



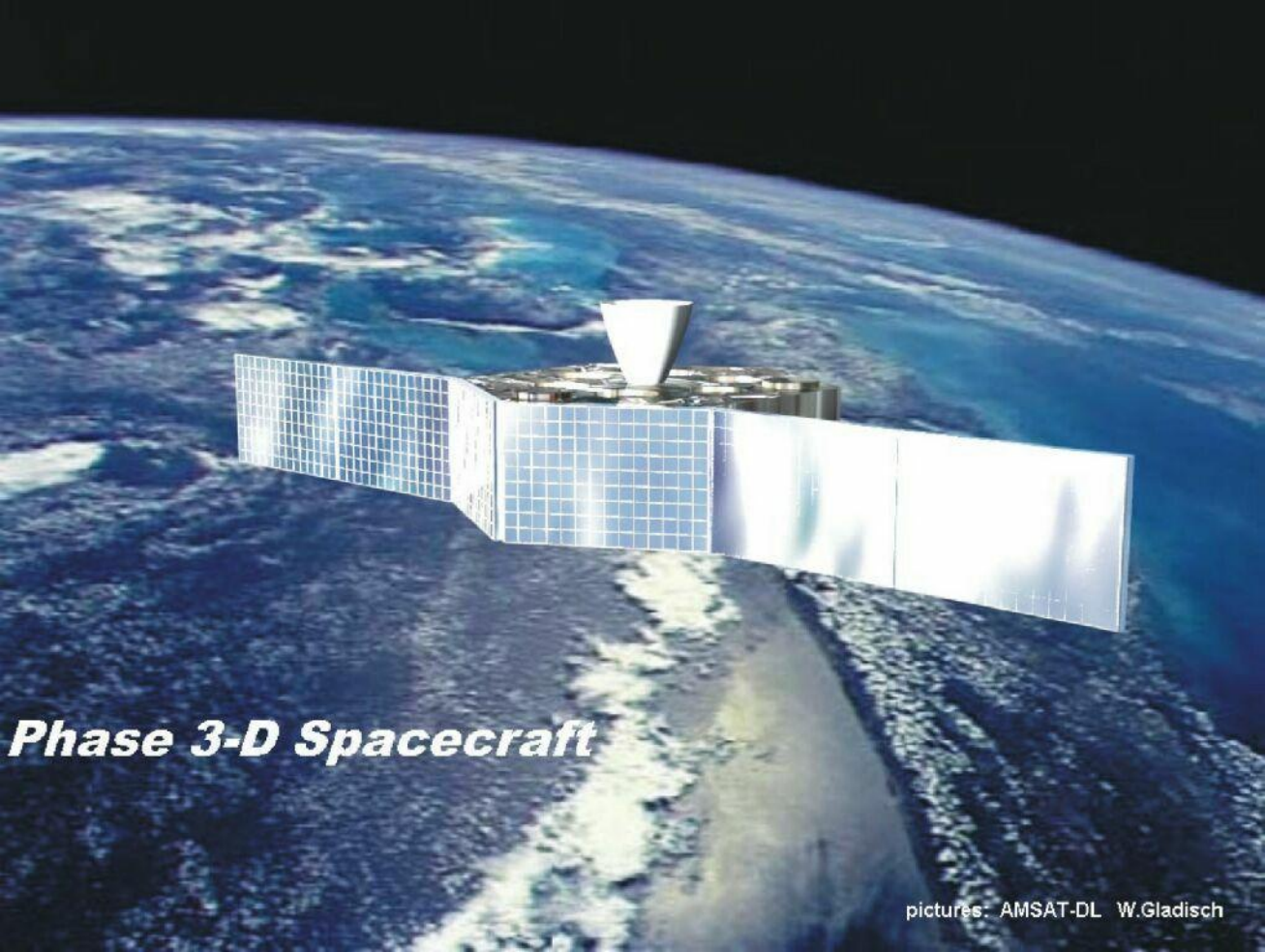
INTERNATIONAL
SATELLITE



P3-D

AMSAT

Projekt Leader: Prof. Dr. Karl Meinzer



Phase 3-D Spacecraft

Motor Burns



Orbit	Inclination	Distance from Earth (km)	
		Perigee	Apogee
A	$i=10^\circ$	500	35000

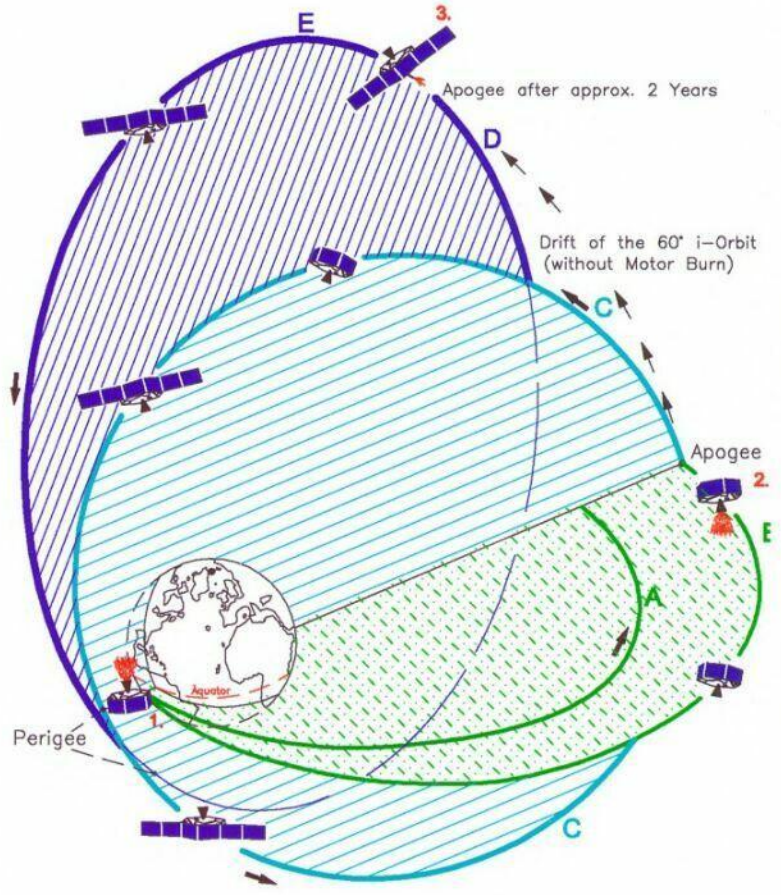
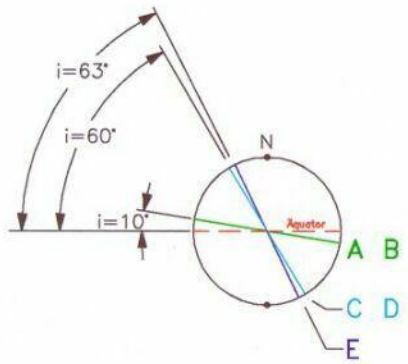
B	$i=10^\circ$	500	47000
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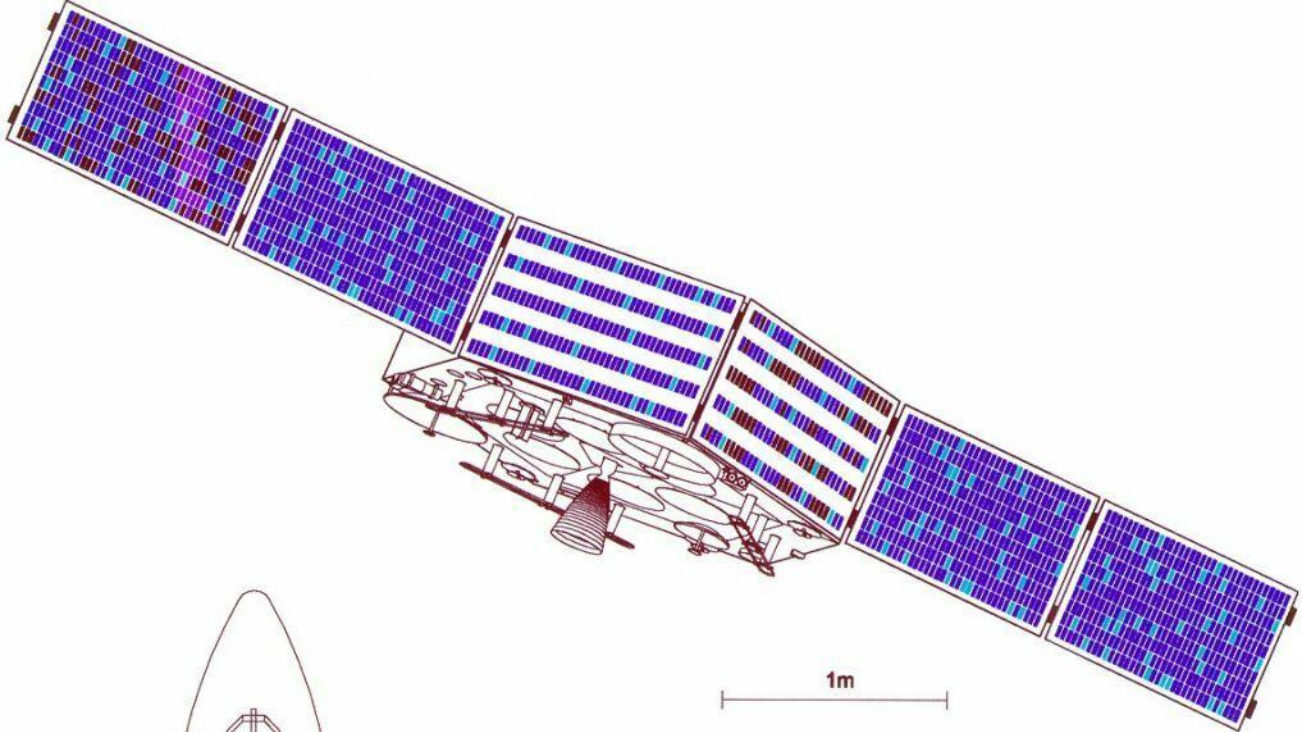
C	$i=60^\circ$	4000	47000
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Drift without Motor Burn

