RF HAMDESIGN
Microwave Equipment & Parts

S-Band (DUAL) LINEAR DISH FEED F/D=0.45

(Custom made on request)

Model: **HORN-13/xxxx = Single Linear**
Model: **HORN-13/xxxx/DUAL = Dual Linear**
(**xxxx** MHz is Center frequency in MHz, update during order between: 2.3 to 2.4GHz)

S-Band Horn Antenna to illuminate a prime focus dish feed
This HORN Dish feed can be ordered custom made with operating freq from **2.0 to 2.5GHz**, useable Bandwidth is ~50MHz with acceptable return loss. (**Model: HORN-13-CUSTOM**)
Every horn is tested for swept returnloss data prior to shipment.
Serialized copies of the return loss data are shipped with each horn.
There is a bracket available on each model for mounting the horn in front of a dish (Bracket model: **CLX-01**)
The horns are constructed of brass and sealed for outdoor use.

Nominal RF Performance

Model HORN	Frequency (GHz)	Gain (dBi)	BW -10dB H&V Pol. (deg.)		Port-to-Port Isolation (dB)	Return Loss (dB)	Weight (Kg)
HORN-13 single	2.3-2.4	3	112	105	NA	>28	0.5
HORN-13 DUAL	2.3-2.4	3	112	105	>20	>28	0.5
HORN-13 CUSTOM MADE SINGLE*	2.0-2.5	3	112	105	NA	>28	0.5
HORN-13 CUSTOM MADE DUAL*	2.0-2.5	3	112	105	>20	>28	0.5

*The dish feed models, HORN-13 (custom-made) requires that the center frequency be specified at the time of ordering (between 2.0 and 2.5 GHz).

General Specifications

Nominal impedance	Max. RF Power	Connector	Dimensions	Bracket
50 Ohms	1000W	N-Female	~140x110mm (height x round)	CLX-01

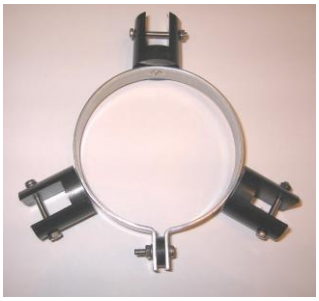
Pay some attention:
This dish feed is a high Q type feed, so this means, a unstable preamplifier (or convertor) which is connected close to the feed may force to start the preamplifier to oscillate and or get unstable.
The close connected preamplifier which is close to the Horn Dish feed should have a very well K factor. This K factor must be >1. Check the specifications of your preamplifier if you think you do hear no signals or strange noise / beeps signals all over the frequency range of your preamplifier.

Linear Dual Polarization H & V HORN Dish feeds:
We did label each port with H (Port #1) & V (Port #2) Polarization indication.
(this has in basic no value, you can place the HORN feed as you wish, in any case, if you remove the HORN, you can recognize afterwards the connected ports with the connected coax cables)

For completing the installation, it is recommend to drill a little hole (3mm) pointing downwards on the dish feed when it is mounted. This opposes the moisture formation inside the feed.
This Single polarization Linear dish feed can be used as a Horizontal or Vertical polarization dish feed, when the Connector is pointing downwards you will have Vertical polarization and when the connector is pointing side wards you will have Horizontal polarization. Same as for the Dual Mode model.

Note:

#1 If ordered a DISH feed with a DISH KIT, you have to assemble the feed bracket as on the picture right. All parts are in the KIT: FPF HORN CLX1. The ring included the plastic mount brackets must be placed over the Horn dish feed. Mounting screws are included.



Attached:

Return Loss or VSWR plot of Horn DISH FEED

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Return Loss vs. SWR

SWR	Return Loss (dB)	SWR	Return Loss (dB)	SWR	Return Loss (dB)
1.00	-	1.40	15.56	2.8	6.49
1.01	46.02	1.45	14.72	2.9	6.25
1.02	40.06	**1.50**	**13.98**	**3.0**	**6.02**
1.03	36.60	1.55	13.32	3.2	5.62
1.04	34.15	1.60	12.74	3.4	5.26
1.05	32.25	1.65	12.21	3.6	4.96
1.06	30.72	1.70	11.73	3.8	4.68
1.07	29.42	**1.75**	11.29	4.0	4.44
1.08	28.29	1.80	10.88	5.0	3.52
1.09	27.31	1.85	10.51	6.0	2.92
1.10	26.45	1.90	10.16	7.0	2.50
1.12	24.94	1.95	9.84	8.0	2.18
1.14	23.69	**2.0**	**9.54**	9.0	1.94
1.15	23.12	2.1	8.98	10.0	1.74
1.18	21.66	2.2	8.52	15.0	1.16
1.20	20.83	2.3	8.09	20.0	0.87
1.22	20.08	2.4	7.71	25.0	0.70
1.25	**19.09**	**2.5**	**7.36**	30.0	0.58
1.30	17.70	2.6	7.04	35.0	0.50
1.35	16.54	2.7	6.76	-	0

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