

**HUGHES NETWORK SYSTEMS**

**FIELD SERVICE BULLETIN**

**SUBJECT:** Updated Commissioning Rules

**FSB NUMBER:** FSB\_080515\_01A

**FSB ISSUE DATE:** 5/15/08

**SUBMITTED BY:** J. Callow

**APPROVED BY:** D. Dostalík

**CHANGE TO BE IMPLEMENTED BY:**

AUTHORIZED HUGHES REPRESENTATIVE

CUSTOMER

**DOCUMENTATION AFFECTED:**

Training, Installation Specifications

**CATEGORY:**

HARDWARE

FIRMWARE

SOFTWARE

OTHER

**EFFECTIVE DATE:**

**IMPLEMENT:**

IMMEDIATELY

NEXT SERVICE CALL

OTHER: approximately 6 a.m. (EDT) May 15, 2008

- COMMENTS:** 1) HNS and Earthlink Customers (U.S. except Hawaii and Puerto Rico): Pages 2 – 6  
 2) HNS Customers in Hawaii, Puerto Rico, Central America, Caribbean: Page 7 – 8  
 3) Earthlink Customers in Hawaii, Puerto Rico, Central America, Caribbean: Page 9  
 4) Shared Gateway VAR and Agristar and SME Customers (All Locations): Pages 10 – 14  
 5) DW6000 Customers (All Locations): Page 15 – 16

Installers should follow normal pointing and commissioning procedures using *DIRECWAY Consumer Installation Requirements* (Rev. K), *DIRECWAY Reflector Installation Guide* and the Field Service Order (FSO).

**REMOVED MATERIAL DISPOSITION**

**SHIP TO** N/A

**ATTENTION** N/A

**COMMENTS** N/A

<b>HNS Customers</b>
United States, (except Canada, Hawaii, Puerto Rico, and Virgin Islands)

**A. HN7XXX Home and Professional Service Plans (.74m w/1w radio)\***

G28-6K							HZN1-16K	G16-21K
AL	DE	KY	MO	NM	SC	WI	AK**	HI
AR	FL	LA	MS	NV	SD	WV	ID	P.R.
AZ	GA	MA	NC	NY	TN	WY	MT	V.I.
CA	IA	MD	ND	OH	TX	OR	Canada	
CO	IL	ME	NE	OK	UT	WA		
CT	IN	MI	NH	PA	VA			
DC	KS	MN	NJ	RI	VT			

\* Includes new HN7000S installs and HN7000S Upgrade orders that require professional install.

\*\* Alaska will have a larger antenna requirement depending on exact location.

These pointing parameters can be used to manually enter on the appropriate satellite-based commissioning screen.

**G28-6K (HN7XXX) Satellite Parameters**

Orbital location	89° West
Transponder	6K
Frequency	1070 MHz
Symbol Rate	30 Msps
Frequency Band/Modulation	Ku Band – 8 PSK
Receive (Down)	Horizontal
Transmit (Up)	Horizontal
DVB Mode	DVB-S2-ACM
DVB Program Num (User Data)	0
DVB Program Num (DNCC Data)	0

**G16-21K (HN7XXX) Satellite Parameters**

Orbital location	99° West
Transponder	21K
Frequency	1370 MHz
Symbol Rate	30 Msps
Frequency Band/Modulation	Ku Band – 8 PSK
Receive (Down)	Horizontal
Transmit (Up)	Horizontal
DVB Mode	DVB-S2-ACM
DVB Program Num (User Data)	0
DVB Program Num (DNCC Data)	0

**HZN1-16K (HN7XXX) Satellite Parameters**

Orbital location	127° West
Transponder	16K
Frequency	1270 MHz
Symbol Rate	30 Msps
Frequency Band/Modulation	Ku Band – QPSK
Receive (Down)	Vertical
Transmit (Up)	Horizontal
DVB Mode	DVB-S
DVB Program Num (User Data)	0
DVB Program Num (DNCC Data)	0