D	$i=60^\circ$	4000	47000
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E	$i=63,4^\circ$	4000	47000
stable Orbit			



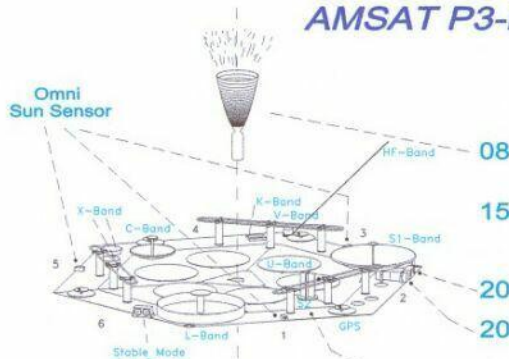
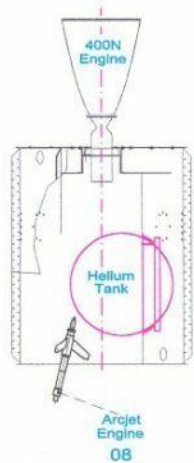




AMSAT P3-D International Satellite

3189 C9

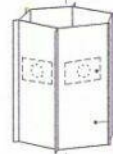
06.05.99



- 08 400N ENGINE
- 15 ANTENNAS
- 20 SUN SENSOR #2
- 20 EARTH SENSOR #2



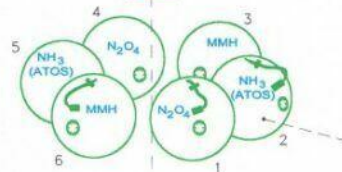
- 04 TOP PANEL
- 03 MOTOR MOUNT



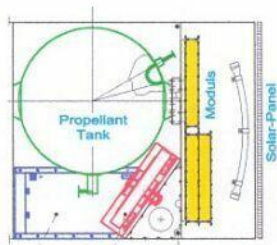
- 03 CENTER PANEL



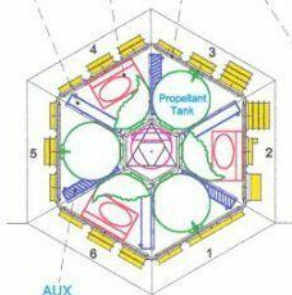
- 09 HELIUM TANK



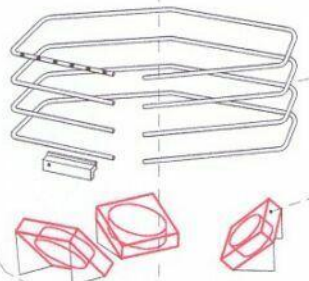
- 08 PROPULSION-SYSTEM
- 10 PROPELLANT TANKS



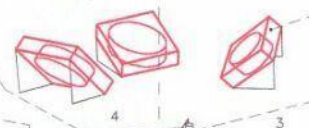
- 21 Main Battery
- 18 Reaction Wheel
- 19 Magnetic Stabilizer (Top+Bottom)



