DVB Digital Video Broadcasting

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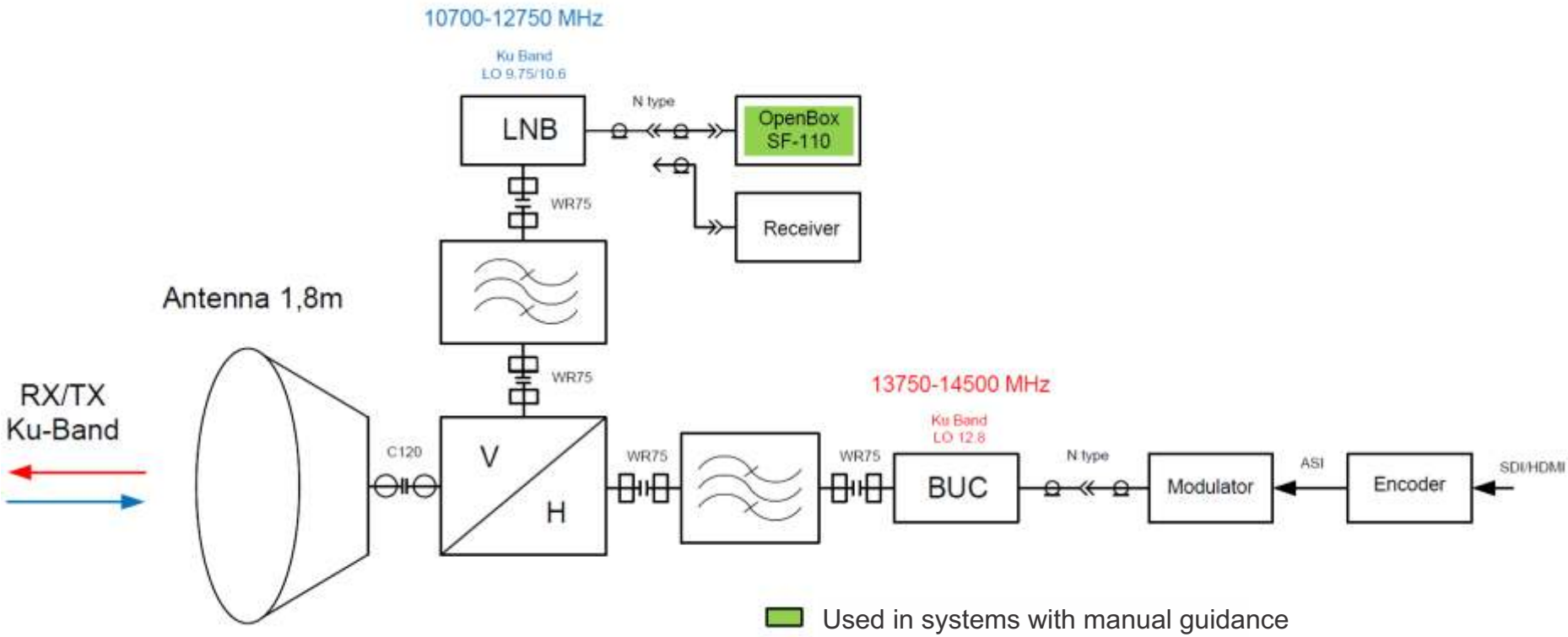
FlyAway System

1.8m offset antenna
Ku-band

The main characteristics of the system:

Ku-band, linear polarization;
Antenna diameter 1.8m offset;
Extended Ku-band LNB 10700-12750 MHz;
BUC 16W, 13750-14500 MHz;
Deployment and guidance in 25-30 minutes by two engineers;
An additional tool is not required.



Description

The Challenger Communications 1.8 Meter Quick-Deploy Antenna System incorporates precision assembled reflector panels with rugged Antenna Armor™ backing structure.
To ensure quality and performance, Challenger panels are inspected for R.M.S. accuracy using the latest in laser measurement techniques.
All reflectors and mounts are produced from high quality materials and are made in the USA.

