEL 1

ICE CUBE SOLENOID

CN71(WHT)

GRY 7

YEL 6

ORG 5

S/BLU 4

BLK 3

BRN 2

RED 1

CN72(WHT)

BLK 1

BLK 2

WHT 3

BLU 4

YEL 5

RED 6

CN73(WHT)

WHT 1

ORG 2

ORG 3

WHT 4

CN31(WHT)

W/BLK 1

YEL 2

W/BLK 3

W/BLK 4

W/BLK 5

W/BLK 6

W/BLK 7

W/BLK 8

W/BLK 9

W/BLK 10

W/BLK 11

W/BLK 12

W/BLK 13

W/BLK 14

W/BLK 15

W/BLK 16

W/BLK 17

W/BLK 18

W/BLK 19

W/BLK 20

W/BLK 21

W/BLK 22

W/BLK 23

W/BLK 24

W/BLK 25

W/BLK 26

W/BLK 27

W/BLK 28

W/BLK 29

W/BLK 30

W/BLK 31

W/BLK 32

W/BLK 33

W/BLK 34

W/BLK 35

W/BLK 36

W/BLK 37

W/BLK 38

W/BLK 39

W/BLK 40

W/BLK 41

W/BLK 42

W/BLK 43

W/BLK 44

W/BLK 45

W/BLK 46

W/BLK 47

W/BLK 48

W/BLK 49

W/BLK 50

W/BLK 51

W/BLK 52

W/BLK 53

W/BLK 54

W/BLK 55

W/BLK 56

W/BLK 57

W/BLK 58

W/BLK 59

W/BLK 60

W/BLK 61

W/BLK 62

W/BLK 63

W/BLK 64

W/BLK 65

W/BLK 66

W/BLK 67

W/BLK 68

W/BLK 69

W/BLK 70

W/BLK 71

W/BLK 72

W/BLK 73

W/BLK 74

W/BLK 75

W/BLK 76

W/BLK 77

W/BLK 78

W/BLK 79

W/BLK 80

W/BLK 81

W/BLK 82

W/BLK 83

W/BLK 84

W/BLK 85

W/BLK 86

W/BLK 87

W/BLK 88

W/BLK 89

W/BLK 90

W/BLK 91

W/BLK 92

W/BLK 93

W/BLK 94

W/BLK 95

W/BLK 96

W/BLK 97

W/BLK 98

W/BLK 99

W/BLK 100

W/BLK 101

W/BLK 102

W/BLK 103

W/BLK 104

W/BLK 105

W/BLK 106

W/BLK 107

W/BLK 108

W/BLK 109

W/BLK 110

W/BLK 111

W/BLK 112

W/BLK 113

W/BLK 114

W/BLK 115

W/BLK 116

W/BLK 117

W/BLK 118

W/BLK 119

W/BLK 120

W/BLK 121

W/BLK 122

W/BLK 123

W/BLK 124

W/BLK 125

W/BLK 126

W/BLK 127

W/BLK 128

W/BLK 129

W/BLK 130

W/BLK 131

W/BLK 132

W/BLK 133

W/BLK 134

W/BLK 135

W/BLK 136

W/BLK 137

W/BLK 138

W/BLK 139

W/BLK 140

W/BLK 141

W/BLK 142

W/BLK 143

W/BLK 144

W/BLK 145

W/BLK 146

W/BLK 147

W/BLK 148

W/BLK 149

W/BLK 150

W/BLK 151

W/BLK 152

W/BLK 153

W/BLK 154

W/BLK 155

W/BLK 156

W/BLK 157

W/BLK 158

W/BLK 159

W/BLK 160

W/BLK 161

W/BLK 162

W/BLK 163

W/BLK 164

W/BLK 165

W/BLK 166

W/BLK 167

W/BLK 168

W/BLK 169

W/BLK 170

W/BLK 171

W/BLK 172

W/BLK 173

W/BLK 174

W/BLK 175

W/BLK 176

W/BLK 177

W/BLK 178

W/BLK 179

W/BLK 180

W/BLK 181

W/BLK 182

W/BLK 183

W/BLK 184

W/BLK 185

W/BLK 186

W/BLK 187

W/BLK 188

W/BLK 189

W/BLK 190

W/BLK 191

W/BLK 192

W/BLK 193

W/BLK 194

W/BLK 195

W/BLK 196

W/BLK 197

W/BLK 198

W/BLK 199

W/BLK 200

W/BLK 201

W/BLK 202

W/BLK 203

W/BLK 204

W/BLK 205

W/BLK 206

W/BLK 207

W/BLK 208

W/BLK 209

W/BLK 210

W/BLK 211

W/BLK 212

W/BLK 213

W/BLK 214

W/BLK 215

W/BLK 216

W/BLK 217

W/BLK 218

W/BLK 219

W/BLK 220

W/BLK 221

W/BLK 222

W/BLK 223

W/BLK 224

W/BLK 225

W/BLK 226

W/BLK 227

W/BLK 228

W/BLK 229

W/BLK 230

W/BLK 231

W/BLK 232

W/BLK 233

W/BLK 234

W/BLK 235

W/BLK 236

W/BLK 237

W/BLK 238

W/BLK 239

W/BLK 240

W/BLK 241

W/BLK 242

W/BLK 243

W/BLK 244

W/BLK 245

W/BLK 246