AUX
Battery
21

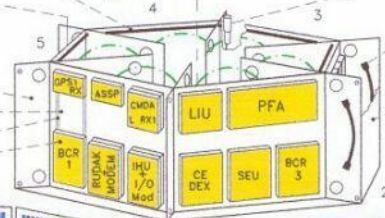


07 HEAT PIPE
18 REACTION WHEELS

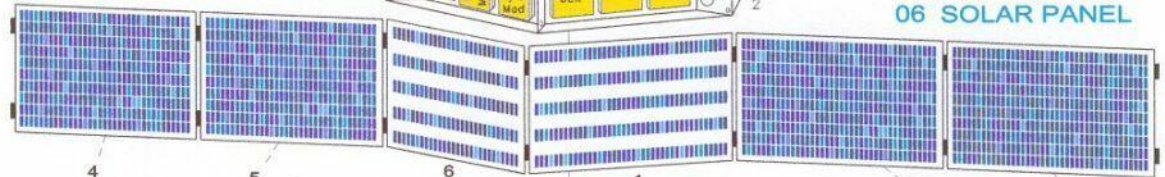


20 EARTH SENSOR #1
17 NUTATION DAMPER

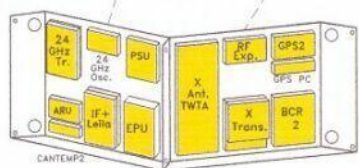
DIVIDER PANEL 02
EQUIPMENT PANEL 02
STRINGER 02
MODULE BOX 05



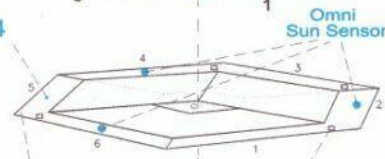
04 SIDE PANEL



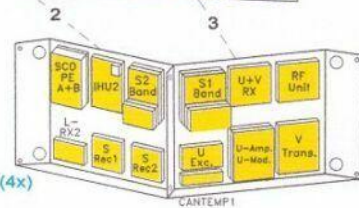
06 SOLAR PANEL



14 SEP-INTERFACE (UMBILICAL)

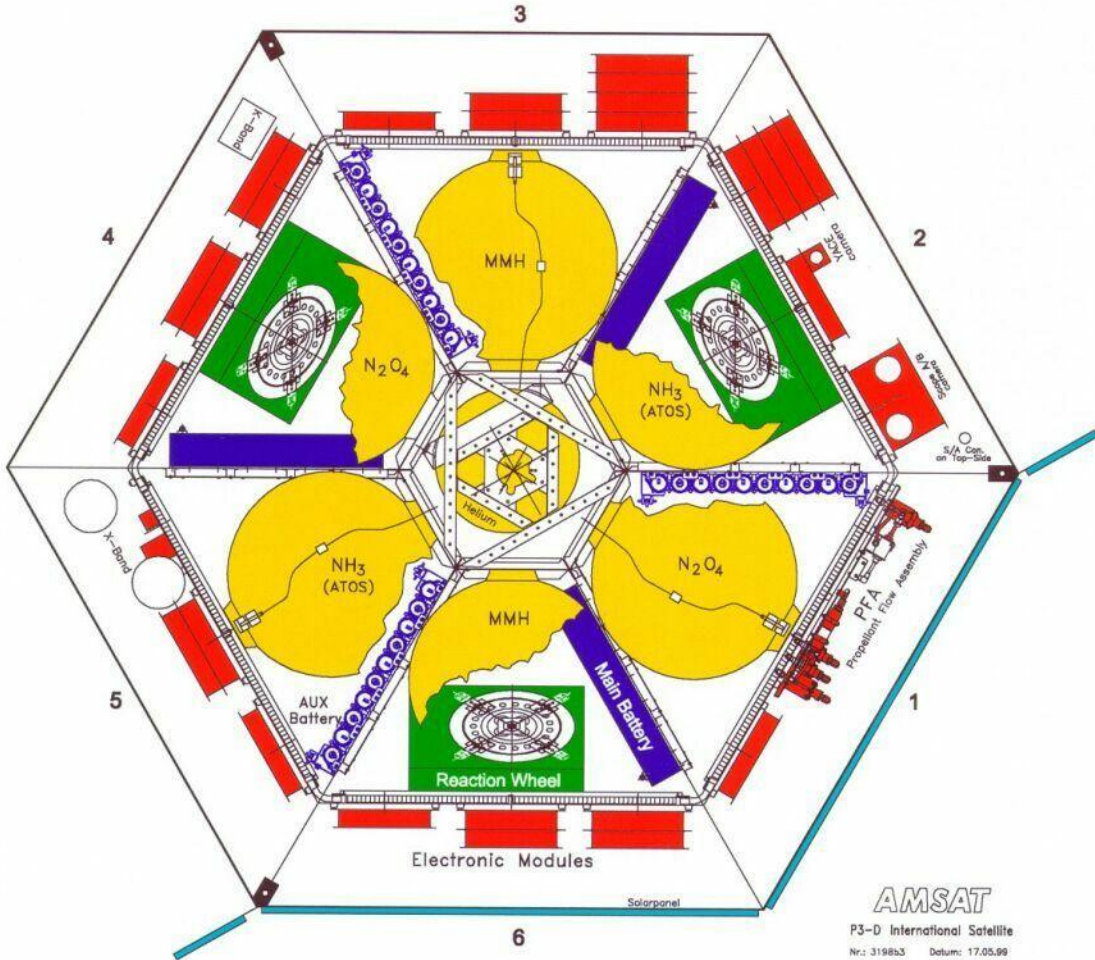


15 GPS ANTENNAS (4x)
03
08 ARCJET ENGINE



CANTEMP1

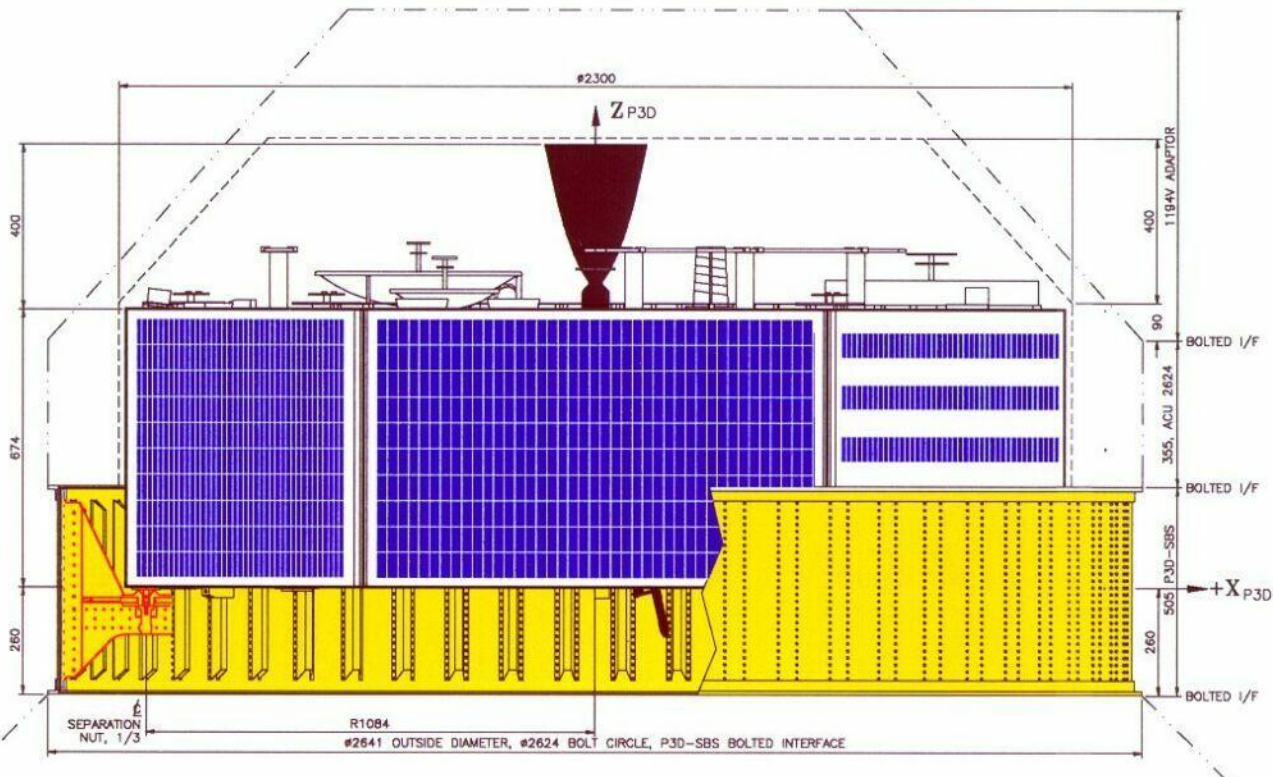