Antenna Features

4(6) - Piece Aluminum Reflector
Pre-Assembled Tripod Base Mount w/Pull Pins
Ku-Band Feed System
Sturdy Boom Accommodates Outdoor Units
Adjustable Feet for Uneven Surfaces
Optional Lightweight Cases for Easy Transportation
Azimuth and Elevation Hand Crank
20 Minute Setup, No Tools Needed

Mechanical Specifications	
Antenna Optics	Single Offset
Mount Type	Elevation over Azimuth Tripod
Elevation Adjustment	0° to 90° Continuous Fine Adjustment
Azimuth Adjustment	+30° Fine, 360° Continuous

Reflector Case	88 lbs./40 kg	11 x 44 x 43 in. 28 x 112 x 109 cm
Mount Case	156 lbs./71 kg	69 x 29 x 19 in. 175 x 74 x 48 cm

RF & Antenna Specifications	Ku Linear	
	Receive	Transmit
Frequency (GHz)	10.7 - 12.75	13.75 - 14.5
Feed - 2 - Port Xpol		
Return Loss	17.7 dB typ	20 dB typ
Insertion Loss	0.3 dB typ	0.1 dB typ
Tx/Rx Isolation	40 dB	80 dB
Feed Interface	WR75	WR75
Efficiency	70%	70%
Cross Polarization On Axis	30 dB	30 dB
within 1 dB Beamwidth	22 dB	26 dB
Tx/Rx Sidelobe Level	Mainbeam< θ < 7°	29 - 25 log θ
	7° < θ < 9.2°	+8 dBi
	9.2°< θ < 48°	32 - 25 log θ
	48° < θ < 180°	-10
Midband Gain	45.3 dBi	47 dBi
Noise Temperature	55K @ 10°EL	-
	50K@ 30°EL	-

- The FlyAway satellite system will allow you to organize access to the satellite network almost anywhere. Immediately after deployment and guidance, you can connect to the Internet or a corporate network, receive and transmit data, organize audio and video conferences, broadcast video, and so on. Modular design and compact package make the antenna suitable for transportation. Ease of assembly and a convenient guidance system ensure the fastest possible deployment and communication.

- The FlyAway antenna can be supplied in two versions:

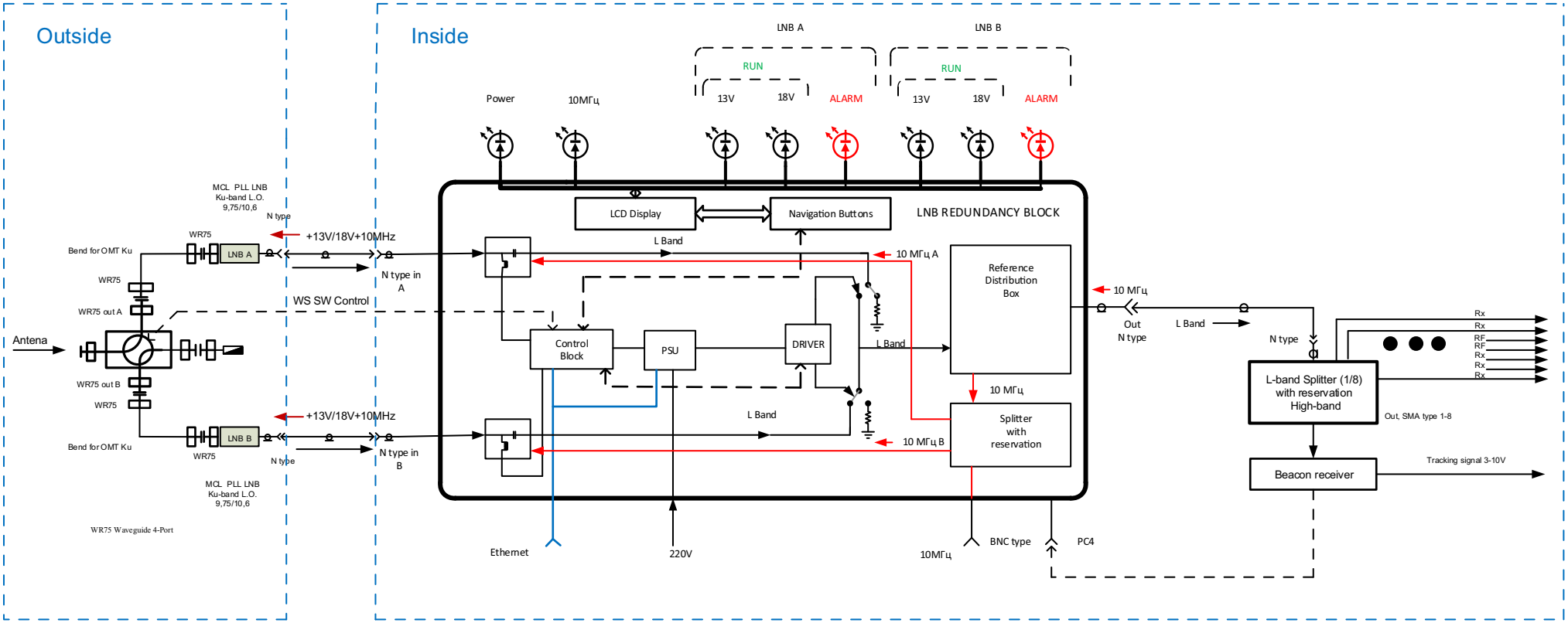
- manual guidance;
- automatic tuning to the required satellite.

