

HUGHES NETWORK SYSTEMS

FIELD SERVICE BULLETIN

SUBJECT: Updated Commissioning Rules

FSB NUMBER: FSB_100301_01B

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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:

COMMENTS: 1) HNS and Earthlink Customers (U.S. except Hawaii and Puerto Rico): Pages 2 – 7
 2) HNS Customers in Hawaii, Puerto Rico, Central America, Caribbean: Page 8 – 9
 3) Earthlink Customers in Hawaii, Puerto Rico, Central America, Caribbean: Page 10
 4) Shared Gateway VAR and Agristar and SME Customers (All Locations): Pages 11 – 15
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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

HNS Customers
United States, Canada, Puerto Rico, Virgin Islands

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

SM5-11K								G16-15K		HZN1-23K	
AL	CT	IA	KY	MS	NV	PA	TX	HI	V.I.	AK**	ND
AR	DC	ID	LA	NC	NY	RI	UT	ME	VT	MI	WA
AZ	DE	IL	MA	NE	OH	SC	VA	NH	Can	MN	WI
CA	FL	IN	MD	NJ	OK	SD	WV	P.R.		MT	
CO	GA	KS	MO	NM	OR	TN	WY				

* 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.

SM5-11K (HN7XXX) Satellite Parameters

Orbital location	117° West
Transponder	11K
Frequency	1170 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

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

HZN1-23K (HN7XXX) Satellite Parameters

Orbital location	127° West
Transponder	23K
Frequency	1410 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

Earthlink Customers

United States, Canada, Puerto Rico, Virgin Islands
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B. HN7XXX Home and Professional Service Plans (.74m w/1w radio) *

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

G16-21K	
HI	V.I.
ME	VT
NH	Can
P.R.	

HZN1-23K	
AK**	ND
MI	WA
MN	WI
MT	

*** 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.

SM5-5K (HN7XXX) Satellite Parameters

Orbital location	117° West
Transponder	5K
Frequency	1050 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

G16-21K (HN7XXX) Satellite Parameters

Orbital location	99° West
Transponder	21K
Frequency	1370MHz
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

HZN1-23 (HN7XXX) Satellite Parameters

Orbital location	127° West
Transponder	23K
Frequency	141MHz
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

HNS Customers
United States, Canada, Puerto Rico, Virgin Islands

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

HZN2-5K							G16-21K		SM6-15K	HZN1-6K
AL	GA	LA	MO	NJ	RI	VT	CO	UT	AZ	AK**
AR	IA	MA	MS	NM	SC	WI	HI	V.I.	CA	
CT	IL	MD	NC	NY	SD	WV	ID	WA	NV	
DC	IN	ME	ND	OH	TN		MT	WY		
DE	KS	MI	NE	OK	TX		OR	Can		
FL	KY	MN	NH	PA	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.

HZN2-5K (HN7XXX) Satellite Parameters

Orbital location	74° West
Transponder	5K
Frequency	1130 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

G16-21K (HN7XXX) Satellite Parameters

Orbital location	99° West
Transponder	21K
Frequency	1370 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

SM6-15K (HN7XXX) Satellite Parameters

Orbital location	113° 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

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

HNS Customers

United States (except Hawaii, Puerto Rico, Virgin Islands), Canada
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D. DW7XXX Home and Professional Service Plans (.74m w/1w radio)*

G17-2K						G16-8K	HZN1-22K
AL	FL	MA	ND	OK	VA	ID	AK**
AR	GA	MD	NE	PA	VT	MT	
AZ	IA	ME	NH	RI	WI	OR	
CA	IL	MI	NJ	SC	WV	WA	
CO	IN	MN	NM	SD	WY	Can	
CT	KS	MO	NV	TN			
DC	KY	MS	NY	TX			
DE	LA	NC	OH	UT			

* 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.

G17-2K (DW7XXX) Satellite Parameters

Orbital location	91° West
Transponder	2K
Frequency	990 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

G16-8K (DW7XXX) Satellite Parameters

Orbital location	99° West
Transponder	8K
Frequency	1110 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 (DW7XXX) 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

Earthlink Customers

United States (except Hawaii, Puerto Rico, Virgin Islands) , Canada

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

G17-2K					
AL	FL	MA	ND	OK	VA
AR	GA	MD	NE	PA	VT
AZ	IA	ME	NH	RI	WI
CA	IL	MI	NJ	SC	WV
CO	IN	MN	NM	SD	WY
CT	KS	MO	NV	TN	
DC	KY	MS	NY	TX	
DE	LA	NC	OH	UT	

G16-20K	
ID	
MT	
OR	
WA	
Can	

HZN1-22K	
AK**	

*** 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.

G17-2K (DW7XXX) Satellite Parameters

Orbital location	91° West
Transponder	2K
Frequency	990 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 (DW7XXX) 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 (DW7XXX) 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 Customers
United States (except Hawaii, Puerto Rico and Virgin Islands)

F. DW7XXX Small Office and Business Internet Service Plans (.98m w/2w radio)

G17-5K
All States*

***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.

G17-5K (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.