AMSAT

P3-D International Satellite

Nr.: 3198b3 Datum: 17.05.99



#2300

Z P3D

400

400
1194V ADAPTOR

674

90

BOLTED I/F

355
ACU 2624

BOLTED I/F

505
P3D-SBS

+X P3D

260

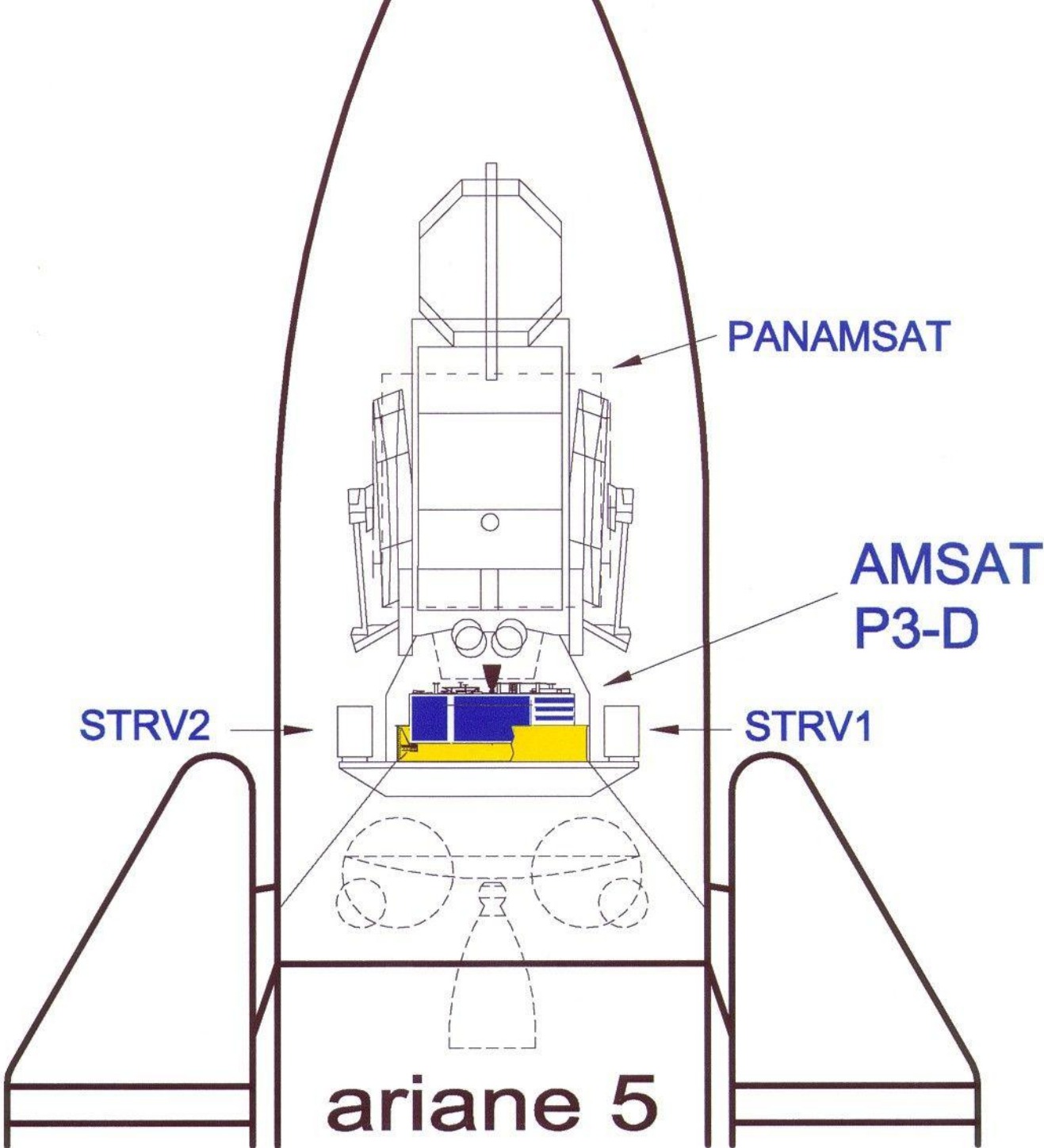
260

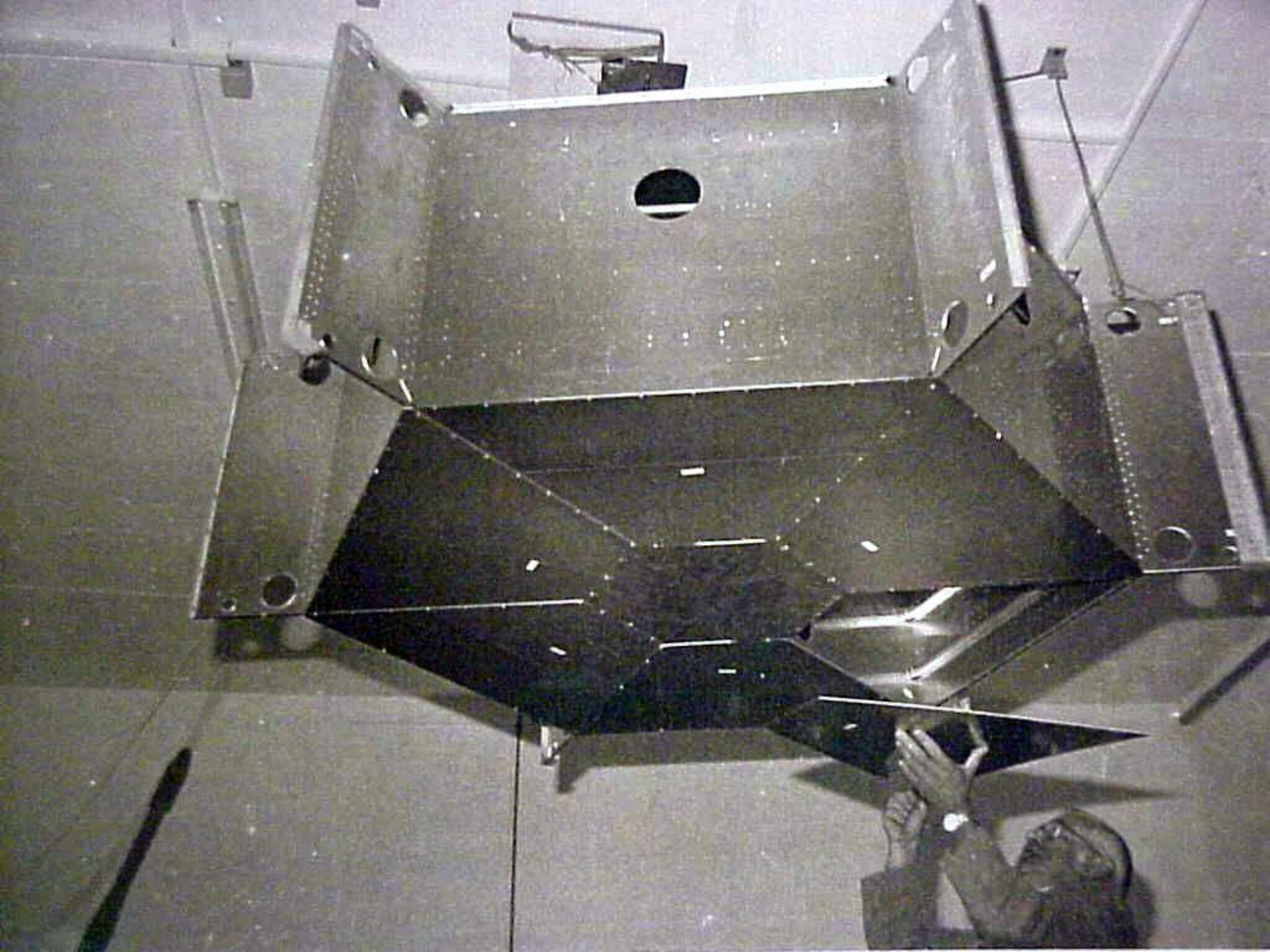
BOLTED I/F

SEPARATION
NUT, 1/3

R1084

#2641 OUTSIDE DIAMETER, #2624 BOLT CIRCLE, P3D-SBS BOLTED INTERFACE



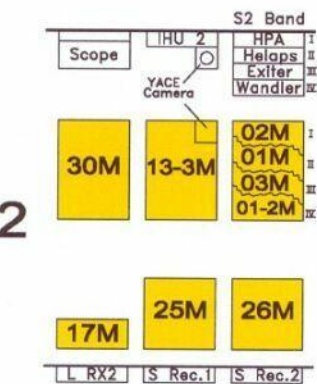
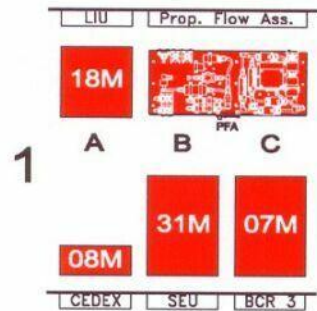




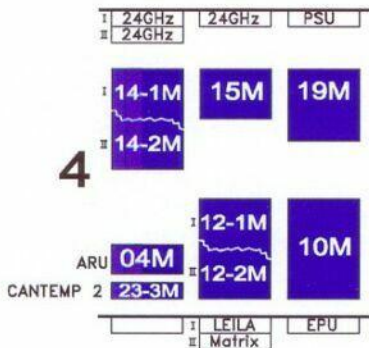
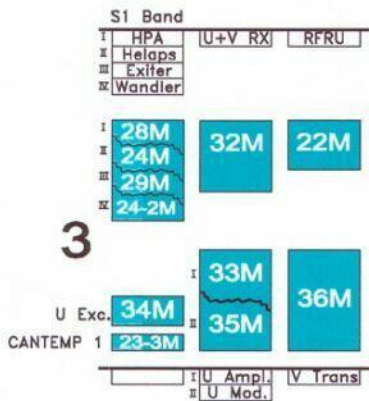




