











## Vertical antennas

| Model   | Short description                              | Band, MHz                | Gain, dBi | Price, EUR  |
|---|--|--------------------------|-----------|---|
|   |  | HAM 4m                   |           |   |
| A5-4m  | Vertical, collinear, 6m                        | 70-71                    | 5.6       |    |
|   |  | LB 30-50 MHz             |           |   |
| V0 LB   | Vertical, collinear                            | 41-48.5                  | 2.2       | 45  |
| GPW 1LB(L)  | GP 2.7 m                                       | 37-43                    | 2.6       | 361   |
| GPW 1LB(H)  | GP 2.4 m                                       | 40-47                    | 2.6       | 361   |
| GP-1/4-42/47LB  | Vertical, 1/4 gp                               | 42/47                    | 1.2       | 374   |
|   |  | AVIA 118-136 MHz         |           |   |
| F2 AVIA   | Vertical, collinear, fiberglass                | 118-136                  | 4.5       |    |
| V0 AVIA   | 5/8λ GP 1.77 m                                 | 118-136                  | 2.15      | 88  |
|   |  | VHF 136-174 MHz          |           |   |
| GP 1/4 VHF  | 1/4 GP, 0.5 m                                  | 140-174                  | 2.5       | 57  |
| GP 5/8 VHF  | 5/8λ GP 1.3 m (analog GP3E)                    | 140-174                  | 3.35      | 42  |
| F1 VHF(L)   | Vertical, collinear, fiberglass, 2.2 m         | 141.5-152                | 2         | 258   |
| F1 VHF(M)   | Vertical, collinear, fiberglass, 2.2 m         | 146-163                  | 2         | 258   |
| F1 VHF(H)   | Vertical, collinear, fiberglass, 2.2 m         | 160-175                  | 2         | 258   |
| A5-VHF  | Vertical, collinear                            | 144-174                  | 4.5       | 53  |
| A7 VHF  | Vertical, collinear antenna                    | 144-174                  | 7.8       |    |
| F2 VHF (L)  | Vertical, collinear, fiberglass, 3.2 m         | 141-153                  | 5.15      | 315   |
| F2 VHF(LM)  | Vertical, collinear, fiberglass, 3.2 m         | 146-158                  | 5.15      | 315   |
| F2 VHF (M)  | Vertical, collinear, fiberglass, 3.2 m         | 154-165                  | 5.15      | 315   |
| F2 VHF (H)  | Vertical, collinear, fiberglass, 3.2 m         | 163-174                  | 5.15      | 315   |
| F2 VM   | Vertical, collinear, fiberglass, 3.2 m         | 148-151/169-173          | 5.15      | 330   |
|   |  | ALT 300-360 MHz          |           |   |
| F1 ALT  | Vertical, collinear, fiberglass, 1.2 m         | 300-346                  | 2.15      | 236   |
| A5 ALT  | Vertical, collinear, fiberglass 1.6 m          | 292-305/334-349          | 4.5       | 69  |
| A4 ALT (L)  | Vertical, collinear, fiberglass, 4.2 m         | 297-310                  | 8         | 274   |
| A4 ALT (H)  | Vertical, collinear, fiberglass, 4.2 m         | 335-346                  | 9         | 274   |
|   |  | TETRA 380-420 MHz        |           |   |
| SS-1T   | Indoor, ceiling                                | 380-400                  | 0         | 61  |
| F5-T  | Vertical, collinear, fiberglass                | 380-400                  | 5         | 164   |
| F8-T  | Vertical, collinear, fiberglass                | 380-400                  | 8         |  |
| F10-T   | Vertical, collinear, fiberglass                | 380-400                  | 10        |  |
|   |  | UHF 400-490 MHz          |           |   |
| A6 UHF(L)-2   | Vertical, collinear, fiberglass, 4.1 m         | 400-407                  | 9.65      | 264   |
| A6 UHF(L)-3   | Vertical, collinear, fiberglass, 3.2 m         | 408-418                  | 9.65      | 264   |
| A6 UHF(L)-4   | Vertical, collinear, fiberglass, 3.2 m         | 416-427                  | 9.65      | 264   |
| A6 UHF(M)-5   | Vertical, collinear, fiberglass, 3.2 m         | 420-435                  | 9.65      | 264   |
| A6 UHF(M)-6   | Vertical, collinear, fiberglass, 3.2 m         | 435-454                  | 9.65      | 264   |
| A6 UHF(M)-7   | Vertical, collinear, fiberglass, 3.2 m         | 450-467                  | 9.65      | 264   |
| A6 UHF(H)-8   | Vertical, collinear, fiberglass, 3.2 m         | 469-485                  | 9.65      | 264   |
| A10 UHF   | Vertical, collinear, fiberglass, 6.3 m         | 433-440                  | 12.15     | 386   |
| A3-CDMA   | Vertical, collinear, PVC grey, 0.84 m          | 453-467                  | 3         | 29  |
| A3-70cm   | Vertical, collinear, PVC grey, 0.84 m          | 430-458                  | 3         | 29  |
| SS-1CDMA  | Indoor, ceiling                                | 453-467                  | 0         | 61  |
| A5 UHF(L)-1   | Vertical, collinear, fiberglass                | 403-417                  | 5.5       | 96  |
| A5 UHF(L)-2   | Vertical, collinear, fiberglass                | 412-422                  | 5.5       | 96  |
| A5 UHF(L)-3   | Vertical, collinear, fiberglass                | 417-430                  | 5.5       | 96  |
| A5 UHF(M)-4   | Vertical, collinear, fiberglass                | 430-440                  | 5.5       | 96  |
| A5 UHF(M)-5   | Vertical, collinear, fiberglass                | 440-450                  | 5.5       | 96  |
| A5 UHF(H)-6   | Vertical, collinear, fiberglass                | 450-470                  | 5.5       | 96  |
|   |  | DVB 174-230, 470-862 MHz |           |   |
| F7-DVB  | Vertical transmitter DVB antenna (10 channels) | 550-650                  | 6.8-7.1   |  |
| A9-514  | Vertical transmitter DVB antenna (1 channel)   | 500-520                  | 9.8       | 275   |
|   |  | 868 MHz                  |           |   |
| A6-868  | Vertical, collinear, fiberglass                | 864-876                  | 8         | 88  |
| A10-23cm-H  | Vertical, collinear, fiberglass                | 1270-1300                | 10.4      |  |



## Collinear gain antenna A5-4m 70-71 MHz

107497, Moscow Chernicinsky pr-d 7/1  
Tel.: (495) 775-43-19, 462-44-14  
Tel./fax: 462-44-14  
E-mail: radial@radial.ru  
www.radial.ru



### Electrical specifications

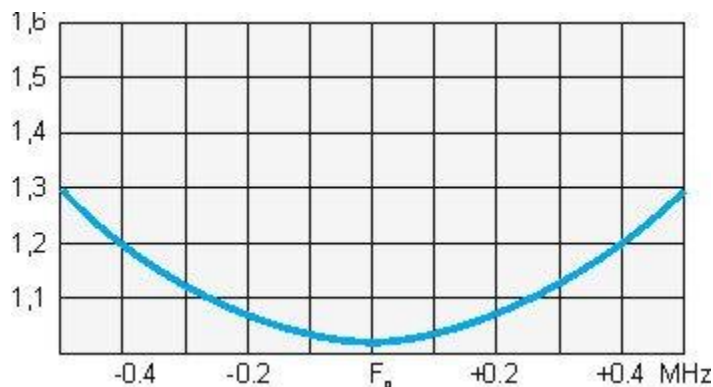
|                                |       |
|--------------------------------|-------|
| Model                          | A5-4m |
| Operating frequency band, MHz  | 70-71 |
| VSWR, not more than            | 1.5   |
| Gain, dBi                      | 5.6   |
| Polarization                   | V     |
| Sector in vertical plane, -3dB | 36°   |
| Impedance, Ohm                 | 50    |
| Max. power input, W            | 200   |
| Lightning protection           | Yes   |
| Adjustable                     | Yes   |

### Mechanical specifications

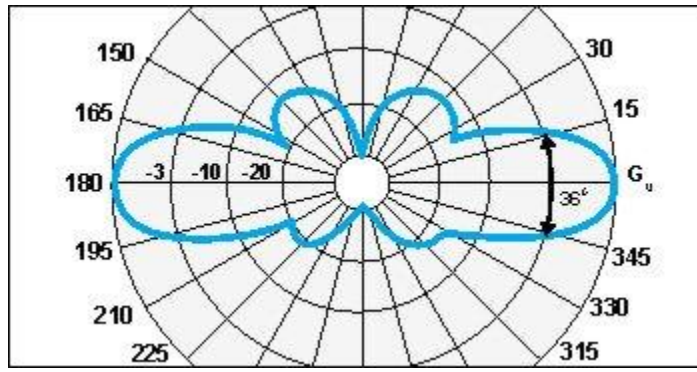
|                          |                 |
|--------------------------|-----------------|
| Model                    | A5-4m           |
| Weight, kg               | 5.2             |
| Length, mm               | 6000            |
| Construction material    | Aluminium alloy |
| Mast diametr, mm         | 50-70           |
| Rated wind velocity, m/s | 30              |
| Temperature range, °C    | from -50 to +50 |
| Connector                | N-female        |

Such antenna still did not see 4 meters band! Owing to collinear scheme with central feed and to two floors radials the antenna has a maximum of radiation along a ground surface and the increased gain 5,8 dBi. This antenna well use for repeaters building, beacons and DX QSO.