<b>Earthlink Customers</b>
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United States (except Canada, Hawaii, Puerto Rico, and Virgin Islands)
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**B. HN7XXX Home and Professional Service Plans (.74m w/1w radio) \***

G28-6K						
AL	DE	KY	MO	NM	SC	WI
AR	FL	LA	MS	NV	SD	WV
AZ	GA	MA	NC	NY	TN	WY
CA	IA	MD	ND	OH	TX	
CO	IL	ME	NE	OK	UT	
CT	IN	MI	NH	PA	VA	
DC	KS	MN	NJ	RI	VT	

HZN1-16K
AK**
ID
MT
OR
WA

G16-21K
HI
P.R.
V.I.
Canada

\* Includes new HN7000S installs and HN7000S Upgrade orders that require professional install.

\*\* Alaska will have a larger antenna requirement depending on exact location.

These pointing parameters can be used to manually enter on the appropriate satellite-based commissioning screen.

**G28-6K (HN7XXX) Satellite Parameters**

Orbital location	89° West
Transponder	6K
Frequency	1070 MHz
Symbol Rate	30 Msps
Frequency Band/Modulation	Ku Band – 8 PSK
Receive (Down)	Horizontal
Transmit (Up)	Horizontal
DVB Mode	DVB-S2-ACM
DVB Program Num (User Data)	0
DVB Program Num (DNCC Data)	0

**G16-21K (HN7XXX) Satellite Parameters**

Orbital location	99° West
Transponder	21K
Frequency	1370 MHz
Symbol Rate	30 Msps
Frequency Band/Modulation	Ku Band – 8 PSK
Receive (Down)	Horizontal
Transmit (Up)	Horizontal
DVB Mode	DVB-S2-ACM
DVB Program Num (User Data)	0
DVB Program Num (DNCC Data)	0

**HZN1-16K (HN7XXX) Satellite Parameters**

Orbital location	127° West
Transponder	16K
Frequency	1270 MHz
Symbol Rate	30 Msps
Frequency Band/Modulation	Ku Band – QPSK
Receive (Down)	Vertical
Transmit (Up)	Horizontal
DVB Mode	DVB-S
DVB Program Num (User Data)	0
DVB Program Num (DNCC Data)	0

<b>HNS Customers</b>
United States, (except Canada, Puerto Rico and Virgin Islands)

**C. HN7XXX Small Office and Business Internet Service Plans (.98m w/2w radio)**

G28-6K							HZN1-6K	G16-21K
AL	DE	KY	MO	NM	SC	WI	AK**	HI
AR	FL	LA	MS	NV	SD	WV	ID	P.R.
AZ	GA	MA	NC	NY	TN	WY	MT	V.I.
CA	IA	MD	ND	OH	TX	OR	Canada	
CO	IL	ME	NE	OK	UT	WA		
CT	IN	MI	NH	PA	VA			
DC	KS	MN	NJ	RI	VT			

**\*\* Alaska may have a larger antenna requirement depending on exact location.**

These pointing parameters can be used to manually enter on the appropriate satellite-based commissioning screen.

**G28-6K (HN7XXX) Satellite Parameters**

Orbital location	89° West
Transponder	6K
Frequency	1070 MHz
Symbol Rate	30 Msps
Frequency Band/Modulation	Ku Band – 8 PSK
Receive (Down)	Horizontal
Transmit (Up)	Horizontal
DVB Mode	DVB-S2-ACM
DVB Program Num (User Data)	0
DVB Program Num (DNCC Data)	0

**HZN1-6K (HN7XXX) Satellite Parameters**

Orbital location	127° West
Transponder	6K
Frequency	1070 MHz
Symbol Rate	30 Msps
Frequency Band/Modulation	Ku Band – 8 PSK
Receive (Down)	Vertical
Transmit (Up)	Horizontal
DVB Mode	DVB-S2-ACM
DVB Program Num (User Data)	0
DVB Program Num (DNCC Data)	0