The antenna with manual guidance has a compass and a bubble level as part of the turntable, with the help of which, together with adjustable supports, it is possible to set the receiving complex horizontally both on an uneven surface and in the field. The complex has a two-stage azimuth-elevation antenna guidance system with manual drives. Fast pointing in elevation within 0…90º and 0…360º in azimuth, as well as the polarization angle of ±90º ensures setting the required angles and capturing the signal from the satellite. The fine adjustment drives help to achieve the final pointing of the antenna and to achieve the maximum signal. The automatic satellite antenna uses an integrated GPS sensor, 3-D electronic compass and position sensors for elevation, azimuth and polarization angle. The turntable has a bubble level and a compass. The dual-mode beacon receiver built into the antenna controller supports beacon detection mode and DVB-S2 carrier detection mode, providing the highest level of reliability. The polarization control is also automatic. Finding the right satellite comes down to pressing a few buttons.

- The FlyAway antenna complex includes a feed, polarization selector, transmitter noise suppression filter, receive channel filter, LNB Ku-band 10.7-12.75 GHz, BUC 16 W 13.75-14.5 GHz, modulator and encoder, controller (for FlyAway cars).
- The composition of the antenna complex with auto-guidance, 5 (five) aluminum boxes:

1) reflector 990x560x685, 51kg;
2) rear support + cable 1390x570x665, 67kg;
3) support 1560x525x340, 49.5 kg;
4) irradiator 760x750x475, 57.5 kg;
5) swivel mechanism 580x485x670, 50kg.

The total weight of the antenna complex + aluminum boxes is 275kg.
The weight of additional wooden packaging for transportation is +155kg.
TOTAL WEIGHT ~430kg


Outside
Inside
LNB A
LNB B
RUN
RUN
Power
10МГц
13V
18V
ALARM
13V
18V
ALARM
MCL PLL LNB
Ku-band L.O.
9,75/10,6
N type
WR75
+13V/18V+10MHz
Bend for OMT Ku
LNB A
WR75
N type in
A
WR75 out A
WS SW Control
Antena
WR75 out B
WR75
+13V/18V+10MHz
Bend for OMT Ku
LNB B
WR75
N type
N type in
B
MCL PLL LNB
Ku-band L.O.
9,75/10,6
WR75 Waveguide 4-Port
LCD Display
Navigation Buttons
LNB REDUNDANCY BLOCK
L Band
10 МГц A
Control
Block
PSU
DRIVER
L Band
Reference
Distribution
Box
10 МГц
Out
N type
L Band
N type
L Band
10 МГц
Splitter
with
reservation
10 МГц B
L-band Splitter (1/8)
with reservation
High-band
Out, SMA type 1-8
Rx
Rx
RF
RF
Rx
Rx
Rx
Beacon receiver
Tracking signal 3-10V
Ethernet
220V
10МГц
BNC type
PC4