VSWR diagram A5-4m



E-plane pattern A5-4m



2011



## 41-48.5 MHz Vertical antenna V0 LB

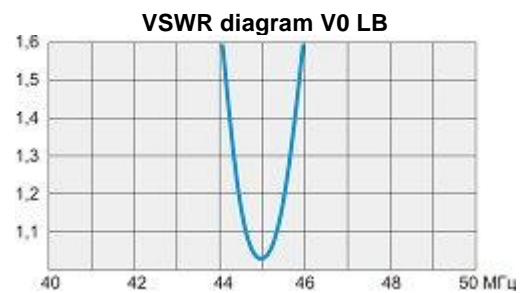
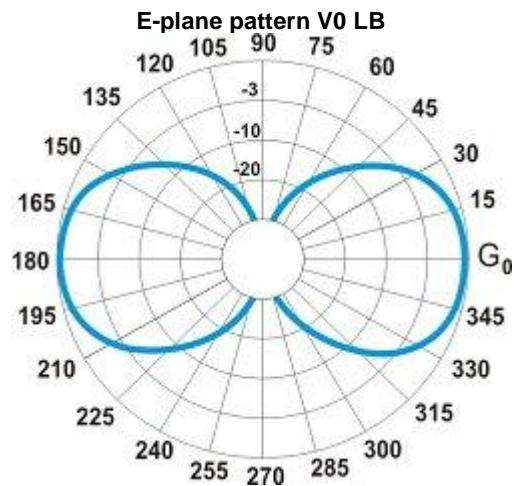


### Electrical specifications

|                                 |             |
|---------------------------------|-------------|
| Model                           | V0 LB       |
| Operating frequency band, MHz   | 41-4.5      |
| VSWR, not more than             | 1.5         |
| Gain, dBi                       | 2.2         |
| Sector in vertical plane , -3dB | 78°         |
| Impedance, Ohm                  | 50          |
| Max. power input, W             | 200         |
| Lightning protection            | DC grounded |
| Adjustable                      | need        |

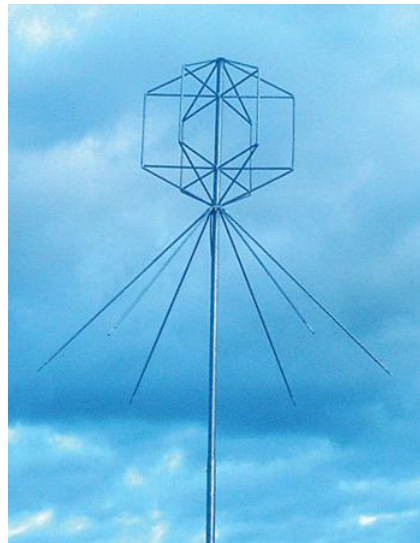
### Mechanical specifications

|                          |                 |
|--------------------------|-----------------|
| Model                    | V0 LB           |
| Height/Length, mm        | 3950            |
| Mast diametr, mm         | 35-70           |
| Rated wind velocity, m/s | 40              |
| Temperature range, °C    | from -50 to +50 |
| Connector                | SO-239          |





## 37-47 MHz Vertical antenna GPW 1LB



Electrical specifications

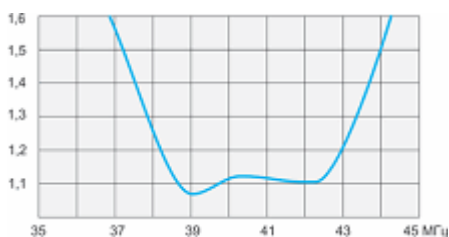
| Model                         | GPW 1LB(L) | GPW 1LB(H) |
|-------------------------------|------------|------------|
| Operating frequency band, MHz | 37-43      | 40-47      |
| VSWR, not more than           |            | 1.5        |
| Gain, dBi                     |            | 3.35       |
| Impedance, Ohm                |            | 50         |
| Max. power input, W           |            | 100        |
| Lightning protection          |            | yes        |
| Adjustable                    |            | not need   |

Mechanical specifications

| Model                    | GPW 1LB(L) | GPW 1LB(H)      |
|--------------------------|------------|-----------------|
| Height/Length, M         | 2.7        | 2.4             |
| Mast diameter, mm        |            | 50-110          |
| Construction material    |            | Aluminium alloy |
| Rated wind velocity, m/s |            | 25              |
| Temperature range, °C    |            | from -50 to +50 |
| Connector                |            | N-female        |

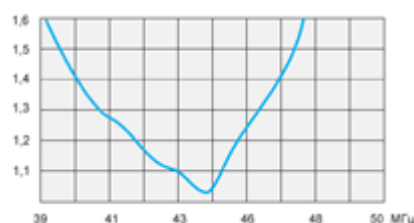
The financial revival of company owners has led to increased demand for wideband antennas that allow working with simplex and duplex radio stations with big frequency separation between the channels. After all, the ordinary spike antennas have the bandwidth not larger than 800 KHz what often appears to be insufficient for one-channel duplex wireless station. Our new product - a wide-band quarter-wave antenna GPW-1LB - allows "loading into it" the multiple channels within the range of 7 MHz.

**GPW 1LB(L)**

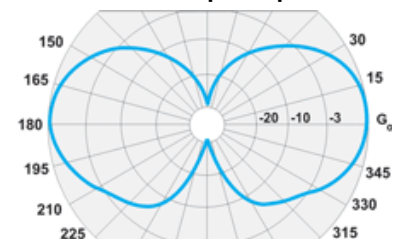


**VSWR diagram**

**GPW 1LB(H)**



**GPW 1LB E-plane pattern**





## 42/47 MHz Vertical antenna GP-1/4- 42/47LB

107497, Moscow Chernicinsky pr-d 7/1  
Tel.: (495) 775-43-19, 462-44-14  
Tel./fax: 462-44-14  
E-mail: radial@radial.ru  
www.radial.ru



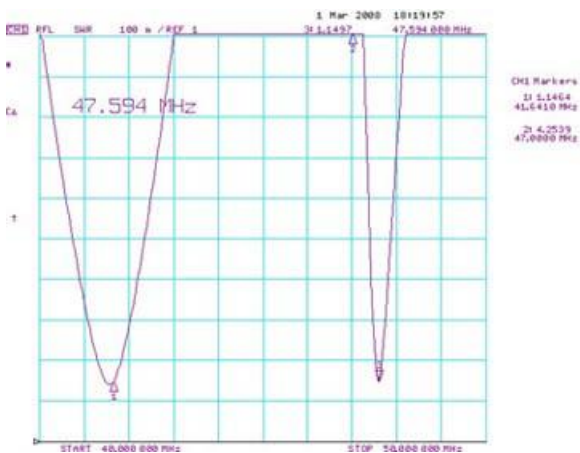
### Electrical specifications

|                               |                |
|-------------------------------|----------------|
| Model                         | GP-1/4-42/47LB |
| Operating frequency band, MHz | 42/47          |
| Frequency bandwidth, MHz      | 1-1.2          |
| VSWR, not more than           | 1.5            |
| Gain, dBi                     | 1.2            |
| Impedance, Ohm                | 50             |
| Max. power input, W           | 200            |
| Lightning protection          | DC grounded    |
| Adjustable                    | need           |

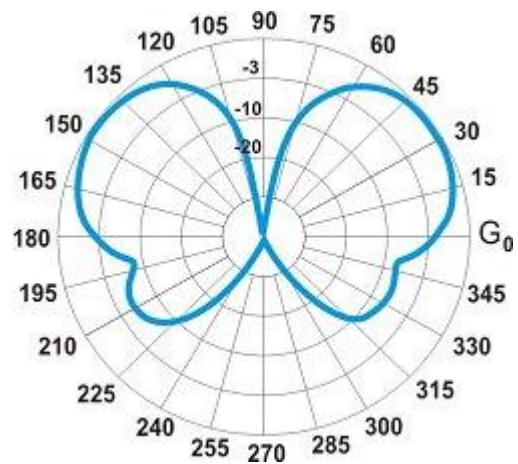
### Mechanical specifications

|                          |                              |
|--------------------------|------------------------------|
| Model                    | GP-1/4-42/47LB               |
| Height/Length, M         | 4.5                          |
| Mast diameter, mm        | to 110 mm (mount kit CP-110) |
| Construction material    | Aluminium alloy              |
| Rated wind velocity, m/s | 25                           |
| Temperature range, °C    | from -50 to +50              |
| Connector                | N-female                     |

**GP-1/4-42/47LB VSWR diagram**



**GP-1/4-42/47LB E-plane pattern**





## 118-136 MHz Vertical antenna F2 AVIA



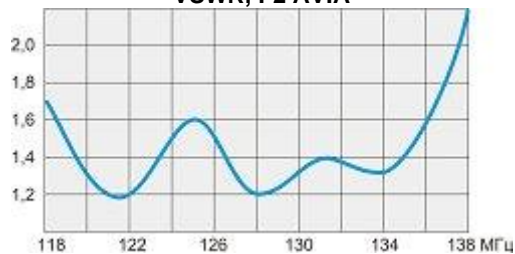
### Electrical specifications

|                                |         |
|--------------------------------|---------|
| Model                          | F2 AVIA |
| Operating Frequency band, MHz  | 118-136 |
| VSWR, not more than            | 1.7     |
| Gain, dBi                      | 4.5     |
| Sector in vertical plane, -3dB | 38°     |
| Impedance, Ohm                 | 50      |
| Max. Power input, W            | 200     |
| Lightning protection           | yes     |
| Adjustable                     | no need |

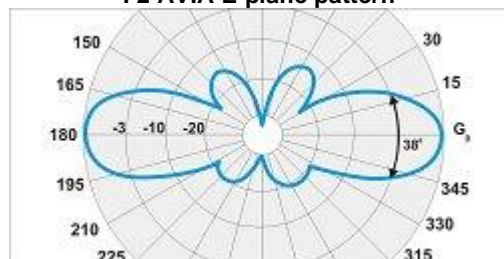
### Mechanical specifications

|                          |                        |
|--------------------------|------------------------|
| Model                    | F2 AVIA                |
| Weight, kg               | 10                     |
| Height/Length, m         | 4                      |
| Mast diametr, mm         | 50-110                 |
| Radome                   | fiberglass diam.110 mm |
| Rated Wind Velocity, m/s | 40                     |
| Temperature Range, °C    | -50 to +50             |
| Connector                | N-female               |

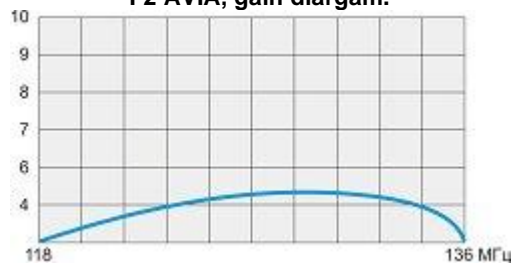
VSWR, F2 AVIA



F2 AVIA E-plane pattern



F2 AVIA, gain diagram.