**G16-21K (HN7XXX) Satellite Parameters**

Orbital location	99° West
Transponder	21K
Frequency	1370 MHz
Symbol Rate	30 Msps
Frequency Band/Modulation	Ku Band – 8 PSK
Receive (Down)	Horizontal
Transmit (Up)	Horizontal
DVB Mode	DVB-S2-ACM
DVB Program Num (User Data)	0
DVB Program Num (DNCC Data)	0

<b>HNS and Earthlink Customers</b>
United States (except Hawaii, Puerto Rico and Virgin Islands)

**D. DW7XXX Home and Professional Service Plans (.74m w/1w radio)\***

G16-20K
ID
ME
MN
MT
ND
NH
VT
WA

SM5-5K		
AK**	KS	OH
AL	KY	OK
AR	LA	OR
AZ	MA	PA
CA	MD	RI
CO	MI	SC
CT	MO	SD
DC	MS	TN
DE	NC	TX
FL	NE	UT
GA	NJ	VA
IA	NM	WI
IL	NV	WV
IN	NY	WY

**\* Includes new DW7000 installs and DW7000 Upgrade orders that require professional install.**

**\*\* Alaska may have a larger antenna requirement depending on exact location.**

These pointing parameters can be used to manually enter on the appropriate satellite-based commissioning screen.

**G16-20K (DW7XXX) Satellite Parameters**

Orbital location	99° West
Transponder	20K
Frequency	1350 MHz
Symbol Rate	30 Msps
Frequency Band/Modulation	Ku Band – QPSK
Receive (Down)	Horizontal
Transmit (Up)	Horizontal
DVB Mode	DVB-S
DVB Program Num (User Data)	0
DVB Program Num (DNCC Data)	0

**SM5-5K (DW7XXX) Satellite Parameters**

Orbital location	117° West
Transponder	5K
Frequency	1050 MHz
Symbol Rate	33 Msps
Frequency Band/Modulation	Ku Band – QPSK
Receive (Down)	Horizontal
Transmit (Up)	Horizontal
DVB Mode	DVB-S
DVB Program Num (User Data)	0
DVB Program Num (DNCC Data)	0

<b>HNS Customers</b>
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United States (except Hawaii, Puerto Rico and Virgin Islands)
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**E. DW7XXX Small Office and Business Internet Service Plans (.98m w/2w radio)**

<b>G11-5K</b>
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All States*
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**\*Does not include Hawaii, Puerto Rico, Central America, and Caribbean**

These pointing parameters can be used to manually enter on the appropriate satellite-based commissioning screen.

**G11-5K (DW7XXX) Satellite Parameters**

Orbital location	91° West
Transponder	5K
Frequency	1050 MHz
Symbol Rate	30 Msps
Frequency Band/Modulation	Ku Band – QPSK
Receive (Down)	Horizontal
Transmit (Up)	Vertical*
DVB Mode	DVB-S
DVB Program Num (User Data)	0
DVB Program Num (DNCC Data)	0

**Note: Requires Vertical Transmit Polarization Shim Kit (p/n 1033809) for OSIRIS 2-watt radios and 0° offset for OSIRIS-TG 2-watt radios. Refer to FSB\_050429\_01C for details.**

<b>HNS Customers (Outside Continental U.S.)</b>				
Hawaii	Canada	Puerto Rico	Central America	Caribbean

### **A. HN7XXX Home and Professional Service Plans**

These pointing parameters can be used to manually enter on the appropriate satellite-based commissioning screen.

#### **G16-15K (HN7XXX) Satellite Parameters**

Orbital location	99° West
Transponder	15K
Frequency	1250 MHz
Symbol Rate	33 Msps
Frequency Band/Modulation	Ku Band – 8 PSK
Receive (Down)	Horizontal
Transmit (Up)	Horizontal
DVB Mode	DVB-S2-ACM
DVB Program Num (User Data)	0
DVB Program Num (DNCC Data)	0

### **B. DW7XXX Home and Professional Service Plans**

These pointing parameters can be used to manually enter on the appropriate satellite-based commissioning screen.