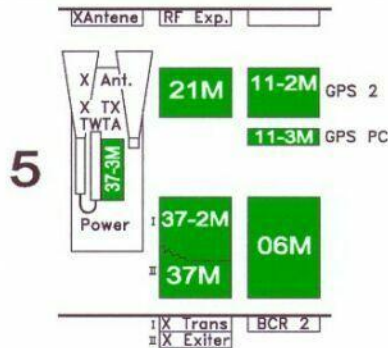
P3-D-Module-Overview

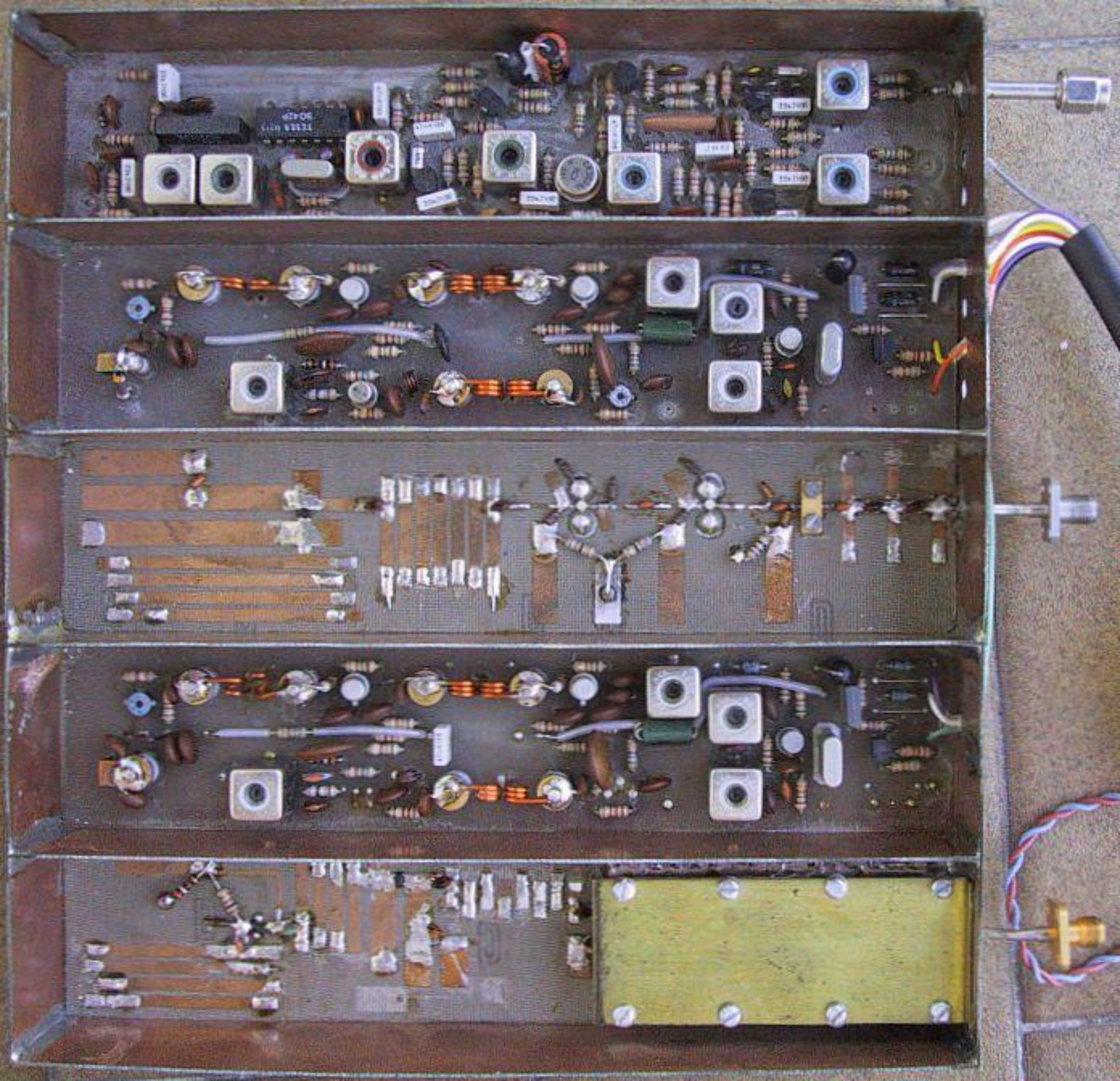


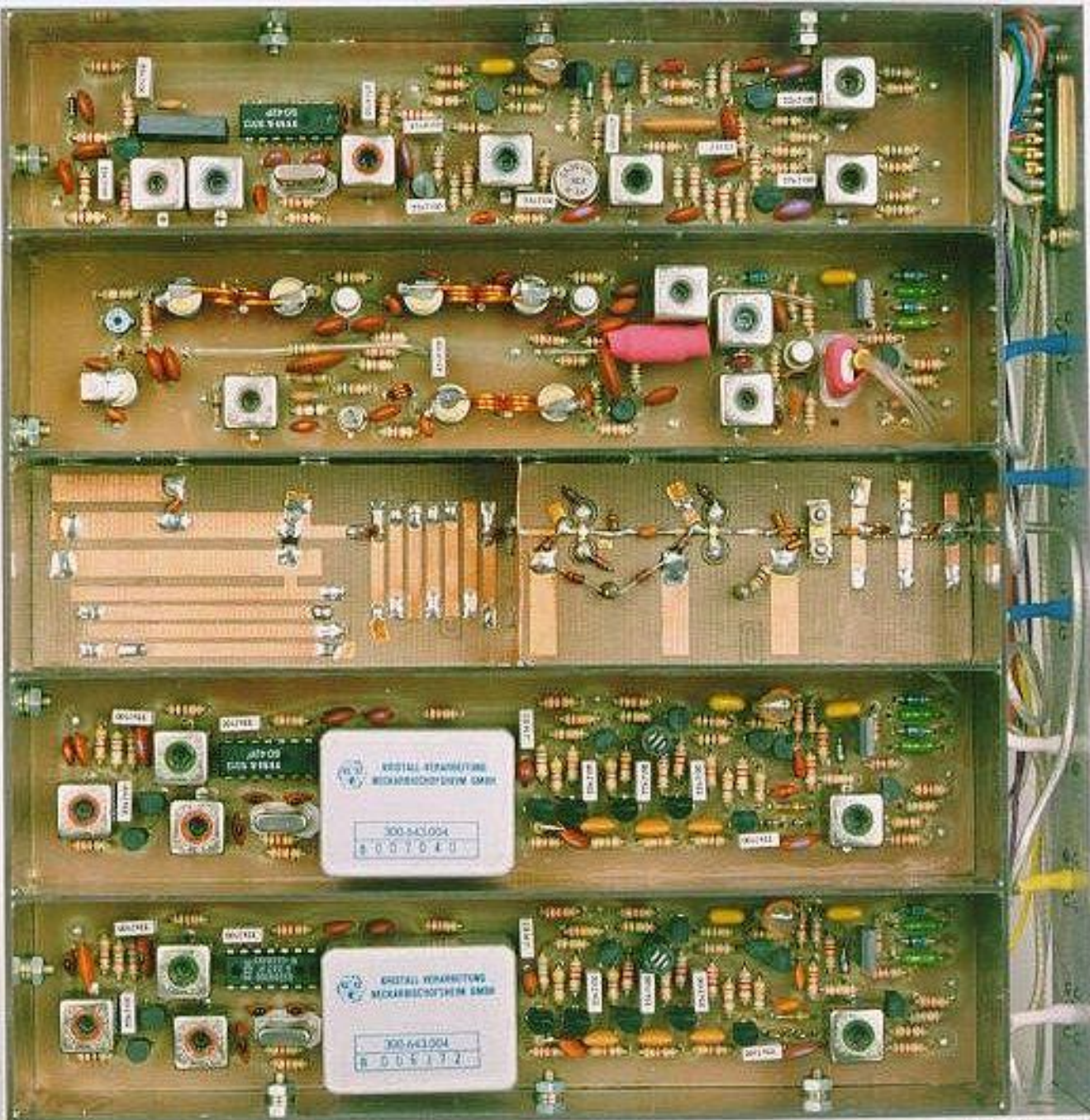
S2 Band Transm. Pow. Amplifier (HPA)	K.Brenndörfer			2 C1 ₁	02	M
S2 Band Helaps Modulator	W. Hoos			2 C1 ₂	01	M
S2 Band Transmitter Exciter	Freddy de G.			2 C1 ₃	03	M
S2 Zusatz-Wandler für Helaps Modulator	W. Hoos			2 C1 ₄	01-2	M
Array Release Unit (ARU)	R. Leon			4 A2	04	M
BCR 1	A. Gschwindt			6 A2	05	M
BCR 2	A. Gschwindt			5 C2	06	M
BCR 3	A. Gschwindt			1 C2	07	M
Cedex Experiment	Craig Underwood			1 A2	08	M
CMDA Unit CMDArbitration	L.Mc Fadin			6 C1 ₁	09-1	M
CMDA Unit PSKDEM 2	W. Hoos				09-2	M
Electronic Propulsion Unit (EPU)	C.Green, K.Müller, W.Hoos			4 C2	10	M
GPS RX1	B. Garbee, F. Bauer			6 A1	11-1	M
GPS RX2	B. Garbee, F. Bauer			5 C1	11-2	M
GPS Power Controller	C.Green, L.Johnson			5 C1	11-3	M
Lella	M. Vidmar			4 B2 ₁	12-1	M
IF Matrix	M. Vidmar			4 B2 ₂	12-2	M
IHU Computer	C.Green, P.Gülzow, L.Johnson			6 C2 ₁	13-1	M
I/O Modul	C.Green, P.Gülzow, L.Johnson			6 C2 ₂	13-2	M
IHU Computer 2 (YAHU)	C.Green, P.Gülzow, L.Johnson, J.Miller			2 B1 ₁	13-3	M
YACE Camera	P. Gülzow			2 B1 ₂	13-4	M
K Band 24 GHz Transmitter Teil 1	D. Orban			4 A1 ₁	14-1	M
K Band 24 GHz Transmitter Teil 2	D. Orban			4 A1 ₂	14-2	M
K Band 24 GHz TX Oscillator	D. Orban			4 B1	15	M
PSKDEM 1	W. Hoos			6 C1 ₂	16-1	M
L Band Receiver 1	M. Kasal				16-2	M
L Band Receiver 2	M. Kasal, W. Hoos			2 A2	17	M
Liquid Ignition Unit (LIU)	R. Leon			1 A1	18	M
Power Supply Unit	L. Mc Fadin			4 C1	19	M
Propellant Flow Assembly (look 08 mechanic)	D. Daniels			1 B1		
RF Monitor Experiment	A. Gschwindt			5 B1	21	M
RF Relay Unit (RFRU)	L. Mc Fadin			3 C1	22	M



RUDAK	Green, Gülzow L. Johnson	6 B2 ₁	23-1 M
RUDAK MODEM	Green, Gülzow L. Johnson	6 B2 ₂	23-2 M
CAN-LAN (CAN TEMP1+2)	Green, Gülzow, L. Johnson	3A2 / 4A2	23-3 M
S ₁ Band Transm. Pow. Amplifier (HPA)	D. Orban	3 A1 ₁	28 M
S ₁ Band Helaps Modulator	W. Hoos	3 A1 ₂	24 M
S ₁ Band Transmitter Exiter	Freddy de G.	3 A1 ₃	29 M
S ₁ Band Zusatz-Wandler für Helaps Mod.	W. Hoos	3 A1 ₄	24-2 M
S ₁ Band Receiver 1 HF Band Rec.	M. Vidmar	2 B2	25 M
S ₁ Band Receiver 2 C Band Rec.	M. Vidmar	2 C2	26 M
Scope A & B Camera Experiment	M. Nakejama	2 A1	30 M
Sensor Electronics Unit (SEU)	W. Lockhart, J. Mc Donald	1 B2	31 M
U & V Band Receivers	Freddy de G.	3 B1	32 M
U Band Transmitter Power Amplifier	K. Hupfer	3 B2 ₁	33 M
U Band Helaps Modulator	W. Hoos	3 B2 ₂	35 M
U Band Transmitter Exciter	W. Hoos	3 A2	34 M
V Band Transmitter	M. Dorsett	3 C2	36 M
X Band Transmitter	J. Pulkonen	5 B2 ₁	37 M
X Band Exciter	M.Fletcher/J. Pulkonen	5 B2 ₂	37-2 M
X Band TWTA Power Supply	M.Fletcher/J. Pulkonen	5 A	37-3 M
Analog Sun Sensor Processor (ASSP)	L. Mc. Fodin	6 B1	39 M