## 118-136 MHz Vertical antenna V0 AVIA



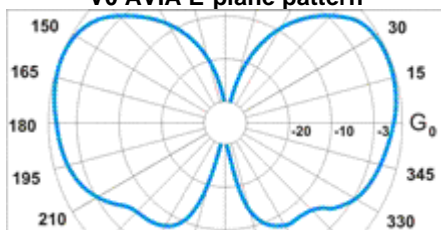
### Electrical specifications

|                                |         |
|--------------------------------|---------|
| Model                          | V0 AVIA |
| Operating frequency band, MHz  | 118-136 |
| VSWR, not more than            | 1.5     |
| Gain, dBi                      | 2.15    |
| Sector in vertical plane, -3dB | 80°     |
| Impedance, Ohm                 | 50      |
| Max. power input, W            | 100     |
| Lightning protection           | yes     |
| Adjustable                     | need    |

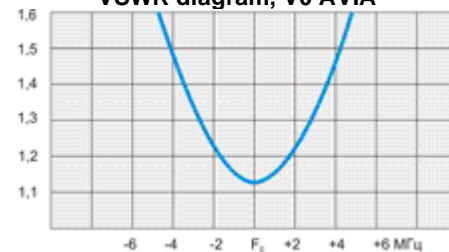
### Mechanical specifications

|                          |                 |
|--------------------------|-----------------|
| Model                    | V0 AVIA         |
| Weight, kg               | 2.05            |
| Height/Length, mm        | 1770            |
| Mast diametr, mm         | 25-55           |
| Rated wind velocity, m/s | 40              |
| Temperature range, °C    | from -50 to +50 |
| Connector                | N-female        |

V0 AVIA E-plane pattern



VSWR diagram, V0 AVIA





## 140-174 MHz Vertical antenna GP 1/4 VHF

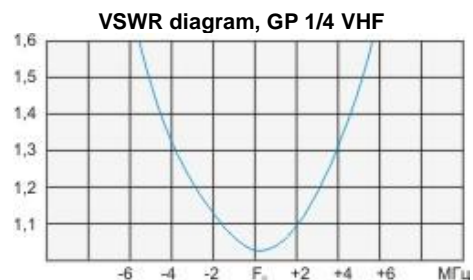
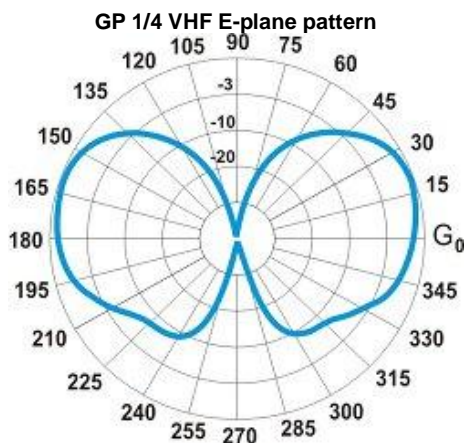


Electrical specifications

|                               |            |
|-------------------------------|------------|
| Model                         | GP 1/4 VHF |
| Operating Frequency band, MHz | 140-174    |
| Frequency bandwidth, MHz      | 10         |
| VSWR, not more than           | 1.5        |
| Gain, dBi                     | 2.5        |
| Impedance, Ohm                | 50         |
| Max. Power input, W           | 200        |
| Lightning protection          | absent     |
| Adjustable                    | no need    |

Mechanical specifications

|                          |                                 |
|--------------------------|---------------------------------|
| Model                    | GP 1/4 VHF                      |
| Weight, kg               | 0.7                             |
| Height/Length, M         | 0.5                             |
| Mast diametr, mm         | 25-55 (CP-55) or 35-70 (CPK-70) |
| Construction material    | brass                           |
| Rated Wind Velocity, m/s | 40                              |
| Temperature Range, °C    | from -50 to +50                 |
| Connector                | N-female                        |





## 140 - 174 MHz Vertical antenna GP 5/8 VHF



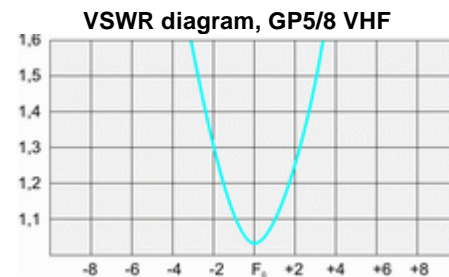
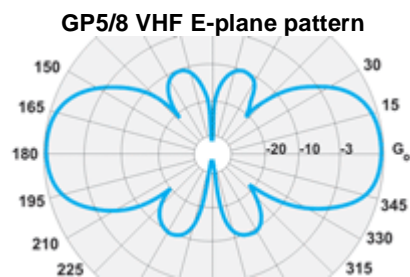
### Electrical specifications

|                               |            |
|-------------------------------|------------|
| Model                         | GP 5/8 VHF |
| Operating Frequency band, MHz | 140-174    |
| Frequency bandwidth, MHz      | 5          |
| VSWR, not more than           | 1.5        |
| Gain, dBi                     | 3.35       |
| Impedance, Ohm                | 50         |
| Max. Power input, W           | 100        |
| Lightning protection          | yes        |
| Adjustable                    | needed     |

### Mechanical specifications

|                          |                 |
|--------------------------|-----------------|
| Model                    | GP 5/8 VHF      |
| Weight, kg               | 0295            |
| Height/Length, M         | 1.02 to 1.45    |
| Mast diameter, mm        | 25-55           |
| Construction material    | aluminium alloy |
| Rated Wind Velocity, m/s | 40              |
| Temperature Range, °C    | from -50 to +50 |
| Connector                | SO-239          |

Antenna GP5/8 has quite a big number of analogues: GP3E, Sirio, Alan and others. This indicates its popularity, especially among radioamateurs, since it is very easy to adjust and suits perfectly for any telecommunications systems without particular operational requirements. At present time these antennas are produced in new ruggedized modification.





## 141.5-175 MHz Vertical antennas F1 VHF



### Electrical specifications

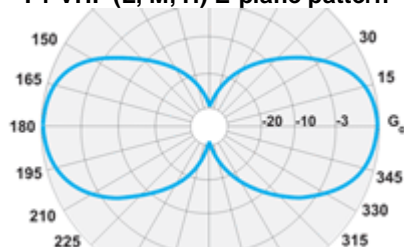
| Model                          | F1 VHF(L) | F1 VHF(M) | F1 VHF(H) |
|--------------------------------|-----------|-----------|-----------|
| Operating frequency band, MHz  | 141.5-152 | 146-163   | 160-175   |
| VSWR, not more than            |           | 1.5       |           |
| Gain, dBi                      |           | 2         |           |
| Sector in vertical plane, -3dB |           | 70°       |           |
| Impedance, Ohm                 |           | 50        |           |
| Max. power input, W            |           | 200       |           |
| Lightning protection           |           | yes       |           |
| Adjustable                     |           | no need   |           |

### Mechanical specifications

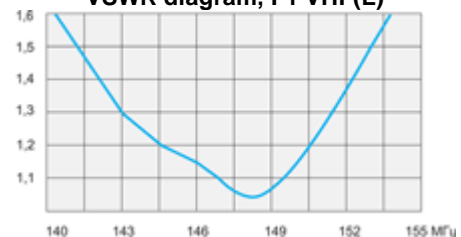
| Model                             | F1 VHF(L) | F1 VHF(M)       | F1 VHF(H) |
|-----------------------------------|-----------|-----------------|-----------|
| Weight, no more, kg               |           | 3               |           |
| Height/Length, mm                 |           | 2200            |           |
| Mast diameter, mm                 |           | 50-110          |           |
| Radome                            |           | fiberglass      |           |
| Rated wind velocity, m/s          |           | 40              |           |
| Wind loading area, m <sup>2</sup> |           | 0.132           |           |
| Load of side wind 40 m/s, H       |           | 180             |           |
| Temperature range, °C             |           | from -50 to +50 |           |
| Connector                         |           | N-female        |           |

Antenna F1 VHF has less gain than F2 VHF, but in contrast to the popular antennas of Anli and Diamond companies it possesses more reliable design - its diameter is 2 times larger, the case made of glass-fiber material is more thick, the mounting is massive and the counterpoise are replaced for the cutting balancing barrel hidden inside. Thus, it is not risky to install antenna F1 VHF in most severe climate conditions, "hanging" on it the data transmission or any professional duplex communications.

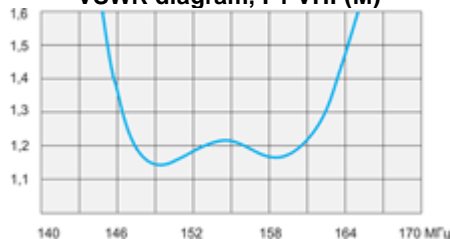
**F1 VHF (L, M, H) E-plane pattern**



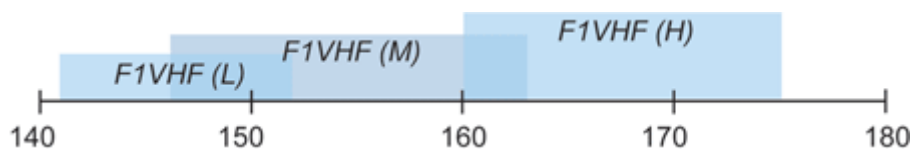
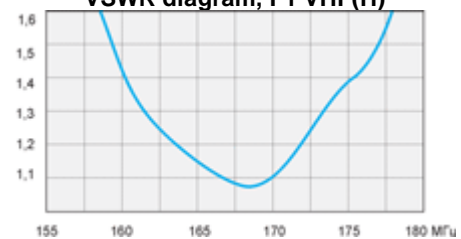
**VSWR diagram, F1 VHF(L)**



**VSWR diagram, F1 VHF(M)**



**VSWR diagram, F1 VHF(H)**





## 144-174 MHz Vertical antenna A5 VHF

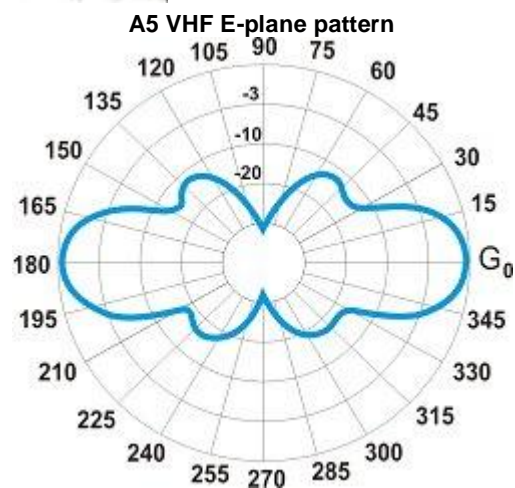
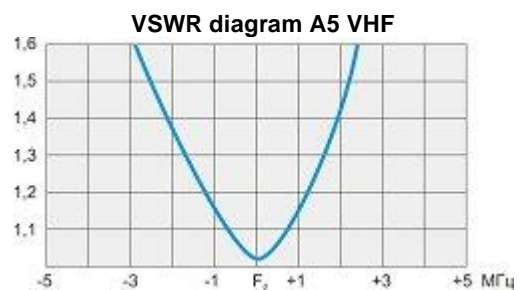
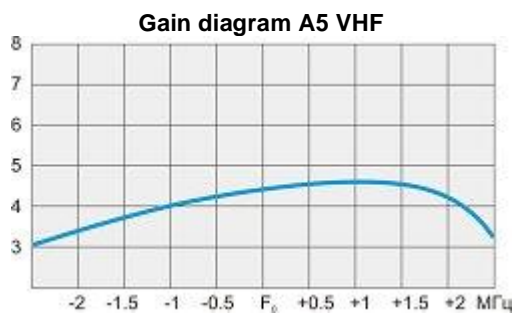