#### **G16-14K (DW7XXX) Satellite Parameters**

Orbital location	99° West
Transponder	14K
Frequency	1230 MHz
Symbol Rate	30 Msps
Frequency Band/Modulation	Ku Band – QPSK
Receive (Down)	Vertical
Transmit (Up)	Horizontal
DVB Mode	DVB-S
DVB Program Num (User Data)	0
DVB Program Num (DNCC Data)	0

HNS Customers (Outside Continental U.S.)				
Hawaii	Canada	Puerto Rico	Central America	Caribbean

### C. HN7XXX Small Office and Business Internet Service Plans

These pointing parameters can be used to manually enter on the appropriate satellite-based commissioning screen.

#### G16-21K (HN7XXX) Satellite Parameters

Orbital location	99° West
Transponder	21K
Frequency	1370 MHz
Symbol Rate	30 Msps
Frequency Band/Modulation	Ku Band – 8 PSK
Receive (Down)	Horizontal
Transmit (Up)	Horizontal
DVB Mode	DVB-S2 ACM
DVB Program Num (User Data)	0
DVB Program Num (DNCC Data)	0

### D. DW7XXX Small Office and Business Internet Service Plans

These pointing parameters can be used to manually enter on the appropriate satellite-based commissioning screen.

#### IA8-20K (DW7XXX) Satellite Parameters

Orbital location	89° West
Transponder	20K
Frequency	1410 MHz
Symbol Rate	30 Msps
Frequency Band/Modulation	Ku Band – QPSK
Receive (Down)	Horizontal
Transmit (Up)	Horizontal
DVB Mode	DVB-S
DVB Program Num (User Data)	0
DVB Program Num (DNCC Data)	0

<b>Earthlink Customers (Outside Continental U.S.)</b>				
Hawaii	Puerto Rico	Canada	Central America	Caribbean

### **E. HN7XXX Home and Professional Service Plans**

These pointing parameters can be used to manually enter on the appropriate satellite-based commissioning screen.

#### **G16-21K (HN7XXX) Satellite Parameters**

Orbital location	99° West
Transponder	21K
Frequency	1370 MHz
Symbol Rate	30 Msps
Frequency Band/Modulation	Ku Band – 8 PSK
Receive (Down)	Horizontal
Transmit (Up)	Horizontal
DVB Mode	DVB-S2-ACM
DVB Program Num (User Data)	0
DVB Program Num (DNCC Data)	0

**Shared Gateway VAR and Agristar Customers and SME**

**A. HN7XXX Home and Professional Service Plans (IA100, IA150)**

G28-6K							HZN1-16K	G16-21K
AL	DE	KY	MO	NM	SC	WI	AK**	HI
AR	FL	LA	MS	NV	SD	WV	ID	P.R.
AZ	GA	MA	NC	NY	TN	WY	MT	V.I.
CA	IA	MD	ND	OH	TX	OR	Canada	
CO	IL	ME	NE	OK	UT	WA		
CT	IN	MI	NH	PA	VA			
DC	KS	MN	NJ	RI	VT			

- Includes new HN7000S installs and HN7000S Upgrade orders that require professional install.  
**\*\* Alaska will have a larger antenna requirement depending on exact location.**

These pointing parameters can be used to manually enter on the appropriate satellite-based commissioning screen.