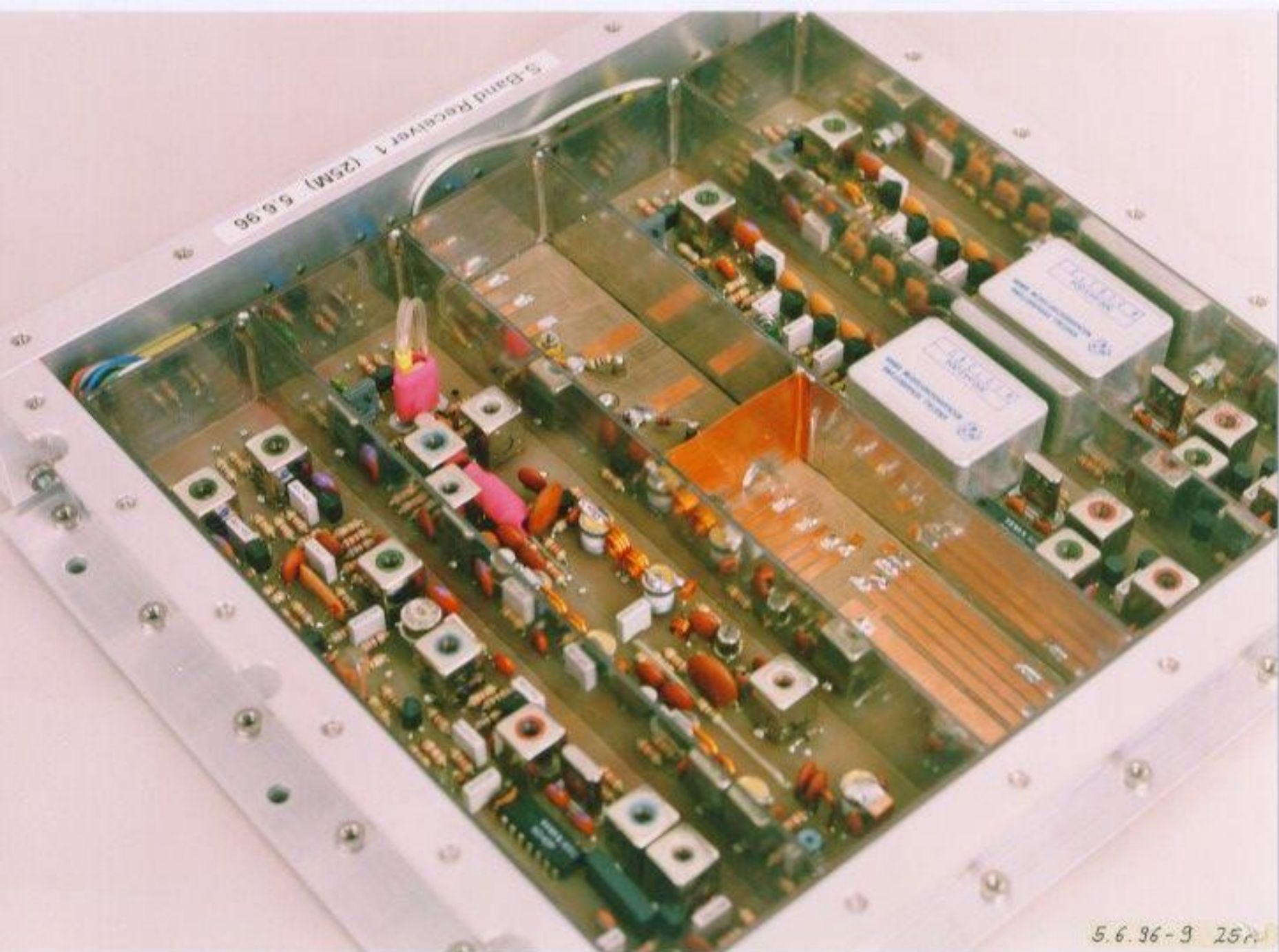




S-Band Receiver 1 (25M) 5.6.96

5.6.96-3

25H



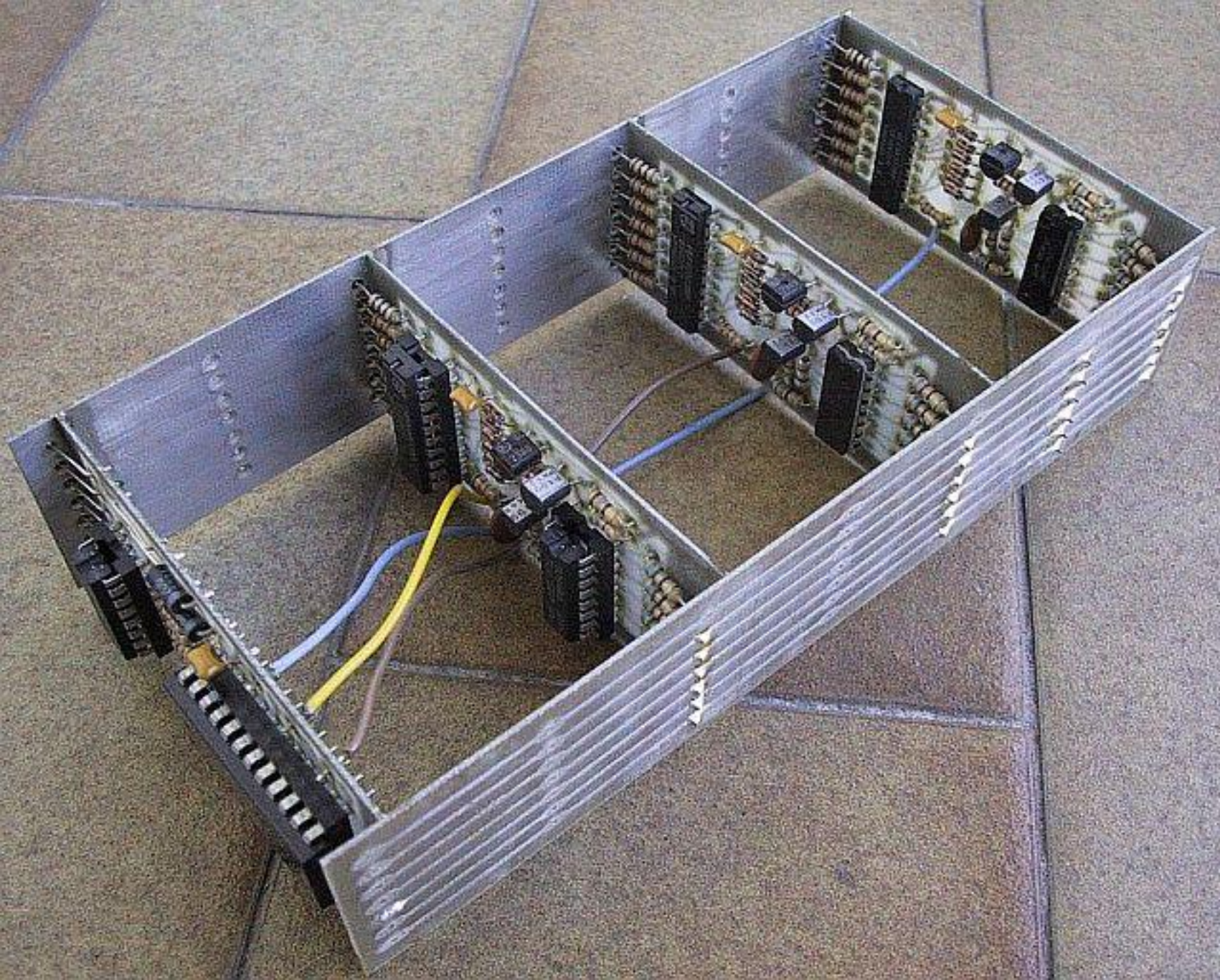
S-Band Receiver 1 (25M) 5.6.96

S Band Receiver 1 HF Band Receiver



25 M
C

5.6.96-9 25r



BY 206
BY 206

.22M63-

MC14011BAL
FFIC8848
