

Stahl-Rapid

Installation instructions

Satellite installation with Stahl-Rapid quick-mounting system

Congratulations on your purchase of this high-quality satellite reception installation.

Please read both this instruction manual as well as that of your stereo satellite receiver carefully. Please take note of all instructions and advice given there..

Basic information on satellite reception

1. Obstructions not permitted

The basic precondition for satellite reception is a clear line of view from the reception dish to the satellite. The antenna cannot be installed inside a roof. Both the ASTRA and EUTELSAT satellites are located only a few degrees from due South. As a compass can easily be deflected by iron girders and the like, you will probably find it easier to be guided by the sun. In winter, the sun is located due South at 12 noon, while during summer (daylight savings time) it is on this position at 13:00 hours, or 1 p.m..

As the antenna is angled upwards to receive the satellite signal, obstruction are relevant only if they are both tall and situated close to the antenna. The further away any obstruction is located, the less likely will it obstruct the line of view, even if it is quite tall.

The following rule of thumb may be of assistance:

The distance to the obstruction should be at least 1,5 times the difference in height between the antenna and the obstruction.

2. Measure before you act

Wall mounting

Ensure that the line of view is not obstructed by drainpipes or ledges on the wall. Also ensure that there is an adequate distance between the dish and the wall so that you can swivel the dish into its optimum position for reception.

3. Safety

When installing the equipment be sure to comply with relevant European and local safety regulations designed to ensure electrical safety, such as VDE 0855, Part 1.

4. Approximate Southerly Direction

Preparing for the installation

Positioning the antenna correctly is easiest if you have a portable television set. Connect this set to the receiver by means of a temporary antenna cable. Use the test image generator to tune the television set to the UHF modulator of the satellite receiver, then use the pre-programming feature to set the receiver to a channel that is broadcast only on the desired satellite. In the case of ASTRA, this would, for example, include the German ARD programme, or in the case of EUTELSAT Hotbird you might select the music channel VIVA. Then proceed to the antenna dish.

When you have connected the receiver and the LNB to the antenna cable, switch the receiver on and select the desired programme.

Assembling the satellite antenna

1. In order to assemble the satellite antenna you will require two 10mm spanners and a Philips screwdriver (cross-shaped). In order to connect the LNB (external reception electronic unit) to the satellite receiver, use co-axial cable suitable for satellite reception as well as F-connectors with screw mounts.

Assemble the antenna as indicated in Fig. 1.