**G28-6K (HN7XXX) Satellite Parameters**

Orbital location	89° West
Transponder	6K
Frequency	1070 MHz
Symbol Rate	30 Msps
Frequency Band/Modulation	Ku Band – 8 PSK
Receive (Down)	Horizontal
Transmit (Up)	Horizontal
DVB Mode	DVB-S2-ACM
DVB Program Num (User Data)	0
DVB Program Num (DNCC Data)	0

**G16-21K (HN7XXX) Satellite Parameters**

Orbital location	99° West
Transponder	21K
Frequency	1370 MHz
Symbol Rate	30 Msps
Frequency Band/Modulation	Ku Band – 8 PSK
Receive (Down)	Horizontal
Transmit (Up)	Horizontal
DVB Mode	DVB-S2-ACM
DVB Program Num (User Data)	0
DVB Program Num (DNCC Data)	0

**HZN1-16K (HN7XXX) Satellite Parameters**

Orbital location	127° West
Transponder	16K
Frequency	1270 MHz
Symbol Rate	30 Msps
Frequency Band/Modulation	Ku Band – QPSK
Receive (Down)	Vertical
Transmit (Up)	Horizontal
DVB Mode	DVB-S
DVB Program Num (User Data)	0
DVB Program Num (DNCC Data)	0

**Shared Gateway VAR and Agristar Customers and SME**

## B. HN7XXX IA200 and IA300 Service Plans

G28-6K						
AL	DE	KY	MO	NM	SC	WI
AR	FL	LA	MS	NV	SD	WV
AZ	GA	MA	NC	NY	TN	WY
CA	IA	MD	ND	OH	TX	
CO	IL	ME	NE	OK	UT	
CT	IN	MI	NH	PA	VA	
DC	KS	MN	NJ	RI	VT	

HZN1-6K
AK**
ID
MT
OR
WA

G16-21K
HI
P.R.
V.I.
Canada

**\*\* Alaska may have a larger antenna requirement depending on exact location.**

These pointing parameters can be used to manually enter on the appropriate satellite-based commissioning screen.

### G28-6K (HN7XXX) Satellite Parameters

Orbital location	89° West
Transponder	6K
Frequency	1070 MHz
Symbol Rate	30 Msps
Frequency Band/Modulation	Ku Band – 8 PSK
Receive (Down)	Horizontal
Transmit (Up)	Horizontal
DVB Mode	DVB-S2-ACM
DVB Program Num (User Data)	0
DVB Program Num (DNCC Data)	0

### HZN1-6K (HN7XXX) Satellite Parameters

Orbital location	127° West
Transponder	6K
Frequency	1070 MHz
Symbol Rate	30 Msps
Frequency Band/Modulation	Ku Band – 8 PSK
Receive (Down)	Vertical
Transmit (Up)	Horizontal
DVB Mode	DVB-S2-ACM
DVB Program Num (User Data)	0
DVB Program Num (DNCC Data)	0

### G16-21K (HN7XXX) Satellite Parameters

Orbital location	99° West
Transponder	21K
Frequency	1370 MHz
Symbol Rate	30 Msps
Frequency Band/Modulation	Ku Band – 8 PSK
Receive (Down)	Horizontal
Transmit (Up)	Horizontal
DVB Mode	DVB-S2-ACM
DVB Program Num (User Data)	0
DVB Program Num (DNCC Data)	0

**Shared Gateway VAR and Agristar Customers and SME**

**C. HN7XXX IA400 Service Plans**

For these service offerings:

CON 708	CON 709	CON 710
INT 609	INT 610	INT 611
SP2 321	SP2 322	SP2 323

<b>G16-13K</b>
Continental U.S. and Canada
Hawaii
Virgin Islands
Puerto Rico

<b>HZN1-6K</b>
AK**

**\*\* Alaska may have a larger antenna requirement depending on exact location.**

These pointing parameters can be used to manually enter on the appropriate satellite-based commissioning screen.