### Electrical specifications

|                               |             |
|-------------------------------|-------------|
| Model                         | A5 VHF      |
| Operating Frequency band, MHz | 144-174     |
| Frequency bandwidth, MHz      | 5           |
| VSWR, not more than           | 1.5         |
| Gain, dBi                     | 4.5         |
| Impedance, Ohm                | 50          |
| Max. Power input, W           | 200         |
| Lightning protection          | DC grounded |
| Adjustable                    | need        |

### Mechanical specifications

|                          |                 |
|--------------------------|-----------------|
| Model                    | A5 VHF          |
| Height/Length, M         | 2.5             |
| Mast diameter, mm        | 35-70 (CPK-70)  |
| Construction material    | brass           |
| Rated Wind Velocity, m/s | 40              |
| Temperature Range, °C    | from -50 to +50 |
| Connector                | N-female        |





# 144-174 MHz Vertical antenna A7 VHF

107497, Moscow Chernicinsky pr-d 7/1  
Tel.: (495) 775-43-19, 462-44-14  
Tel./fax: 462-44-14  
E-mail: radial@radial.ru  
www.radial.ru



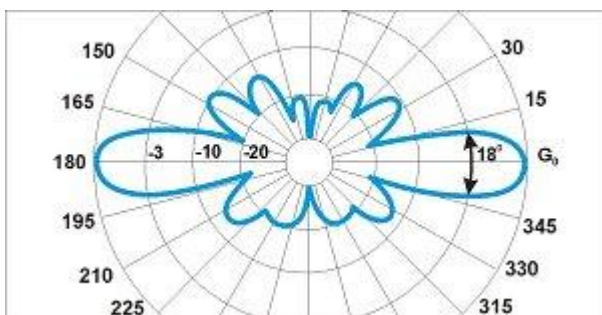
## Electrical specifications

|                               |          |
|-------------------------------|----------|
| Model                         | A7 VHF   |
| Operating frequency band, MHz | 144-174  |
| Gain, dBi                     | 7.8      |
| VSWR, not more than           | 1.5      |
| Polarization                  | vertical |
| Max. power input, W           | 50       |
| H-plane beamwidth             | 360°     |
| E-plane beamwidth             | 18°      |
| Impedance, Ohm                | 50       |

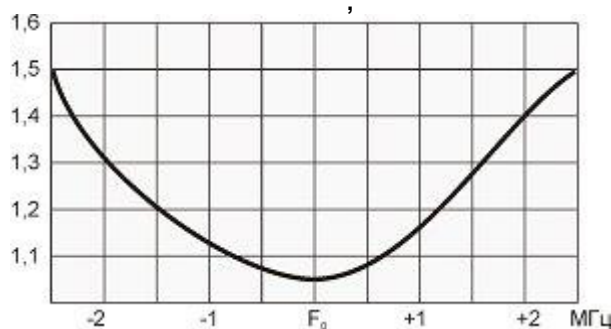
## Mechanical specifications

|                          |                    |
|--------------------------|--------------------|
| Model                    | A7 VHF             |
| Dimensions (LxWxH), mm   | 30x25x5800         |
| Weight, kg               | 0.9                |
| Rated wind velocity, m/s | 40                 |
| Radiator                 | brass              |
| Radome                   | white fiberglass   |
| Mounting                 | On a mast 25-55 mm |
| Connector                | N-female           |

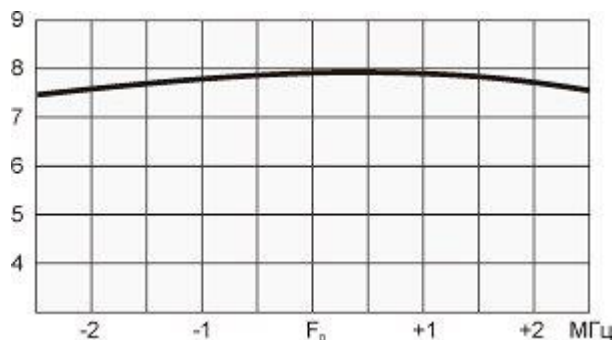
A7 VHF antenna E-plane pattern



VSWR diagram A7 VHF



Gain diagram A7 VHF





## 141-174 MHz Vertical antennas F2 VHF (L, LM, M, H)

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Tel.: (495) 775-43-19, 462-44-14  
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Electrical specifications

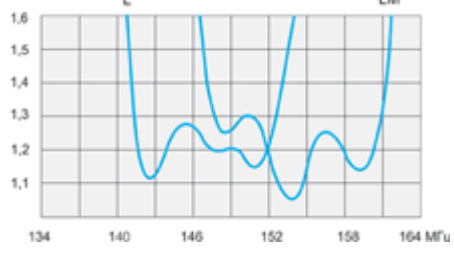
| Model                           | F2 VHF (L) | F2 VHF(LM) | F2 VHF (M) | F2 VHF (H) |
|---------------------------------|------------|------------|------------|------------|
| Operating frequency band, MHz   | 141-153    | 146-158    | 154-165    | 163-174    |
| VSWR, not more than             |            |            | 1.5        |            |
| Gain, dBi                       |            |            | 5.15       |            |
| Sector in vertical plane , -3dB |            |            | 38°        |            |
| Impedance, Ohm                  |            |            | 50         |            |
| Max. power input, W             |            |            | 400        |            |
| Lightning protection            |            |            | yes        |            |
| Adjustable                      |            |            | no need    |            |

Mechanical specifications

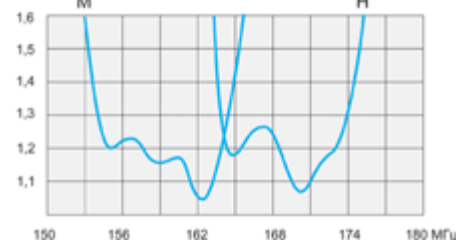
| Model                             | F2 VHF (L) | F2 VHF(LM) | F2 VHF (M)                    | F2 VHF (H) |
|-----------------------------------|------------|------------|-------------------------------|------------|
| Weight, kg                        |            |            | 3.15                          |            |
| Height/Length, mm                 |            |            | 3160                          |            |
| Mast diametr, mm                  |            |            | 50-110                        |            |
| Radome                            |            |            | fiberglass                    |            |
| Rated wind velocity, m/s          |            |            | 40                            |            |
| Wind loading area, m <sup>2</sup> |            |            | 0.16                          |            |
| Load of side wind 40 m/s, H       |            |            | 180                           |            |
| Temperature range, °C             |            |            | from -50 to +50               |            |
| Connector                         |            |            | N-female, (7/16 DIN-optional) |            |

Antenna F2 VHF is used in telecommunications systems, which are required to provide operation in satisfactory wide bandwidth at omni directional pattern. This antenna will be irreplaceable for operation of single-feeder design trunking and conventional repeaters. Radioparent, weatherproof, high-strength radome is made using fiberglass material on polyester binding substances. The radome has polyurethane coating protecting from ultraviolet radiation and icing. Antenna has protection from lightning and does not demand additional adjustment.

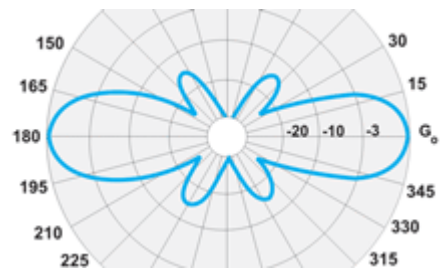
VSWR diagram, F2 VHF(L), F2 VHF(LM)



VSWR diagram, F2 VHF(M), F2 VHF(H)

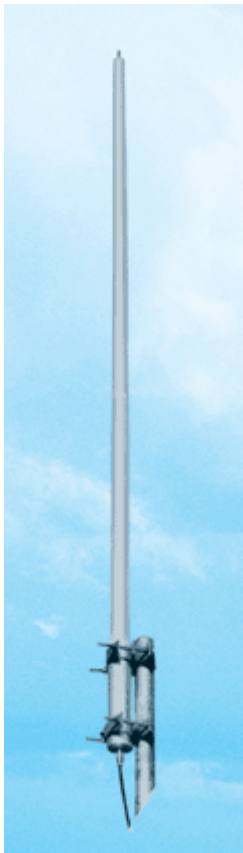


F2 VHF (L, M, H) E-plane pattern





## 148/172 MHz Vertical antenna F2 VM



### Electrical specifications

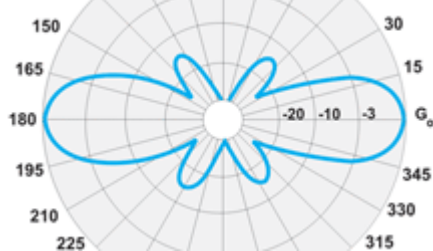
|                                |                 |
|--------------------------------|-----------------|
| Model                          | F2 VM           |
| Operating Frequency band, MHz  | 148-151/169-173 |
| VSWR, not more than            | 2               |
| Gain, dBi                      | 5.15            |
| Sector in vertical plane, -3dB | 38°             |
| Impedance, Ohm                 | 50              |
| Max. Power input, W            | 400             |
| Lightning protection           | yes             |
| Adjustable                     | no need         |

### Mechanical specifications

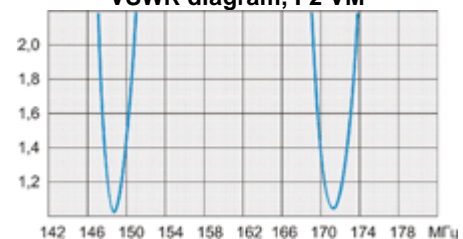
|                                   |                       |
|-----------------------------------|-----------------------|
| Model                             | F2 VM                 |
| Weight, kg                        | 3,15                  |
| Height/Length, mm                 | 3160                  |
| Mast diametr, mm                  | 50-110                |
| Radome                            | fiberglass diam.50 mm |
| Rated Wind Velocity, m/s          | 40                    |
| Wind Loading area, m <sup>2</sup> | 0,16                  |
| Load of side wind 40 m/s, H       | 180                   |
| Temperature Range, °C             | -50 to +60            |
| Connector                         | N-female              |

Operating frequency band of 148 and 172 MHz enables easy implementation of radio repeater telecommunications systems. Our company offers to the market new unique collinear antenna, designed specifically for use in 148/172 MHz telecommunications systems. It has two resonance points at the frequency band of 148-149 and 171-172 MHz (insignificant factory readjustment is allowable). Two active dipoles, jacketed into durable fiberglass radome, provide 3 dBd gain due to phasing. Thus you can make perfect single or multichannel antenna-feeder circuit with circular radiation and high selectivity and decoupling level between TX and RX circuits using this antenna together with duplexer DPF5-3V, DPF2-6VM or MDF-6VM.