Fig. 1

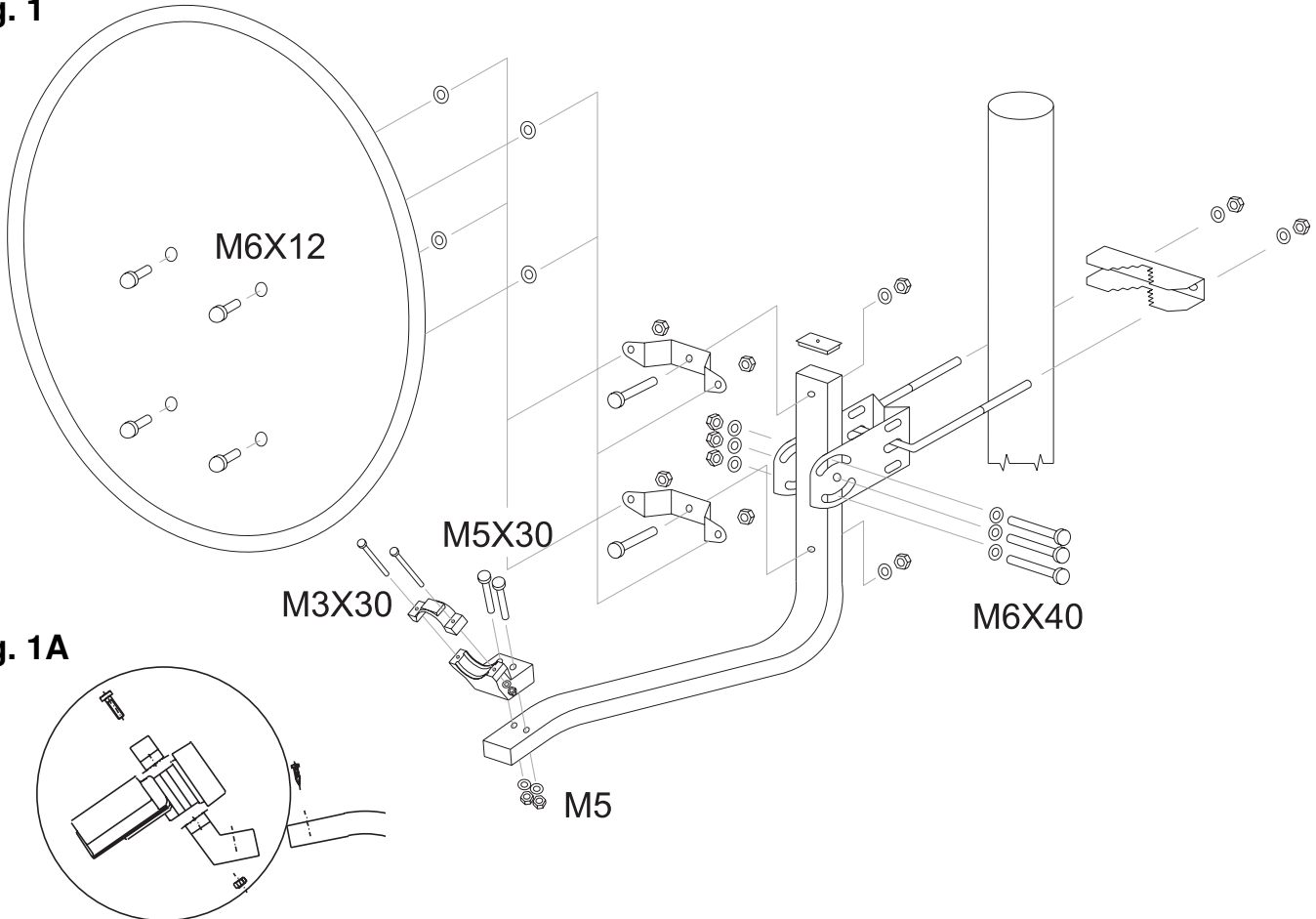


Fig. 1A

2. Attach the LNB to the LNB holder as indicated in Fig. 1A. Please note that the marking "oben/up" should be pointed upward. The adapter part included in the kit (from 40 mm to 23 mm) is required only for LNBs with 23 mm LNB holders.

If you are using the installation as an ASTRA/EUTELSAT 13° East Multifeed installation, please note the mounting instructions for multifeed brackets. In the case of LNB units with an angled design the connector or connectors will point vertically downward. LNB units with a linear design will carry a marking that points vertically upward. The most common markings are: arrow symbols, or descriptions such as "UP", "Oben" or "O".



Illustration LNB mounting
Linear design



Illustration LNB mounting
angled design

3. Attach the satellite dish to the antenna mast or to the wall mounting by means of the appropriate mounting bracket..

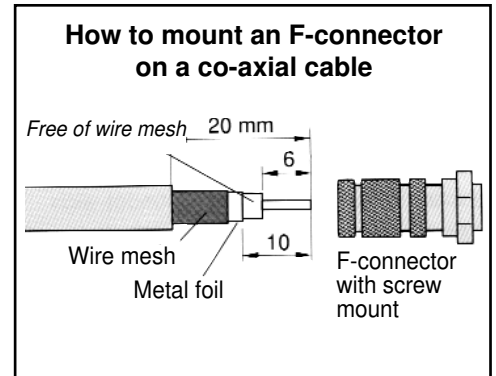
Mounting the F-connector:

➔ **Important:** Please take great care when mounting the F-connector.