**G16-13K (HN7XXX) Satellite Parameters**

Orbital location	99° West
Transponder	13K
Frequency	1210 MHz
Symbol Rate	30 Msps
Frequency Band/Modulation	Ku Band – QPSK
Receive (Down)	Horizontal
Transmit (Up)	Vertical*
DVB Mode	DVB-S
DVB Program Num (User Data)	0
DVB Program Num (DNCC Data)	0

**HZN1-6K (HN7XXX) Satellite Parameters**

Orbital location	127° West
Transponder	6K
Frequency	1070 MHz
Symbol Rate	30 Msps
Frequency Band/Modulation	Ku Band – 8 PSK
Receive (Down)	Vertical
Transmit (Up)	Horizontal
DVB Mode	DVB-S2-ACM
DVB Program Num (User Data)	0
DVB Program Num (DNCC Data)	0

**Note: G16-13K Requires Vertical Transmit Polarization Shim Kit (p/n 1033809) for OSIRIS 2-watt radios and 0° offset for OSIRIS-TG2-watt radios. Refer to FSB\_050429\_01C for details.**

**Shared Gateway VAR and Agristar Customers**

**D. DW7XXX Home and Professional Service Plans**

SM5-9K			G16-14K
AK	KS	OH	ID
AL	KY	OK	ME
AR	LA	OR	MN
AZ	MA	PA	MT
CA	MD	RI	ND
CO	MI	SC	NH
CT	MO	SD	VT
DC	MS	TN	WA
DE	NC	TX	HI
FL	NE	UT	Canada
GA	NJ	VA	Puerto Rico
IA	NM	WI	Central America
IL	NV	WV	Caribbean
IN	NY	WY	

These pointing parameters can be used to manually enter on the appropriate satellite-based commissioning screen.

**SM5-9K (DW7XXX) Satellite Parameters**

Orbital location	117° West
Transponder	9K
Frequency	1130 MHz
Symbol Rate	30 Msps
Frequency Band/Modulation	Ku Band – QPSK
Receive (Down)	Horizontal
Transmit (Up)	Horizontal
DVB Mode	DVB-S
DVB Program Num (User Data)	0
DVB Program Num (DNCC Data)	0

**G16-14K (DW7XXX) Satellite Parameters**

Orbital location	99° West
Transponder	14K
Frequency	1230 MHz
Symbol Rate	30 Msps
Frequency Band/Modulation	Ku Band – QPSK
Receive (Down)	Vertical
Transmit (Up)	Horizontal
DVB Mode	DVB-S
DVB Program Num (User Data)	0
DVB Program Num (DNCC Data)	0

**Shared Gateway VAR and Agristar Customers**

**E. DW7XXX IA200 and IA300 Service Plans**

G11-5K
Continental U.S. and Canada

IA8-20K
Hawaii
Puerto Rico
Central America
Caribbean

These pointing parameters can be used to manually enter on the appropriate satellite-based commissioning screen.

**G11-5K (DW7XXX) Satellite Parameters**

Orbital location	91° West
Transponder	5K
Frequency	1050 MHz
Symbol Rate	30 Msps
Frequency Band/Modulation	Ku Band – QPSK
Receive (Down)	Horizontal
Transmit (Up)	Vertical*
DVB Mode	DVB-S
DVB Program Num (User Data)	0
DVB Program Num (DNCC Data)	0

**IA8-20K (DW7XXX) Satellite Parameters**

Orbital location	89° West
Transponder	20K
Frequency	1410 MHz
Symbol Rate	30 Msps
Frequency Band/Modulation	Ku Band – QPSK
Receive (Down)	Horizontal
Transmit (Up)	Horizontal
DVB Mode	DVB-S
DVB Program Num (User Data)	0
DVB Program Num (DNCC Data)	0

**Note:** G11-5K Requires Vertical Transmit Polarization Shim Kit (p/n 1033809) for OSIRIS 2-watt radios and 0° offset for OSIRIS-TG2-watt radios. Refer to FSB\_050429\_01C for details.

**HNS DW6000 Customers**

**A. DW6000 Home and Professional Service Plans**

SM5-14K						G16- 20K	HZN1-22K
AL	FL	MA	NH	PA	VT	ID	AK**
AR	GA	MD	NJ	RI	WI	MN	
AZ	IA	ME	NM	SC	WV	MT	
CA	IL	MI	NV	SD	WY	ND	
CO	IN	MO	NY	TN		WA	
CT	KS	MS	OH	TX		HI	
DC	KY	NC	OK	UT		V.I.	
DE	LA	NE	OR	VA		P.R.	