PHIL

.1M63

.47M63

68nJ63

47nK100

22nM100

.1M63

CS-3022A
K-9472
11014

22nJ100

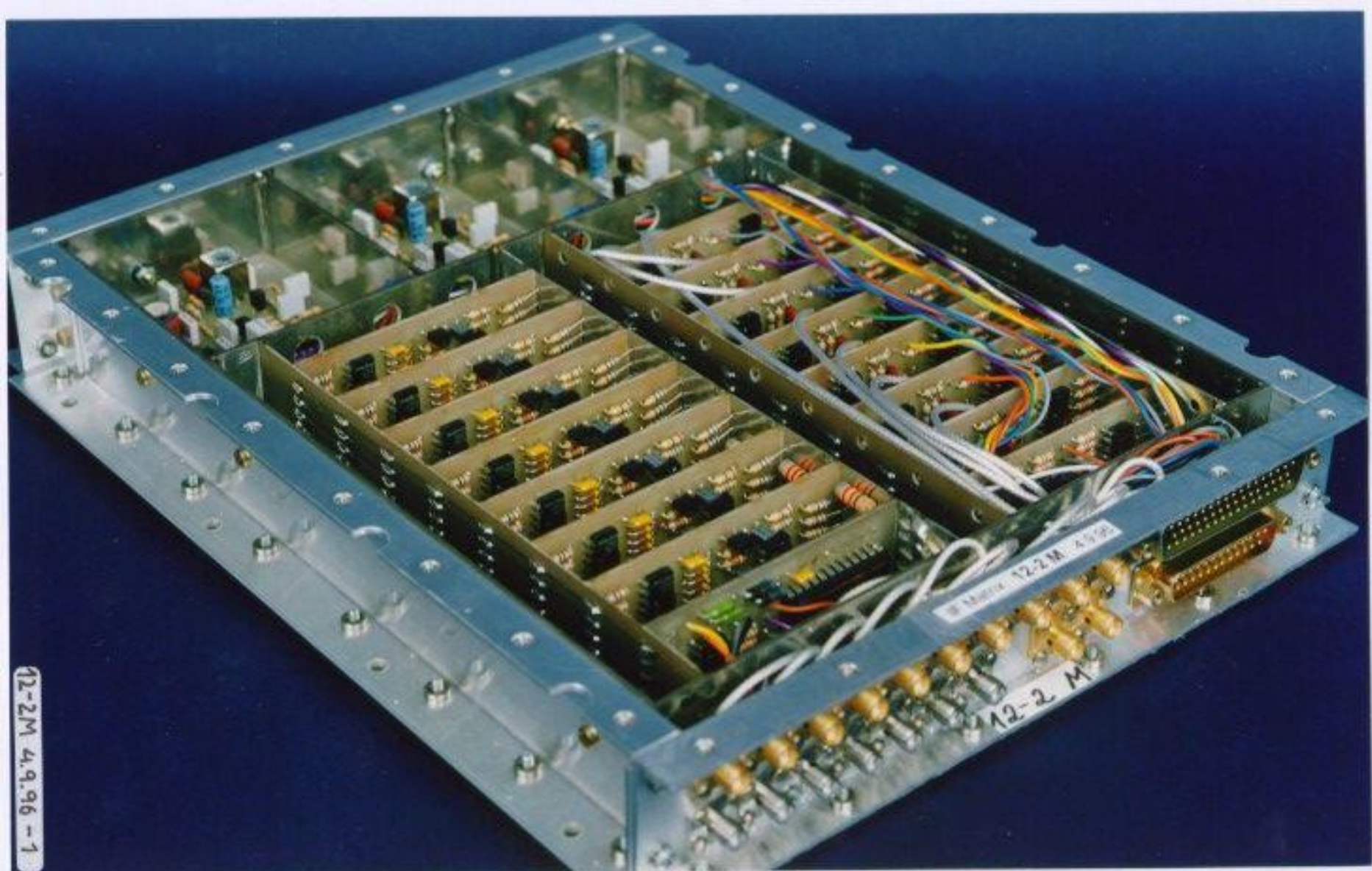
22nJ100

18nM50

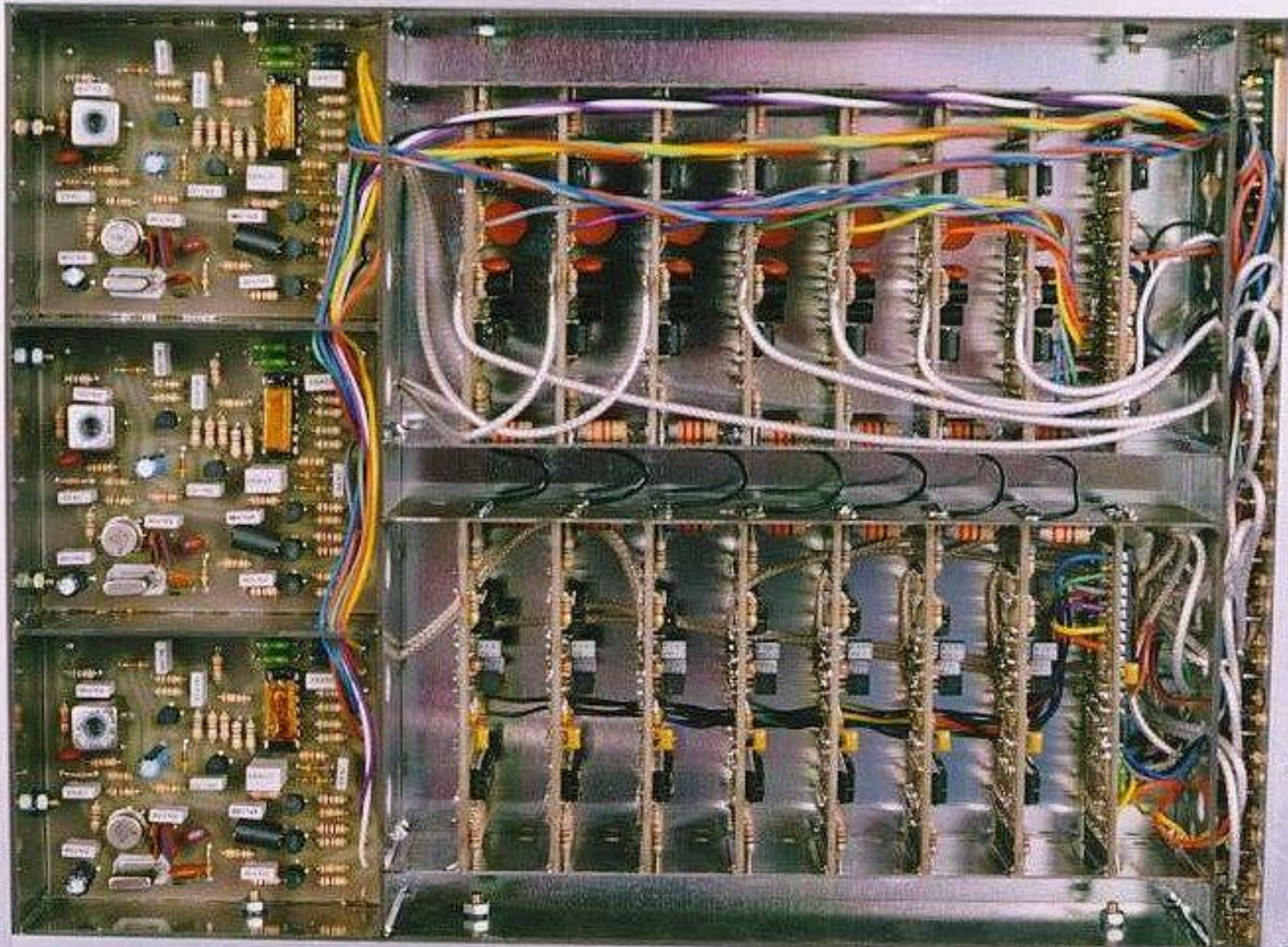
10nJ100

22nJ100

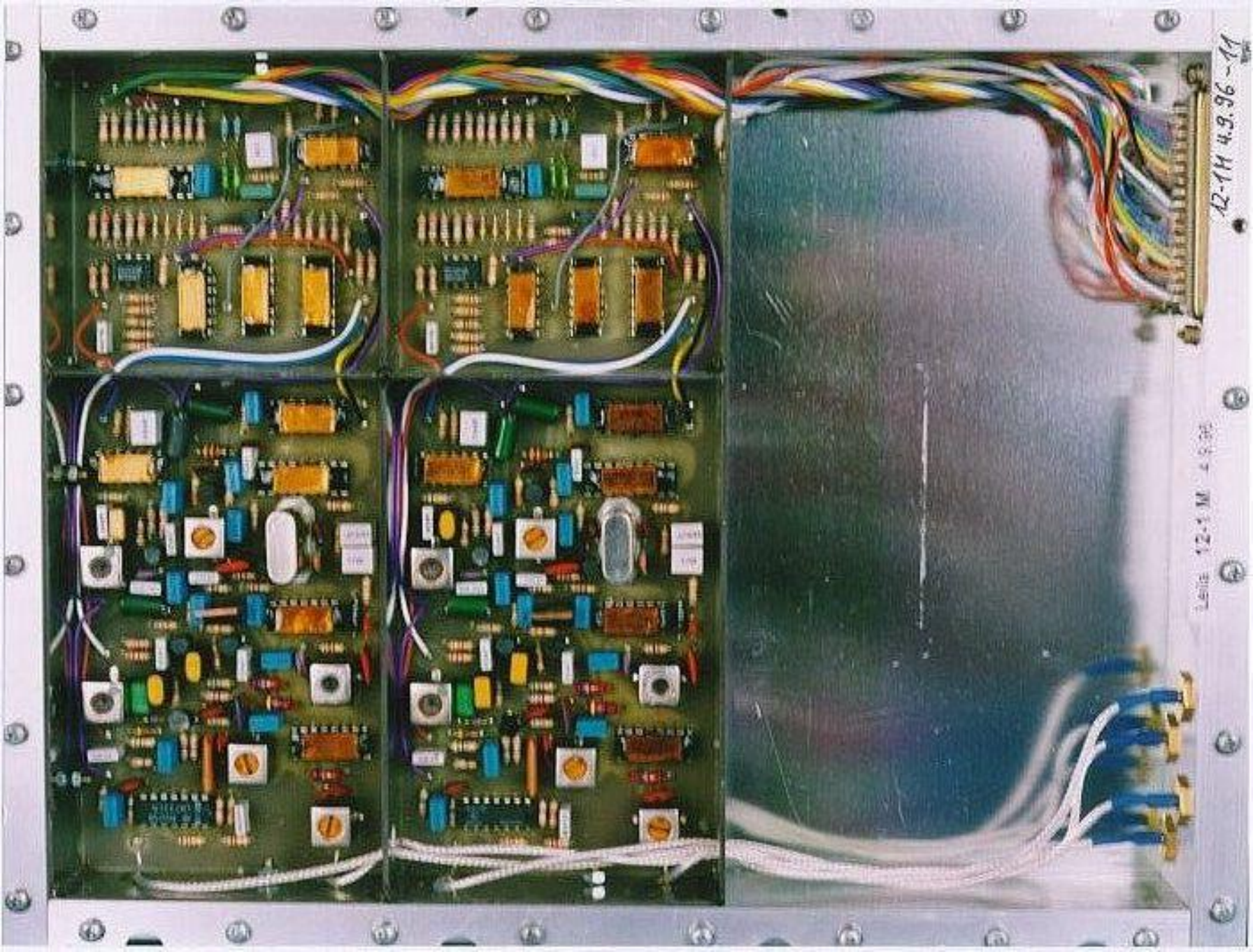
TOKO
TOKO
TOKO
TOKO
TOKO