Incorrect mounting may cause problems with reception, or may even destroy the satellite receiver!!

Be sure to measure the length of antenna cable required before cutting, so as to avoid inserting extensions that may cause problems.

- using a sharp knife, strip a length of approx. 6 mm of the cable down to the inner core
- remove the section of wire mesh that has been exposed
- remove approx. 10 mm of the plastic mantle, exposing the wire mesh
- ensure that no wires of the wire mesh are in contact with the inner core
- carefully twist the screw-on F-connector onto the cable until the inner core is flush with the front end of the F-connector. The wire mesh is now in contact with the F-connector
- check the F-connector for short circuits. To do this, look into the F-connector from the front end; the inner core must be positioned in the centre, and must not be in contact with the wires of the wire mesh!



Connection to the television set:

The simplest and best connection in terms of quality between the satellite receiver and the television set is by means of a Scart cable. All you have to do in this case is to switch the TV set into "AV Mode" (press the following keys on the TV set: "AV", "EXT" or "O"). At this stage, the TV screen will not display an image. In future, your satellite programmes will be displayed when this programme setting is selected. If you have an older TV set which does not have a Scart connection, or if you do not have a Scart cable, you can connect the satellite receiver and the TV set by means of a co-axial cable. Please refer to the instruction manuals of your satellite receiver and your TV set for information on how to effect a test setting.

Connection to the external unit

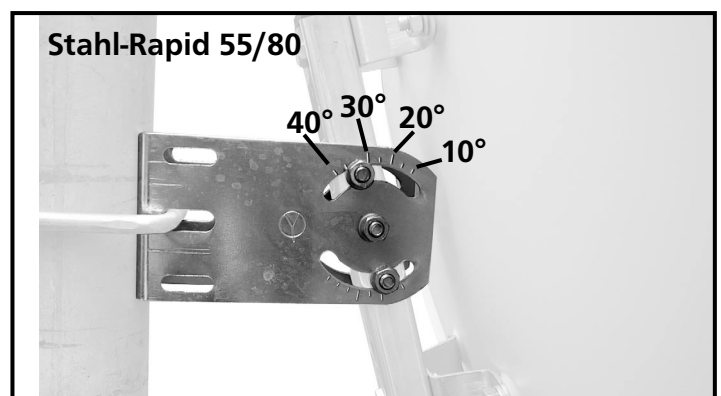
First connect the TV set with the receiver, then connect the receiver with the external unit. Tighten the F-connector, using only your hand for tightening. Do not use any tools to connect the F-connector.

Adjusting the external unit

Ensure there is a power supply to both pieces of equipment, and switch them on. Select a pre-programmed programme slot on your receiver.

Using the elevation scale provided on the adjustable profile of the Rapid mounting (see illustration alongside), the approximate elevation can be set even without a protractor. For this, refer to the AZ/EL table on the last page of this manual in order to find the appropriate elevation angle for the ASTRA satellites corresponding to your location.

The reference point for the elevation scale is the centre point of the hexagonal screw.

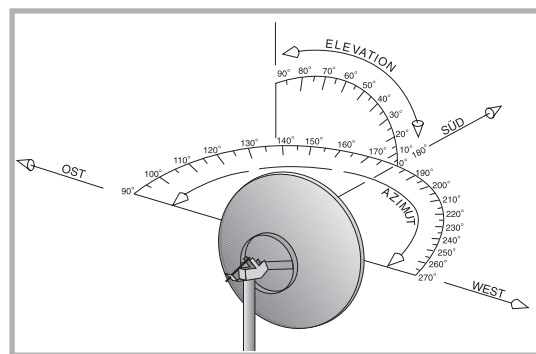


If you are installing an ASTRA/EUTELSAT Multifeed installation, set the elevation of the dish antenna to the elevation value for the EUTELSAT 13° East satellite. Please also refer to the ASTRA/EUTELSAT mounting instructions.