\*\* Alaska may have a larger antenna requirement depending on exact location.

These pointing parameters can be used to manually enter on the appropriate satellite-based commissioning screen.

**SM5-14K (DW6000) Satellite Parameters**

Orbital location	117° West
Transponder	14K
Frequency	1230 MHz
Symbol Rate	30 Msps
Frequency Band/Modulation	Ku Band – QPSK
Receive (Down)	Vertical
Transmit (Up)	Horizontal
DVB Mode	DVB-S
DVB Program Num (User Data)	0
DVB Program Num (DNCC Data)	0

**G16-20K (DW6000) Satellite Parameters**

Orbital location	99° West
Transponder	20K
Frequency	1350 MHz
Symbol Rate	30 Msps
Frequency Band/Modulation	Ku Band – QPSK
Receive (Down)	Vertical
Transmit (Up)	Horizontal
DVB Mode	DVB-S
DVB Program Num (User Data)	0
DVB Program Num (DNCC Data)	0

**HZN1-22K (DW6000) Satellite Parameters**

Orbital location	127° West
Transponder	22K
Frequency	1390 MHz
Symbol Rate	30 Msps
Frequency Band/Modulation	Ku Band – QPSK
Receive (Down)	Vertical
Transmit (Up)	Horizontal
DVB Mode	DVB-S
DVB Program Num (User Data)	0
DVB Program Num (DNCC Data)	0

**HNS DW6000 Customers**

**B. DW6000 Small Office and Business Internet Service Plans**

SM5-14K						G16- 13K		HZN1-22K	
AL	FL	MA	NH	PA	VT	ID		AK**	
AR	GA	MD	NJ	RI	WI	MN			
AZ	IA	ME	NM	SC	WV	MT			
CA	IL	MI	NV	SD	WY	ND			
CO	IN	MO	NY	TN		WA			
CT	KS	MS	OH	TX		HI			
DC	KY	NC	OK	UT		V.I.			
DE	LA	NE	OR	VA		P.R.			

**\*\* Alaska may have a larger antenna requirement depending on exact location.**

These pointing parameters can be used to manually enter on the appropriate satellite-based commissioning screen.

**SM5-14K (DW6000) Satellite Parameters**

Orbital location	117° West
Transponder	14K
Frequency	1230 MHz
Symbol Rate	30 Msps
Frequency Band/Modulation	Ku Band – QPSK
Receive (Down)	Vertical
Transmit (Up)	Horizontal
DVB Mode	DVB-S
DVB Program Num (User Data)	0
DVB Program Num (DNCC Data)	0

**G16-13K (DW6000) Satellite Parameters**

Orbital location	99° West
Transponder	13K
Frequency	1210 MHz
Symbol Rate	30 Msps
Frequency Band/Modulation	Ku Band – QPSK
Receive (Down)	Horizontal
Transmit (Up)	Vertical*
DVB Mode	DVB-S
DVB Program Num (User Data)	0
DVB Program Num (DNCC Data)	0

**Note: G16-13K Requires Vertical Transmit Polarization Shim Kit (p/n 1033809) for OSIRIS 2-watt radios and 0° offset for OSIRIS-TG2-watt radios. Refer to FSB\_050429\_01C for details.**

**HZN1-22K (DW6000) Satellite Parameters**

Orbital location	127° West
Transponder	22K
Frequency	1390 MHz
Symbol Rate	30 Msps
Frequency Band/Modulation	Ku Band – QPSK
Receive (Down)	Vertical
Transmit (Up)	Horizontal
DVB Mode	DVB-S
DVB Program Num (User Data)	0
DVB Program Num (DNCC Data)	0