HNS Customers (Outside Continental U.S.)				
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.

G16-8K (DW7XXX) Satellite Parameters

Orbital location	99° West
Transponder	8K
Frequency	1110 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.

G28-20K (DW7XXX) Satellite Parameters

Orbital location	89° West
Transponder	20K
Frequency	1359 MHz
Symbol Rate	15 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

Earthlink Customers (Outside Continental U.S.)				
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	1370MHz
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

Shared Gateway VAR and Agristar Customers and SME

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

HZN2-5K						
AL	GA	LA	MO	NJ	RI	VT
AR	IA	MA	MS	NM	SC	WI
CT	IL	MD	NC	NY	SD	WV
DC	IN	ME	ND	OH	TN	
DE	KS	MI	NE	OK	TX	
FL	KY	MN	NH	PA	VA	

G16-14K	
CO	UT
HI	V.I.
ID	WA
MT	WY
OR	Can
P.R.	

SM6-15K
AZ
CA
NV

HZN1-22K
AK**

- 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.

HZN2-5K (HN7XXX) Satellite Parameters

Orbital location	74° West
Transponder	5K
Frequency	1130 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

G16-14K (HN7XXX) Satellite Parameters

Orbital location	99° West
Transponder	14K
Frequency	1230 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

SM6-15K (HN7XXX) Satellite Parameters

Orbital location	113° 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

HZN1-22K (HN7XXX) Satellite Parameters

Orbital location	127° West
Transponder	22K
Frequency	1390 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

Shared Gateway VAR and Agristar Customers and SME

B. HN7XXX IA200 and IA300 Service Plans

HZN2-5K						
AL	GA	LA	MO	NJ	RI	VT
AR	IA	MA	MS	NM	SC	WI
CT	IL	MD	NC	NY	SD	WV
DC	IN	ME	ND	OH	TN	
DE	KS	MI	NE	OK	TX	
FL	KY	MN	NH	PA	VA	

G16-21K	
CO	UT
HI	V.I.
ID	WA
MT	WY
OR	Can
P.R.	

SM6-15K
AZ
CA
NV

HZN1-6K
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.

HZN2-5K (HN7XXX) Satellite Parameters

Orbital location	74° West
Transponder	5K
Frequency	1130 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

G16-21K (HN7XXX) Satellite Parameters

Orbital location	99° West
Transponder	21K
Frequency	1370 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

SM6-15K (HN7XXX) Satellite Parameters

Orbital location	113° 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

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

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

G16-13K
Continental U.S. and Canada
Hawaii
Virgin Islands
Puerto Rico

HZN1-6K
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

G17-6K						G16-20K	HZN1-22K
AL	FL	MA	ND	OK	VA	HI	AK**
AR	GA	MD	NE	PA	VT	ID	
AZ	IA	ME	NH	RI	WI	MT	
CA	IL	MI	NJ	SC	WV	OR	
CO	IN	MN	NM	SD	WY	WA	
CT	KS	MO	NV	TN		Can	
DC	KY	MS	NY	TX		V.I.	
DE	LA	NC	OH	UT		P.R.	

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

G17-6K (DW7XXX) Satellite Parameters

Orbital location	91° 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-S
DVB Program Num (User Data)	0
DVB Program Num (DNCC Data)	0

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)	Vertical
Transmit (Up)	Horizontal
DVB Mode	DVB-S
DVB Program Num (User Data)	0
DVB Program Num (DNCC Data)	0

HZN1-22K (DW7XXX) 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

Shared Gateway VAR and Agristar Customers
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E. DW7XXX IA200 and IA300 Service Plans

G17-5K
Continental U.S. and Canada

G28-20K
Hawaii
Puerto Rico
Central America
Caribbean

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

G17-5K (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

G28-20K (DW7XXX) Satellite Parameters

Orbital location	89° West
Transponder	20K
Frequency	1359 MHz
Symbol Rate	15 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: G17-5K 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