Stahl-Rapid Installation instructions for satellite reception installation with Stahl-Rapid quick-mounting system

Now, swing the antenna dish around slowly from East to West (if you are standing behind the antenna, this means from left to right), until you can receive a signal from the satellite on your TV set.

Note: If you cannot receive a signal at this stage, move the antenna slightly left or right. Adjust the elevation up or down very slightly, by a few millimetres, and continue to search by means of left-to-right movements. Also consider setting a different programme slot on your receiver, and repeat the search.



The principle of azimuth and elevation

When you are able to receive a satisfactory signal (picture), tighten the screws of the AZ/EL mount. Insulate the F-connector against humidity with the aid of the rubber cuffs provided with the LNB.

In order to programme your satellite receiver, please refer to the instruction manual provided by the manufacturer..

Fine-tuning

Once you have found the signal of a particular satellite, compare the programme with that indicated in the programme list. We suggest that you switch to a programme a few slots further on in the list, just to check on reception. If the programmes received do not correspond with those stated in the list, continue to search to the left and right of your current antenna position (i.e. repeat the swivelling search described earlier) until you can receive the desired programmes.

Once you have found the correct satellite that you are looking for, fine-tuning can be carried out by further small adjustments to the position of the antenna dish. When you have achieved the optimum position for the best reception, tighten all the screws, making certain not to alter the antenna position while you do so.