**F2 VM E-plane pattern**



**VSWR diagram, F2 VM**





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## 300-346 MHz Vertical antenna F1 ALT



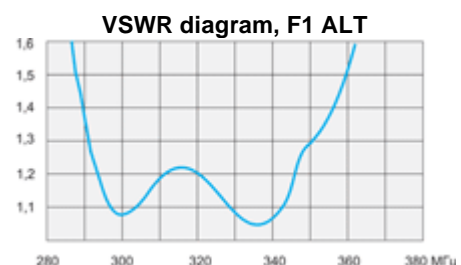
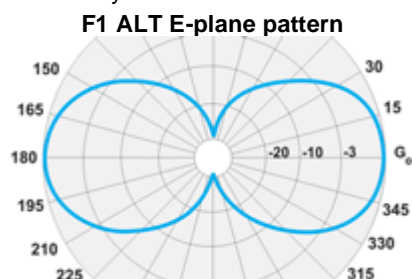
### Electrical specifications

|                                |         |
|--------------------------------|---------|
| Model                          | F1 ALT  |
| Operating frequency band, MHz  | 300-346 |
| VSWR, not more than            | 1.5     |
| Gain, dBi                      | 2.15    |
| Sector in vertical plane, -3dB | 70°     |
| Impedance, Ohm                 | 50      |
| Max. power input, W            | 200     |
| Lightning protection           | yes     |
| Adjustable                     | no need |

### Mechanical specifications

|                                   |                 |
|-----------------------------------|-----------------|
| Model                             | F1 ALT          |
| Weight, no more, kg               | 2               |
| Height/Length, mm                 | 1200            |
| Mast diameter, mm                 | 50-110          |
| Radome                            | fiberglass      |
| Rated wind velocity, m/s          | 40              |
| Wind loading area, m <sup>2</sup> | 0.084           |
| Load of side wind 40 m/s, H       | 100             |
| Temperature range, °C             | from -50 to +50 |
| Connector                         | N-female        |

The comprehensive development of the range of 300 MHz has demanded the elaboration of antenna for fully-duplex operation. Antenna F1 ALT is a collinear construction with one wide-band irradiator and cutting barrels disposed in coaxial manner what allows creating an ideally circular radiation pattern at relatively high gain and broad bandwidth of the frequencies of operation. The antenna has a rigid fiberglass weather-proof radome and is replenished with reliable steel buckles CP-110. F1 ALT can be used in very hard weather conditions. This antenna is of interest for completing the communication systems of gas-and-oil-producing industry, in telemetric systems and in the river fleet equipment.





## 292-305/334-349 MHz Vertical antenna A5 ALT



### Electrical specifications

|                               |                 |
|-------------------------------|-----------------|
| Model                         | A5 ALT          |
| Operating frequency band, MHz | 292-305/334-349 |
| Gain, dBi                     | 4.5             |
| VSWR, not more than           | 1.5             |
| Polarization                  | vertical        |
| Max. power input, W           | 200             |
| H-plane beamwidth             | 360°            |
| E-plane beamwidth             | 51°             |
| Impedance, Ohm                | 50              |

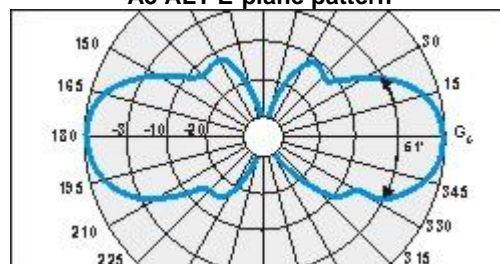
### Mechanical specifications

|                          |                    |
|--------------------------|--------------------|
| Model                    | A5 ALT             |
| Dimensions (LxWxH), mm   | 1640x35x35         |
| Weight, kg               | 0.85               |
| Rated wind velocity, m/s | 40                 |
| Radiator                 | brass              |
| Radome                   | white fiberglass   |
| Mounting                 | On a mast 35-70 mm |
| Connector                | N-female           |

A5 ALT VSWR diagram



A5 ALT E-plane pattern





## 300-346 MHz Vertical antennas A4 ALT



### Electrical specifications

| Model                          | A4 ALT (L) | A4 ALT (H) |
|--------------------------------|------------|------------|
| Operating frequency band, MHz  | 297-310    | 335-346    |
| VSWR, not more than            |            | 1.5        |
| Gain, dBi                      | 8          | 9          |
| Sector in vertical plane, -3dB | 24°        | 20°        |
| Impedance, Ohm                 |            | 50         |
| Max. power input, W            |            | 200        |
| Lightning protection           |            | yes        |
| Adjustable                     |            | no need    |

### Mechanical specifications

| Model                             | A4 ALT (L) | A4 ALT (H)                    |
|-----------------------------------|------------|-------------------------------|
| Weight, kg                        |            | not more 5                    |
| Height/Length, mm                 |            | 4120                          |
| Mast diametr, mm                  |            | 50-110                        |
| Radome                            |            | fiberglass                    |
| Rated wind velocity, m/s          |            | 40                            |
| Wind loading area, m <sup>2</sup> |            | 0.246                         |
| Load of side wind 40 m/s, H       |            | 180                           |
| Temperature range, °C             |            | from -50 to +50               |
| Connector                         |            | N-female, (7/16 DIN-optional) |

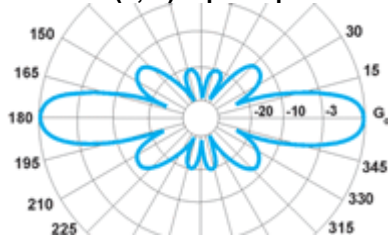
Antenna A4 ALT represents collinear construction with four active components, providing perfect circular pattern at high gain (9 dB) and wide operating frequency band.

Radioparent weather-proof radome is made on the basis of fiberglass material. Radome has polished fiberglass coating, which protects from ultraviolet radiation and icing.

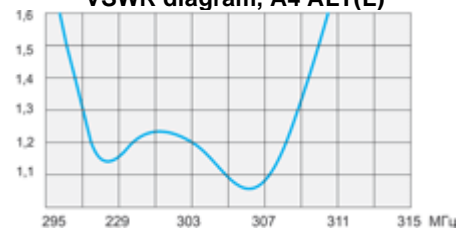
Antenna has DC grounding and has no need in additional tuning.

There were designed two antennas for use as transmitting and receiving antennas in MPT 1327 communication systems: A4 ALT (L), with 305 MHz center and A4 ALT(H) with 340 MHz center.

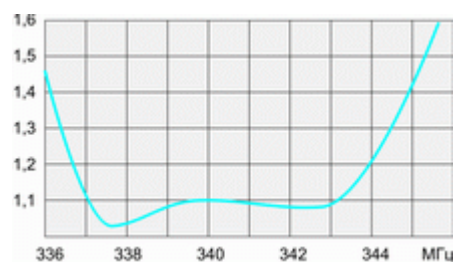
**A4 ALT(L, H) E-plane pattern**



**VSWR diagram, A4 ALT(L)**



**VSWR diagram, A4 ALT(H)**





## 380-400 MHz Subscribers' antenna SS-1T

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Tel.: (495) 775-43-19, 462-44-14  
Tel./fax: 462-44-14  
E-mail: radial@radial.ru  
www.radial.ru



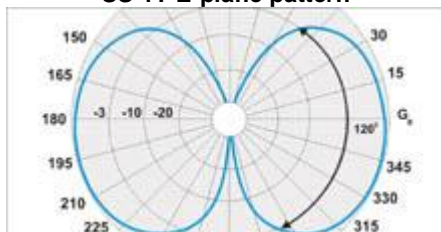
### Electrical specifications

|                               |          |
|-------------------------------|----------|
| Model                         | SS-1T    |
| Operating frequency band, MHz | 380-400  |
| Gain, dBi                     | 3        |
| VSWR, not more than           | 1.5      |
| Polarization                  | vertical |
| Max. power input, W           | 50       |
| H-plane beamwidth             | 360°     |
| E-plane beamwidth             | 120°     |
| Impedance, Ohm                | 50       |

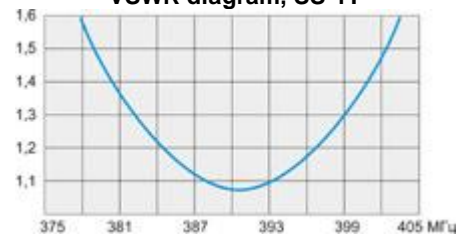
### Mechanical specifications

|                          |                   |
|--------------------------|-------------------|
| Model                    | SS-1T             |
| Dimensions (LxWxH), mm   | 250x250x90        |
| Weight, kg               | 0.5               |
| Rated wind velocity, m/s | no data           |
| Radiator                 | copper            |
| Radome                   | Polystyrene white |
| Mounting                 | On a ceiling      |
| Connector                | N-female          |

**SS-1T E-plane pattern**



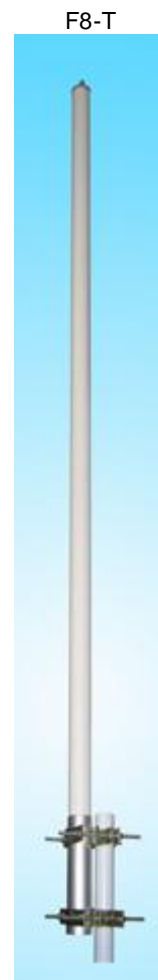
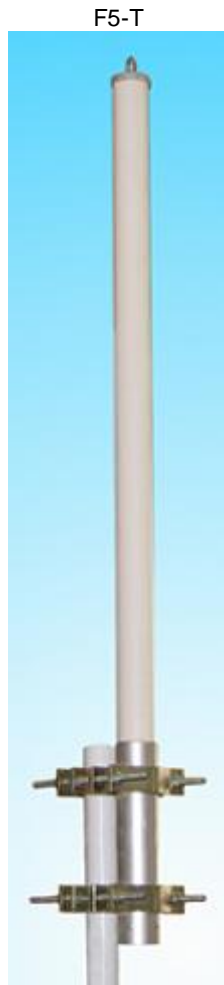
**VSWR diagram, SS-1T**





## 380-400 MHz Vertical antennas F5-T, F8-T, F10-T

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Tel./fax: 462-44-14  
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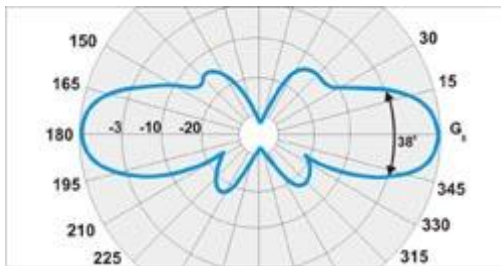
### Electrical specifications

| Model                         | F5-T     | F8-T     | F10-T    |
|-------------------------------|----------|----------|----------|
| Operating frequency band, Mhz | 380-400  | 380-400  | 380-400  |
| Gain, dBi                     | 5        | 8        | 10       |
| VSWR, not more than           | 1.5      | 1.5      | 1.5      |
| Polarization                  | vertical | vertical | vertical |
| Max. power input, W           | 400      | 400      | 400      |
| H-plane beamwidth             | 360°     | 360°     | 360°     |
| E-plane beamwidth             | 38°      | 27°      | 12°      |
| Impedance, Ohm                | 50       | 50       | 50       |