AZ/EL table for ASTRA and EUTELSAT 13° East for Germany, Austria and Switzerland

No	Location	ASTRA 19,2° East		EUTELSAT 13° East		No	Location	ASTRA 19,2° East		EUTELSAT 13° East		No	Location	ASTRA 19,2° East		EUTELSAT 13° East	
		AZ	EL	AZ	EL			AZ	EL	AZ	EL			AZ	EL	AZ	EL
1	Aachen	163.28	30.54	171.12	31.48	51	Goettingen	168.26	30.39	176.13	30.96	102	München	169.83	34.24	178.14	34.71
2	Amstetten (A)	174.20	34.60	182.50	34.70	52	Graz (A)	174.80	35.80	183.20	35.80	103	Mürzzuschlag (A)	175.20	35.20	183.60	35.30
3	Attersee (A)	172.40	34.70	180.70	35.00	53	Greifswald	172.85	28.03	180.24	28.26	104	Neubrandenburg	172.66	28.60	180.24	28.84
2	Augsburg	168.98	33.90	177.23	34.44	54	Güssing (A)	176.10	35.90	184.50	35.80	105	Neumünster	168.69	27.71	176.31	28.22
4	Bad Ischl (A)	172.50	34.90	180.90	35.20	55	Halle/Saale	170.81	30.69	178.76	31.08	106	Nürnberg	169.38	32.76	177.51	33.27
5	Baden (A)	176.00	34.80	184.30	34.80	56	Hamburg	168.62	28.26	176.30	28.79	107	Oberhausen	164.39	29.96	172.19	30.81
6	Basel (CH)	164.50	34.20	172.70	34.10	57	Hanover	168.14	29.48	175.92	30.05	108	Oldenburg/Holsn	169.82	27.58	177.44	28.02
7	Berlin	172.60	29.71	180.24	29.96	58	Heidelberg	166.31	32.45	174.38	33.19	109	Oldenburg/Old.	166.38	28.45	174.06	29.13
8	Bern (CH)	164.10	34.80	172.40	35.80	59	Heilbronn	166.92	32.82	175.04	33.52	110	Osnabrück	166.02	29.32	173.77	30.04
9	Beucha	171.68	30.93	179.76	31.25	60	Hildesheim	168.36	29.73	176.17	30.29	111	Passau	172.40	33.98	180.47	34.25
10	Biel (CH)	165.00	35.50	173.40	36.40	61	Hof	170.59	31.93	178.66	32.34	112	Potsdam	172.29	29.82	180.24	30.09
11	Bielefeld	166.58	29.67	174.37	30.35	62	Innsbruck (A)	169.50	35.10	177.80	35.60	113	Regensburg	170.65	33.35	178.89	33.76
12	Bludenz (A)	167.30	35.0	175.70	35.70	63	Judenburg (A)	173.80	35.60	182.20	35.70	114	Ried (A)	172.40	34.40	180.70	34.60
13	Bonn	164.54	30.78	172.42	31.63	64	Kapfenberg (A)	174.70	35.40	183.10	35.50	115	Rostock	171.32	27.93	179.02	28.26
14	Brandenburg	171.67	29.76	179.63	30.08	65	Karlsruhe	165.84	32.83	173.95	33.61	116	Rottmann (A)	173.50	35.20	181.90	35.40
15	Braunau (A)	171.80	34.30	180.10	34.60	66	Karlstadt	167.77	32.03	175.81	32.66	117	Saalfelden (A)	171.40	35.20	179.80	35.50
16	Braunschweig	169.10	29.69	176.90	30.19	67	Kassel	167.67	30.56	175.55	31.17	118	Saarbrücken	164.07	32.33	172.11	33.24
17	Bregenz (A)	167.20	34.60	175.50	35.30	68	Kiel	168.92	27.46	176.52	27.96	119	Salzburg (A)	171.70	34.80	180.10	35.10
18	Bremen	167.10	28.60	174.79	29.24	69	Kirchschlag (A)	176.10	35.40	184.50	35.30	120	Salzgitter	168.88	29.90	176.71	30.42
19	Bremerhaven	166.90	28.07	174.54	28.72	70	Kitzbühel (A)	170.80	35.10	179.20	35.50	121	Salzwedel	169.96	29.14	177.73	29.58
20	Bruck (A)	176.80	34.80	185.10	34.70	71	Klagenfurt (A)	173.10	36.40	181.70	36.60	122	Sankt Gallen (CH)	166.80	34.70	175.10	35.40
21	Chemnitz	171.95	31.48	179.76	31.79	72	Knittelfeld (A)	174.10	35.60	182.50	35.70	123	Sankt Pölten (A)	175.20	34.50	183.50	34.60
22	Cottbus	173.84	30.61	181.64	30.77	73	Koblenz	165.09	31.26	173.02	32.08	124	Scheibbs (A)	174.60	34.70	182.90	34.80
23	Dippach	168.35	30.98	176.28	31.55	74	Köflach (A)	174.40	35.80	182.80	35.90	125	Scheffing (A)	173.30	35.70	181.80	35.90
24	Donawitz (A)	174.40	35.40	182.80	35.50	75	Köln	164.41	30.53	172.26	31.39	126	Schwerin	170.39	28.34	178.09	28.74
25	Dornbirn (A)	167.30	34.70	175.60	35.40	76	Köniz (CH)	164.10	34.80	172.40	35.80	127	Soling	164.61	30.32	172.45	31.16
26	Dortmund	165.16	30.03	172.97	30.82	77	Krefeld	164.00	30.05	171.80	30.94	128	Spittal (A)	172.20	35.90	180.70	36.20
27	Dreis-Brück	164.09	31.29	172.02	32.19	78	Krems (A)	175.20	34.30	183.50	34.40	129	Steyr (A)	173.60	34.60	181.90	34.80
28	Dresden	173.02	31.32	180.85	31.55	79	Krimml (A)	170.50	35.40	178.90	35.90	130	Stockerau (A)	176.10	34.50	184.40	34.50
29	Duisburg	164.26	29.98	172.06	30.84	80	Kufstein (A)	170.50	34.90	178.90	35.30	131	Stuttgart	166.80	33.20	174.95	33.91
30	Düsseldorf	164.25	30.21	172.07	31.07	81	Landshut	170.66	33.88	178.96	34.29	132	St. Veit (A)	173.40	35.90	181.90	36.10
31	Ebensee (A)	172.70	34.80	181.00	35.10	82	Landeck (A)	168.30	35.20	176.70	35.80	133	Tauern (A)	171.10	35.30	179.50	35.70
32	Eisenach	168.65	31.03	176.59	31.58	83	Lausanne (CH)	162.90	35.10	171.30	36.10	134	Thun (CH)	164.30	35.00	172.70	36.00
33	Eisenerz (A)	174.20	35.20	182.60	35.40	84	Leibnitz (A)	175.00	36.10	183.50	36.20	135	Trier	163.75	31.71	171.72	32.64
34	Eisenstadt (A)	176.30	35.40	184.70	35.30	85	Leipzig	171.31	30.89	179.32	31.24	136	Ulm	167.79	33.73	176.01	34.37
35	Emden	165.19	28.05	172.82	28.81	86	Lienz (A)	171.20	35.80	179.70	36.20	137	Villach (A)	172.70	36.10	181.20	36.40
36	Erfurt	169.54	31.12	177.50	31.61	87	Liezen (A)	173.30	35.10	181.70	35.30	138	Voltsberg (A)	174.50	35.80	182.90	35.90
37	Essen	164.58	30.01	172.38	30.84	88	Linz (A)	173.50	34.30	181.70	34.50	139	Waidhofen (A)	174.80	33.90	183.00	33.90
38	Feldbach (A)	175.40	35.90	183.90	36.00	89	Locarno (CH)	165.70	35.90	174.20	36.70	140	Wels (A)	173.10	34.50	181.40	34.70
39	Flensburg	168.13	26.89	175.67	27.43	90	Loeben (A)	174.40	35.40	182.80	35.50	141	Wien (A)	176.20	34.60	184.50	34.60
40	Fohnsdorf (A)	173.80	35.60	182.30	35.70	91	Loeben (A)	174.60	735.50	183.00	35.60	142	Winterthur (CH)	166.00	34.50	174.20	35.30
41	Frankfurt/M.	166.41	31.71	174.41	32.43	92	Lofer (A)	171.20	35.00	179.60	35.30	143	Wolfsberg (A)	174.10	36.00	182.60	36.10
42	Frankfurt/O.	174.17	29.99	181.91	30.13	93	Ludwigshafen	165.99	32.33	174.04	33.10	144	Wörgl (A)	170.30	35.00	178.70	35.40
43	Freiburg/Br.	164.90	33.79	173.11	34.66	94	Lübeck	169.52	28.01	177.18	28.47	145	Weimar	169.94	31.16	177.90	31.61
44	Fuerstenberg	174.30	30.22	182.07	30.35	95	Lüneburg	169.10	28.63	176.81	29.13	146	Wiesbaden	165.85	31.69	173.83	32.46
45	Fürstenfeld (A)	175.70	35.80	184.20	35.80	96	Luzern (CH)	164.70	34.80	173.10	35.70	147	Wilhelmshaven	166.33	28.03	173.97	28.72
46	Fuerth	169.27	32.73	177.40	33.24	97	Magdeburg	170.47	29.97	178.33	30.37	148	Wismar	170.48	28.07	178.16	28.46
47	Genf (CH)	162.20	35.30	170.60	36.40	98	Mainz	165.87	31.76	173.86	32.52	149	Wuppertal	164.70	30.23	172.53	31.06
48	Gera	170.88	31.35	178.90	31.73	99	Mainheim	166.01	32.33	174.07	33.09	150	Würzburg	172.10	32.63	179.76	32.92
49	Gmunden (A)	172.70	34.70	181.10	35.00	100	Marizell (A)	174.80	35.00	183.10	35.10	151	Zürich (CH)	165.70	34.60	174.00	35.40
50	Goerlitz	174.63	31.30	182.51	31.41	101	Mattersburg (A)	176.20	35.10	184.60	35.10	152	Zwickau	175.51	31.82	183.19	31.87