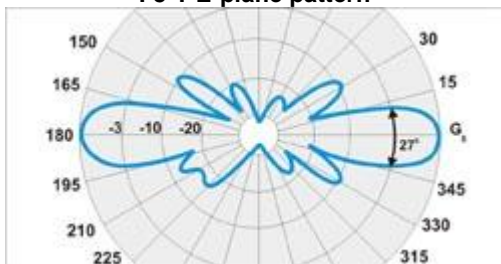
### Mechanical specifications

| Model                    | F5-T             | F8-T               | F10-T            |
|--------------------------|------------------|--------------------|------------------|
| Dimensions (LxWxH), mm   | 1530x60x60       | 3050x60x60         | 4300x60x60       |
| Weight, kg               | 2.1              | 4.0                | 5.6              |
| Rated wind velocity, m/s | 40               | 40                 | 40               |
| Radiator                 | brass            | brass              | brass            |
| Radome                   | white fiberglass | white fiberglass   | white fiberglass |
| Mounting                 |                  | On a mast 22-55 mm |                  |
| Connector                | N-female         | N-female           | N-female         |

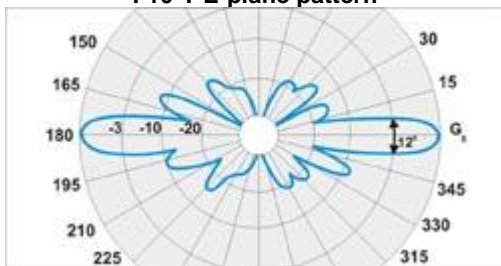
**F5-T E-plane pattern**



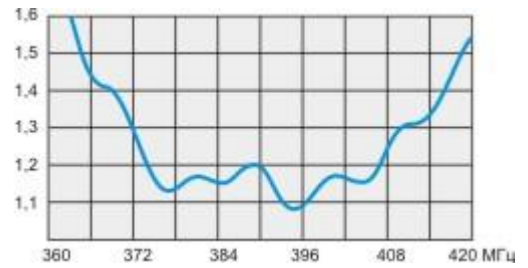
**F8-T E-plane pattern**



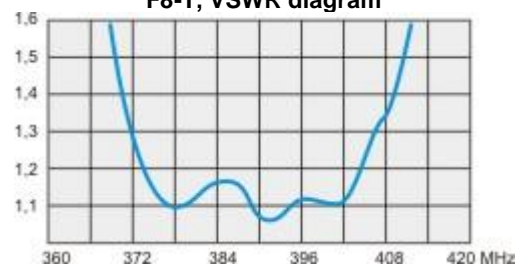
**F10-T E-plane pattern**



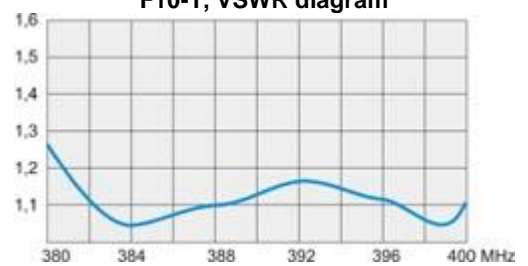
**F5-T, VSWR diagram**



**F8-T, VSWR diagram**



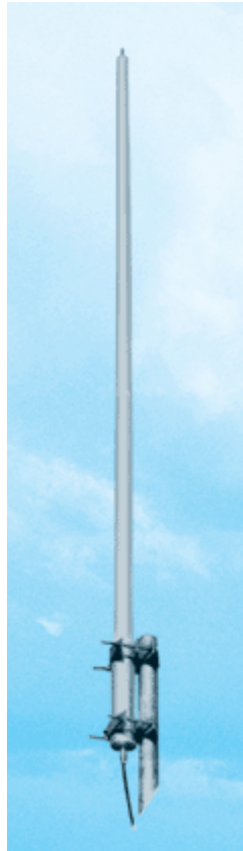
**F10-T, VSWR diagram**





## 400-490 MHz Vertical antennas A6 UHF (L-2,L-3,L-4,M-5,M-6,H-7,H-8)

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Tel.: (495) 775-43-19,462-44-14  
Tel./fax: 462-44-14  
E-mail: radial@radial.ru  
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Electrical specifications

| Model                          | A6 UHF  |         |         |         |         |         |         |
|--------------------------------|---------|---------|---------|---------|---------|---------|---------|
|                                | (L)-2   | (L)-3   | (L)-4   | (M)-5   | (M)-6   | (H)-7   | (H)-8   |
| Operating frequency band, MHz  | 400-407 | 408-418 | 416-427 | 420-435 | 435-454 | 450-467 | 469-485 |
| VSWR, not more than            | 1.5     |         |         |         |         |         |         |
| Gain, dBi                      | 9.65    |         |         |         |         |         |         |
| Sector in vertical plane, -3dB | 12°     |         |         |         |         |         |         |
| Impedance, Ohm                 | 50      |         |         |         |         |         |         |
| Max. power input, W            | 400     |         |         |         |         |         |         |
| Lightning protection           | yes     |         |         |         |         |         |         |
| Adjustable                     | no need |         |         |         |         |         |         |

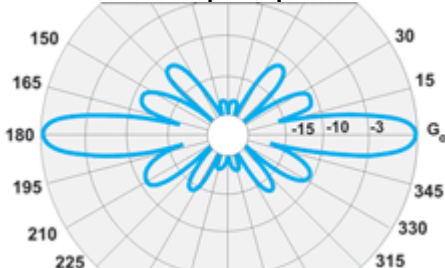
Mechanical specifications

| Model                             | A6 UHF                        |       |       |       |       |       |       |
|-----------------------------------|-------------------------------|-------|-------|-------|-------|-------|-------|
|                                   | (L)-2                         | (L)-3 | (L)-4 | (M)-5 | (M)-6 | (H)-7 | (H)-8 |
| Weight, kg                        | not more 5                    |       |       |       |       |       |       |
| Height/Length, mm                 | 4120                          | 3250  | 3250  | 3250  | 3250  | 3250  | 3200  |
| Mast diameter, mm                 | 35-110                        |       |       |       |       |       |       |
| Radome                            | fiberglass                    |       |       |       |       |       |       |
| Rated wind velocity, m/s          | 40                            |       |       |       |       |       |       |
| Wind loading area, m <sup>2</sup> | 0.16                          |       |       |       |       |       |       |
| Load of side wind 40 m/s, H       | 180                           |       |       |       |       |       |       |
| Temperature range, °C             | from -50 to +50               |       |       |       |       |       |       |
| Connector                         | N-female, (7/16 DIN-optional) |       |       |       |       |       |       |

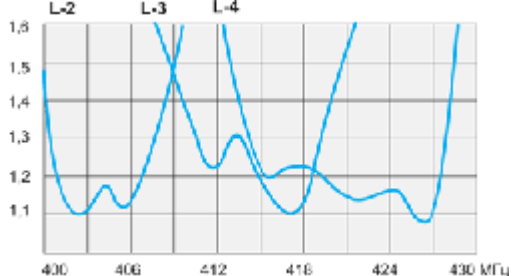
Antenna A6 UHF is a collinear construction of 11 transpositioning half-wave elements. It allows to achieve an ideally circular radiation pattern at high gain (9.65 dBi) and broad bandwidth of the frequencies of operation. Radio transparent weather-proof radome is made on the basis of fiberglass material. The radome has a polished coating which protects from UV irradiation and icing. The antenna has a DC grounding and does not need an additional adjustment. The model series of antennas A6 UHF

(covering the range of 408-485 MHz) is used in trunking commercial and departmental networks as well as in mobile networks of the communication standard NMT 450. The antenna's operation provides both the two-feeder type of antenna-feeder devices (AFD) (with separate feeders of receiving and transmitting channels of repeaters) and the one-feeder type that uses a duplexer. Recently a series of these antennas has been replenished by new models specially developed for the receiving and transmitting frequencies of the most popular UHF-sub-ranges. This has allowed to use the maximum possibilities of the gain in collinear antennas in the frequency ranges of interest, in spite of their scanning. For example, the model A6 UHF(L)-3 can be used in receiving channel of the "TETRA" systems while A6 UHF(M)-5 will be appropriate to be used as a transmitting one. In some cases, if the frequency scheme allows, one can apply A6 UHF(L)-4 successfully as a transceiver antenna and work through duplexer for one feeder. The multimedia reels in our CD catalog reflect rather well the peculiarities of these antennas.

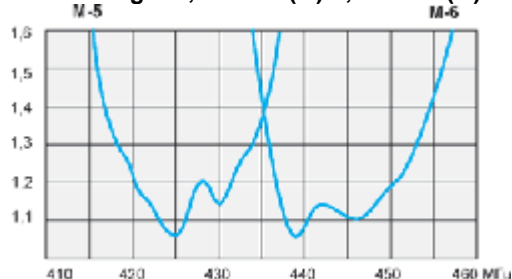
**A6 UHF E-plane pattern**



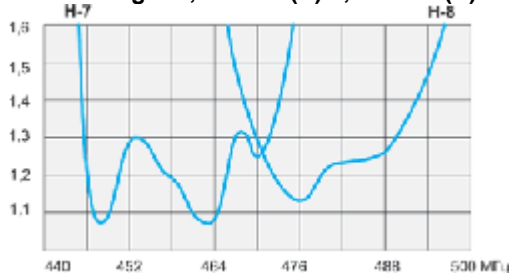
**VSWR diagram, A6 UHF(L)-2, A6 UHF(L)-3, A6 UHF(L)-4**



**VSWR diagram, A6 UHF(M)-5, A6 UHF(M)-6**



**VSWR diagram, A6 UHF(H)-7, A6 UHF(H)-8**





## 433-440 MHz Vertical antenna A10 UHF



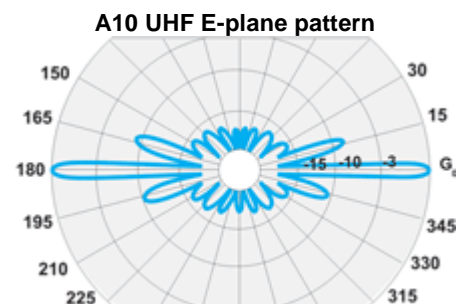
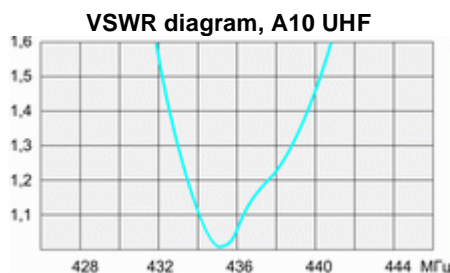
### Electrical specifications

|                                |         |
|--------------------------------|---------|
| Model                          | A10 UHF |
| Operating frequency band, MHz  | 433-440 |
| VSWR, not more than            | 1.5     |
| Gain, dBi                      | 12.15   |
| Sector in vertical plane, -3dB | 6°      |
| Impedance, Ohm                 | 50      |
| Max. power input, W            | 400     |
| Lightning protection           | yes     |
| Adjustable                     | no need |

### Mechanical specifications

|                                   |                               |
|-----------------------------------|-------------------------------|
| Model                             | A10 UHF                       |
| Weight, kg                        | 5.35                          |
| Height/Length, mm                 | 6300                          |
| Mast diameter, mm                 | 50-110                        |
| Radome                            | fiberglass                    |
| Rated wind velocity, m/s          | 40                            |
| Wind loading area, m <sup>2</sup> | 0.32                          |
| Load of side wind 40 m/s, H       | 360                           |
| Temperature range, °C             | from -50 to +50               |
| Connector                         | N-female, (7/16 DIN-optional) |

Vertical antenna A10 UHF is a collinear construction, based on 22 transposition half-wave elements. This is an extreme gain (10 times power gain) possible to achieve in such constructions. It has slightly narrower concordance and gain bandwidth, because of the sequential feeder circuit used, therefore some difficulties in generation of product line appear in lfrom production. That's why such antennas now are manufactured only on demand.br>





## 430-468, 453-467 MHz Vertical antennas A3-70cm, A3- CDMA

107497, Moscow Chernicinsky pr-d 7/1  
Tel.: (495) 775-43-19, 462-44-14  
Tel./fax: 462-44-14  
E-mail: radial@radial.ru  
www.radial.ru



### Electrical specifications

| Model                         | A3-CDMA | A3-70 cm |
|-------------------------------|---------|----------|
| Operating frequency band, MHz | 453-467 | 430-468  |
| Gain, dBi                     | 3       | 3        |
| VSWR, not more than           | 1.5     | 1.5      |
| Polarization                  |         | vertical |
| Max. power input, W           | 50      | 50       |
| H-plane beamwidth             | 360°    | 360°     |
| E-plane beamwidth             | 60°     | 60°      |
| Impedance, Ohm                | 50      | 50       |

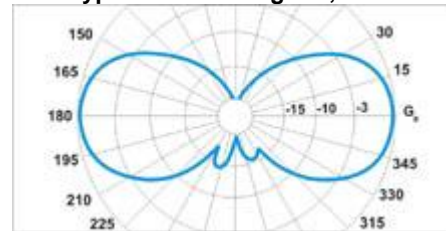
### Mechanical specifications

| Model                    | A3-CDMA                         | A3-70 cm         |
|--------------------------|---------------------------------|------------------|
| Dimensions (LxWxH), mm   | 45x45x560                       | 45x45x560        |
| Weight, kg               | 0.3                             | 0.3              |
| Rated wind velocity, m/s | 40                              | 40               |
| Radiator                 | copper                          | copper           |
| Radome                   | white fiberglass                | white fiberglass |
| Mounting                 | On a mast (35-70 mm) or on wall |                  |
| Connector                | N-female                        | N-female         |

**A3-CDMA, A3-70cm antennas E-plane pattern**



**Typical VSWR diagram, "A3"**





## 453-467 MHz Subscribers' antenna SS- 1CDMA

107497, Moscow Chernicinsky pr-d 7/1  
Tel.: (495) 775-43-19, 462-44-14  
Tel./fax: 462-44-14  
E-mail: radial@radial.ru  
www.radial.ru

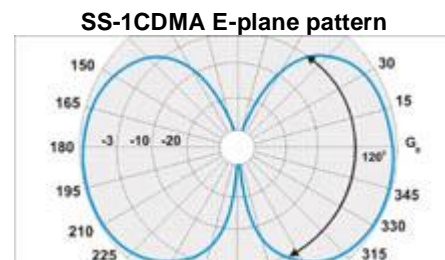
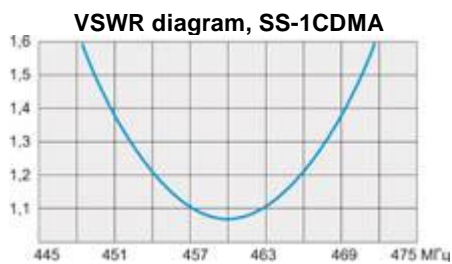


### Electrical specifications

|                               |          |
|-------------------------------|----------|
| Model                         | SS-1CDMA |
| Operating frequency band, MHz | 453-467  |
| Gain, dBi                     | 0        |
| VSWR, not more than           | 1.5      |
| Polarization                  | vertical |
| Max. power input, W           | 50       |
| H-plane beamwidth             | 360°     |
| E-plane beamwidth             | 120°     |
| Impedance, Ohm                | 50       |

### Mechanical specifications

|                          |                   |
|--------------------------|-------------------|
| Model                    | SS-1CDMA          |
| Dimensions (LxWxH), mm   | 240x240x130       |
| Weight, kg               | 0.5               |
| Rated wind velocity, m/s | no data           |
| Radiator                 | copper            |
| Radome                   | Polystyrene white |
| Mounting                 | On a ceiling      |
| Connector                | N-female          |





## 403-470 MHz Vertical antennas A5 UHF



### Electrical specifications

|                               |             |
|-------------------------------|-------------|
| Model                         | A5 UHF      |
| Operating Frequency band, MHz | 403-470     |
| Frequency bandwidth, MHz      | 15          |
| VSWR, not more than           | 1.5         |
| Gain, dBi                     | 5.5         |
| Impedance, Ohm                | 50          |
| Max. Power input, W           | 100         |
| Lightning protection          | DC grounded |
| Adjustable                    | no need     |

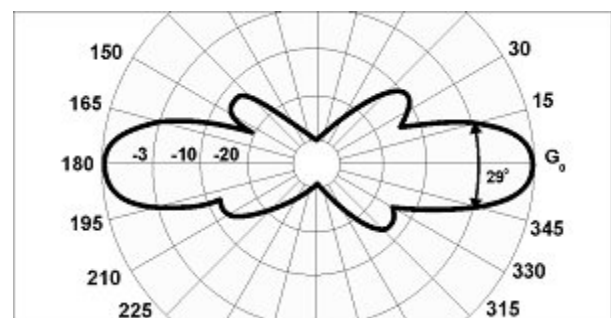
### Mechanical specifications

|                          |                 |
|--------------------------|-----------------|
| Model                    | A5 UHF          |
| Height/Length, M         | 0.85            |
| Mast diameter, mm        | 35-70 (CPK-70)  |
| Construction material    | copper          |
| Rated Wind Velocity, m/s | 40              |
| Temperature Range, °C    | from -50 to +50 |
| Connector                | N-female        |

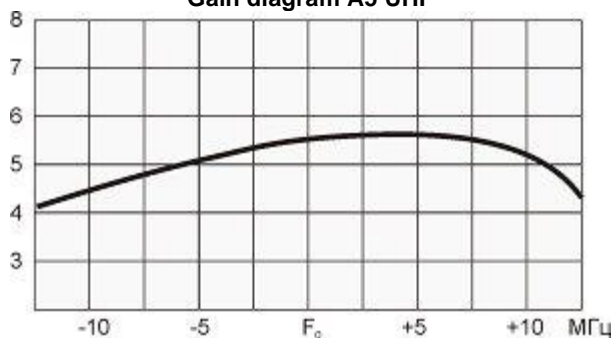
### Model antenna type A5 UHF

|             |             |
|-------------|-------------|
| A5-UHF(L)-1 | 403-418 MHz |
| A5-UHF(L)-2 | 412-422 MHz |
| A5-UHF(L)-3 | 417-430 MHz |
| A5-UHF(M)-4 | 430-440 MHz |
| A5-UHF(M)-5 | 440-450 MHz |
| A5-UHF(H)-6 | 450-470 MHz |

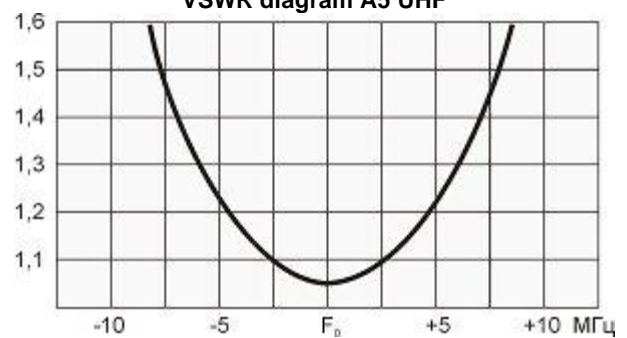
### E-plane pattern A5 UHF



### Gain diagram A5 UHF



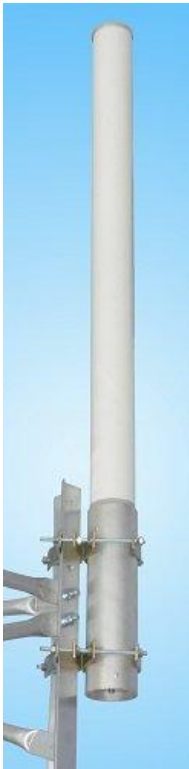
### VSWR diagram A5 UHF





# 550-650 MHz Vertical transmitter antenna F7- DVB

107497, Moscow Chernicinsky pr-d 7/1  
Tel.: (495) 775-43-19,462-44-14  
Tel./fax: 462-44-14  
E-mail: radial@radial.ru  
www.radial.ru



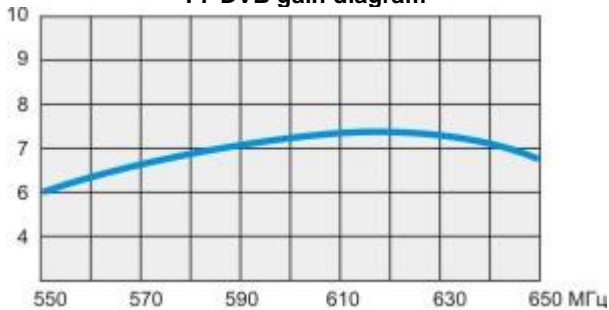
### Electrical specifications

|                               |             |
|-------------------------------|-------------|
| Model                         | F7-DVB      |
| Operating frequency band, Mhz | 550-650     |
| Operating channels            | 31-41       |
| Gain,dBi                      | 6.8-7.1     |
| VSWR, not more than           | 1.5         |
| Polarization                  | vertical    |
| Max. power input, W           | 400         |
| H-plane beamwidth             | 360°        |
| E-plane beamwidth             | 20°         |
| Impedance, Ohm                | 50          |
| Lightning protection          | DC grounded |

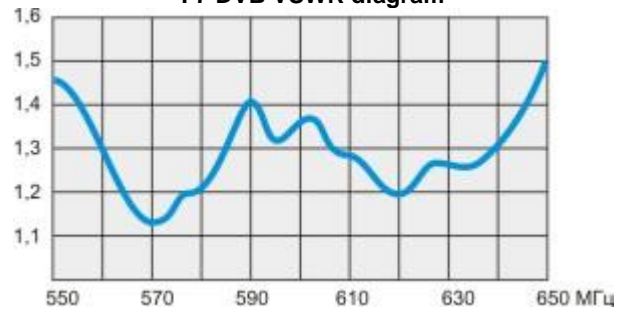
### Mechanical specifications

|                          |                              |
|--------------------------|------------------------------|
| Model                    | F7-DVB                       |
| Dimensions (LxWxH), mm   | 1700x110x110                 |
| Weight, kg               | 6.2                          |
| Rated wind velocity, m/s | 40                           |
| Radiator                 | brass                        |
| Radome                   | white fiberglass             |
| Mounting                 | On a mast 70-110 mm          |
| Connector                | N-female (7/16 DIN optional) |

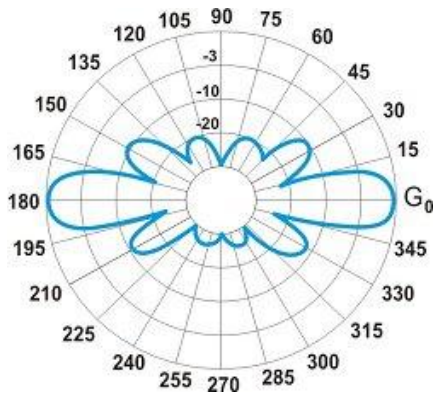
**F7 DVB gain diagram**



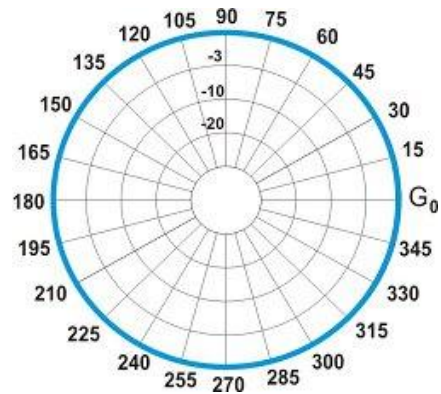
**F7 DVB VSWR diagram**



**F7 DVB E-plane pattern**



**F7 DVB H-plane pattern**





## 500-520 MHz Vertical collinear transmitter antenna for DVB A9-514

107497, Moscow Chernicinsky pr-d 7/1  
Tel.: (495) 775-43-19, 462-44-14  
Tel./fax: 462-44-14  
E-mail: radial@radial.ru  
www.radial.ru

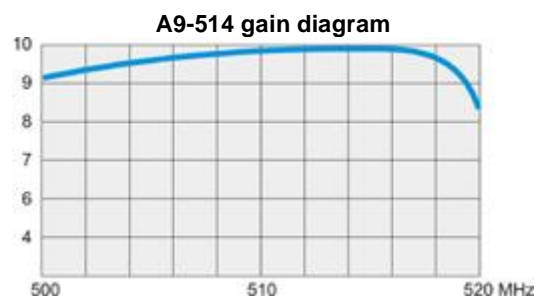
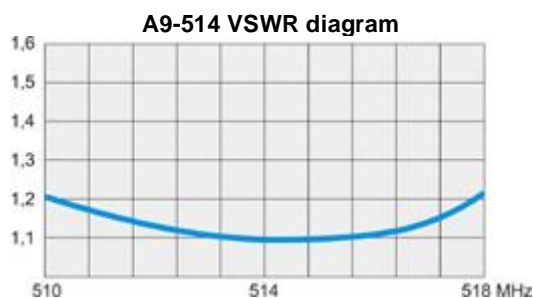
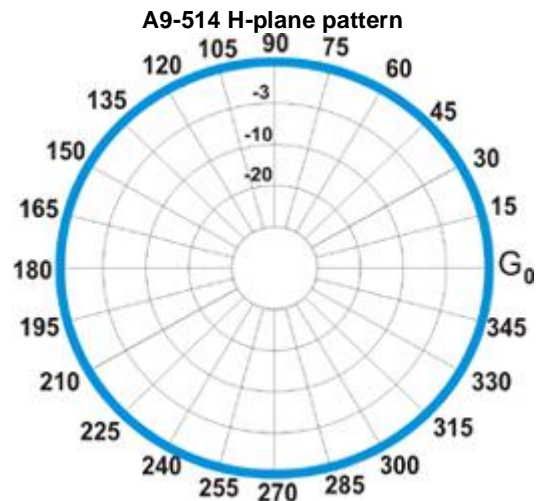
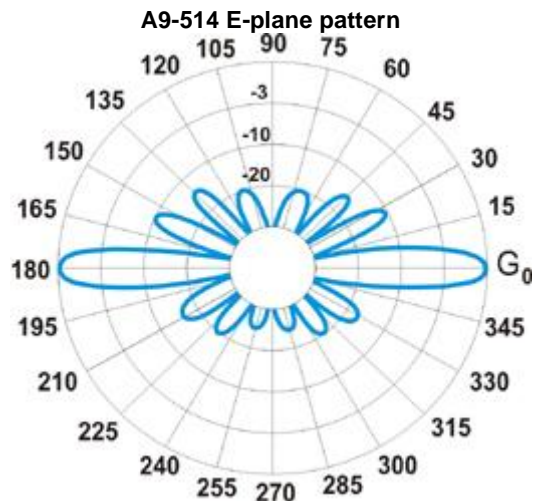


### Electrical specifications

|                                |             |
|--------------------------------|-------------|
| Model                          | A9-514      |
| Operating frequency band, MHz  | 500-520     |
| Operating channels             | 26          |
| VSWR, not more than            | 1.5         |
| Gain, dBi                      | 9.8         |
| Sector in vertical plane, -3dB | 10°         |
| Electrical downtilt            | 0-4°        |
| Impedance, Ohm                 | 50          |
| Max. power input, W            | 250         |
| Lightning protection           | DC grounded |
| Adjustable                     | no need     |

### Mechanical specifications

|                                   |                  |
|-----------------------------------|------------------|
| Model                             | A9-514           |
| Weight, kg                        | not more 5       |
| Height/Length, mm                 | 3250             |
| Mast diametr, mm                  | 35-110           |
| Radome                            | White fiberglass |
| Rated wind velocity, m/s          | 40               |
| Wind loading area, m <sup>2</sup> | 0.16             |
| Load of side wind 40 m/s, H       | 180              |
| Temperature range, °C             | from -50 to +50  |
| Connector                         | N-female         |





## 864-876 MHz Vertical antennas A6-868



### Electrical specifications

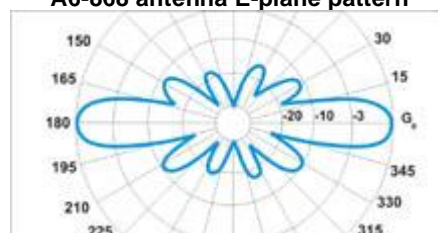
|                               |          |
|-------------------------------|----------|
| Model                         | A6-868   |
| Operating frequency band, MHz | 864-876  |
| Gain, dBi                     | 8        |
| VSWR, not more than           | 1.5      |
| Polarization                  | vertical |
| Max. power input, W           | 50       |
| H-plane beamwidth             | 360°     |
| E-plane beamwidth             | 18°      |
| Impedance, Ohm                | 50       |

### Mechanical specifications

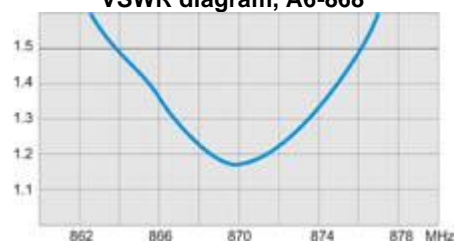
|                          |                    |
|--------------------------|--------------------|
| Model                    | A6-868             |
| Dimensions (LxWxH), mm   | 30x25x1360         |
| Weight, kg               | 0.9                |
| Rated wind velocity, m/s | 40                 |
| Radiator                 | brass              |
| Radome                   | white fiberglass   |
| Mounting                 | On a mast 25-55 mm |
| Connector                | N-female           |

This antenna is designed specially for application together with radio modems in systems of data transmission. It provides high gain of signals in reception. Omnidirectional radiation allows to use in systems "point - multipoint". The aerial has high reliability and is applied in any weather conditions.

**A6-868 antenna E-plane pattern**



**VSWR diagram, A6-868**





## 23 cm Vertical antenna A10-23-H



### Electrical specifications

|                          |             |
|--------------------------|-------------|
| Model                    | A10-23-H    |
| Frequency Range, MHz     | 1270-1300   |
| Operating channels       | RS01-RS028  |
| Gain, dBi                | 10.4        |
| VSWR                     | 1.5         |
| Polarization             | Vertical    |
| Impedance, Ohm           | 50          |
| Input Power, W           | 100         |
| Vertical Beam Width, deg | 11          |
| Lightning protection     | DC grounded |

### Mechanical specifications

|                              |   |
|------------------------------|---|
| Model                        | A10-23-H                                      |
| Weight, kg                   | 0.8   |
| Length, mm                   | 1550  |
| Diameter of radome, mm       | 30  |
| Radome material              | White fiberglass                              |
| Radiator material            | Cooper  |
| Diameter of support, mm      | 35  |
| Mast diameter, mm            | 35-70   |
| Mount kit                    | CPK-70 for mast 35-70 mm or for wall mounting |
| Connector                    | N-female                                      |
| Operating temperature, deg.C | from -50 to +50                               |

Antenna A10-23-H is specially designed for operate in the top sub-band of an amateur band 23 cm and intended for work in structure of a repeater together with duplexers MDF1-6-23 or DPRE4-6-23.

The antenna is constructed on a principle transposition  $1/2\lambda$  coaxial radiators. Its sizes are optimized for achievement of the maximal gain along horizon, that effectively affects range of repeater. Therefore its working strip makes only 30 MHz. For operate in the bottom site of 23 cm band 1240-1270 MHz ask antenna A10-23L.

The complete set of the antenna includes convenient fastening with a collar from stainless steel. The antenna radom made from fiberglass. Antenna is earthed on a direct current.