TOKO



12-2H 4.9.96-3

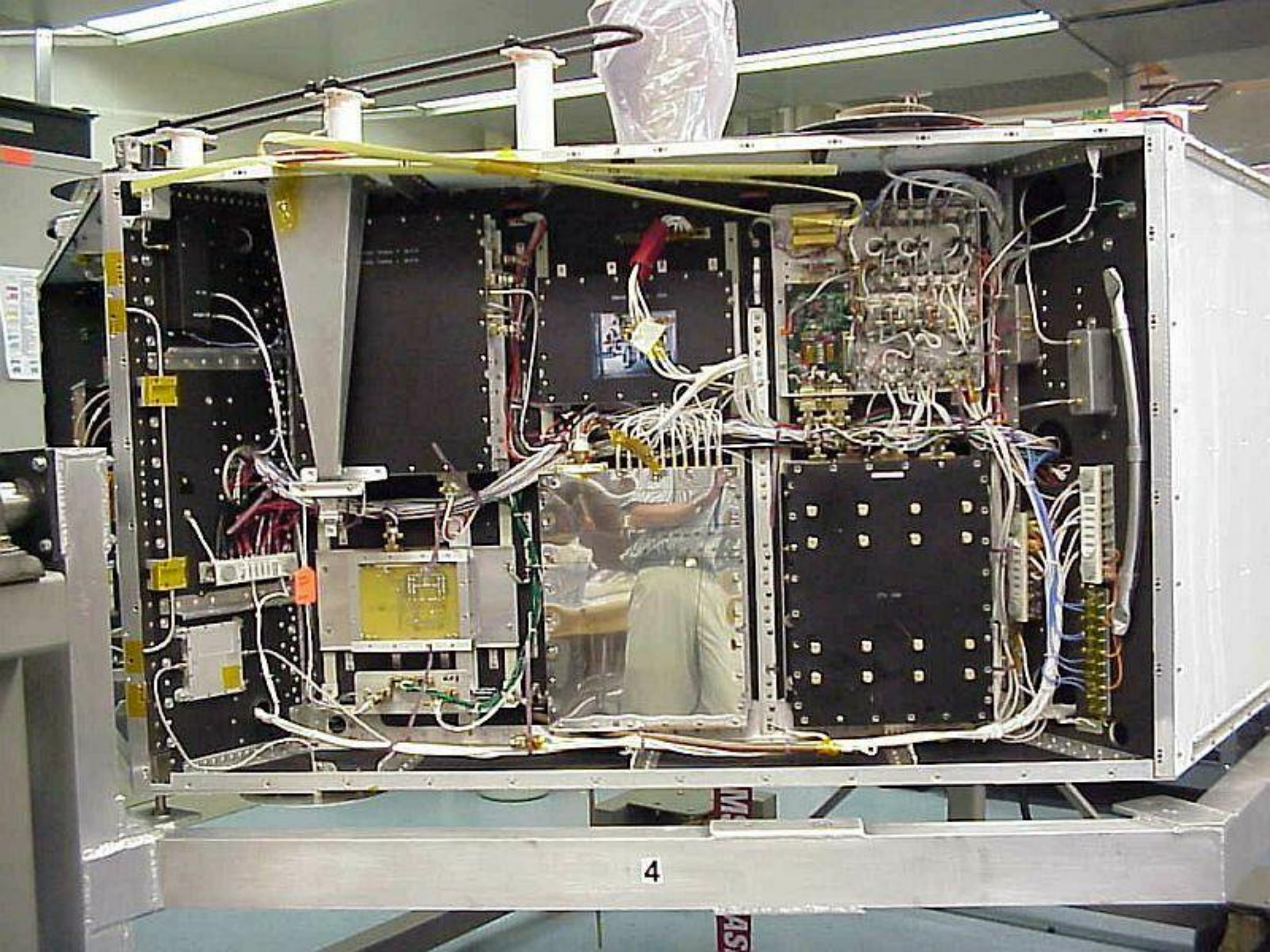


IF Matrix 12-2 M 4 9 96



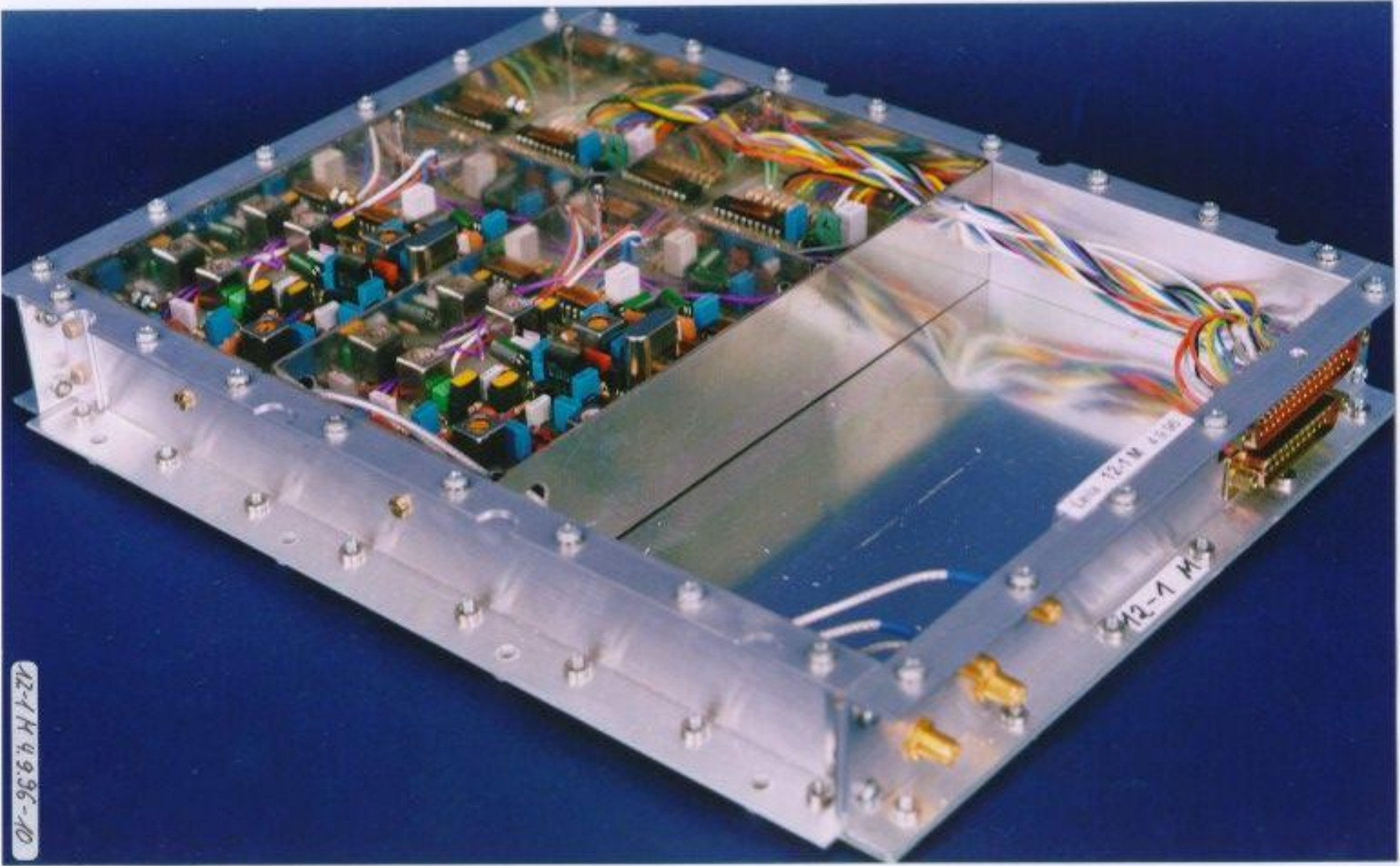
Lot# 12-1 M 4 8 96

12-1H 4 9 96-11



4

4S

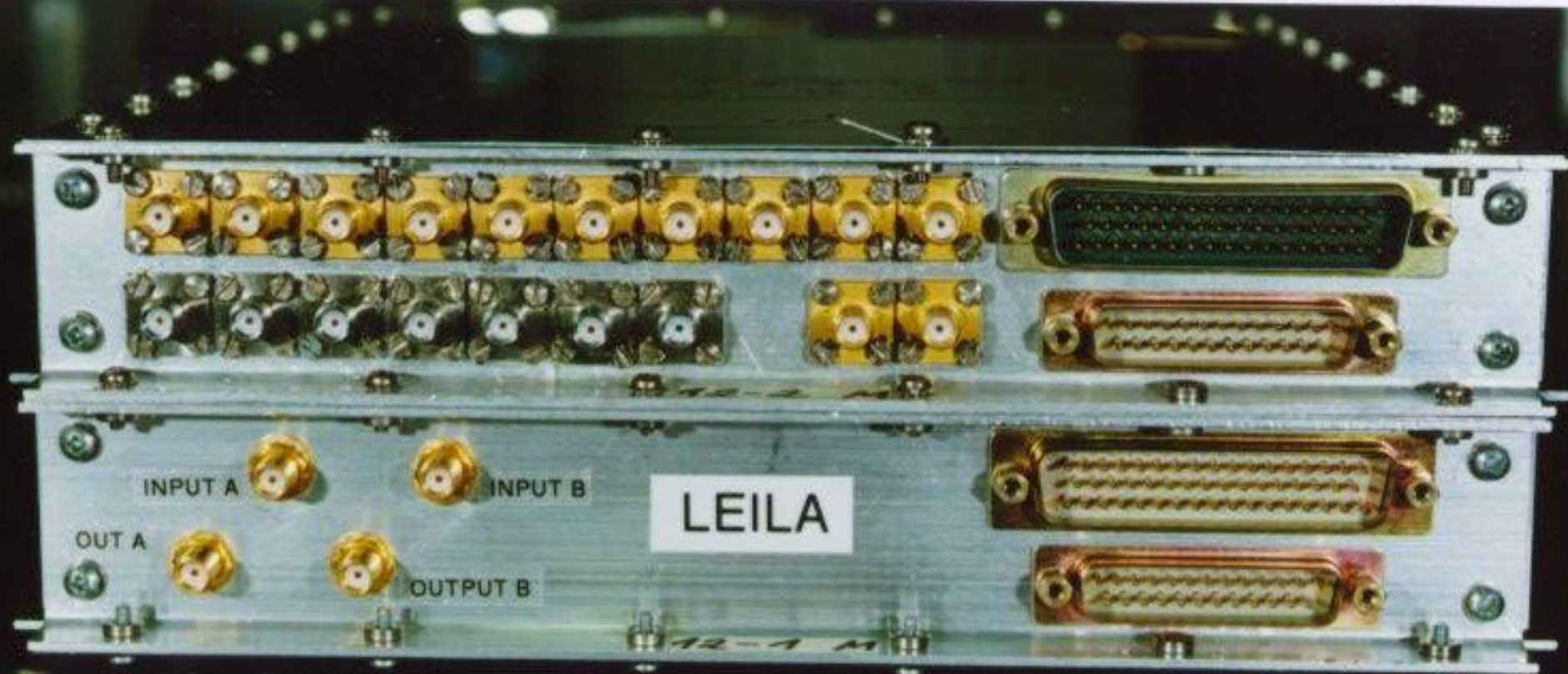


12-1M 4.9.36-10

12-1M 4.9.36-10

12-1M 4.9.36-10

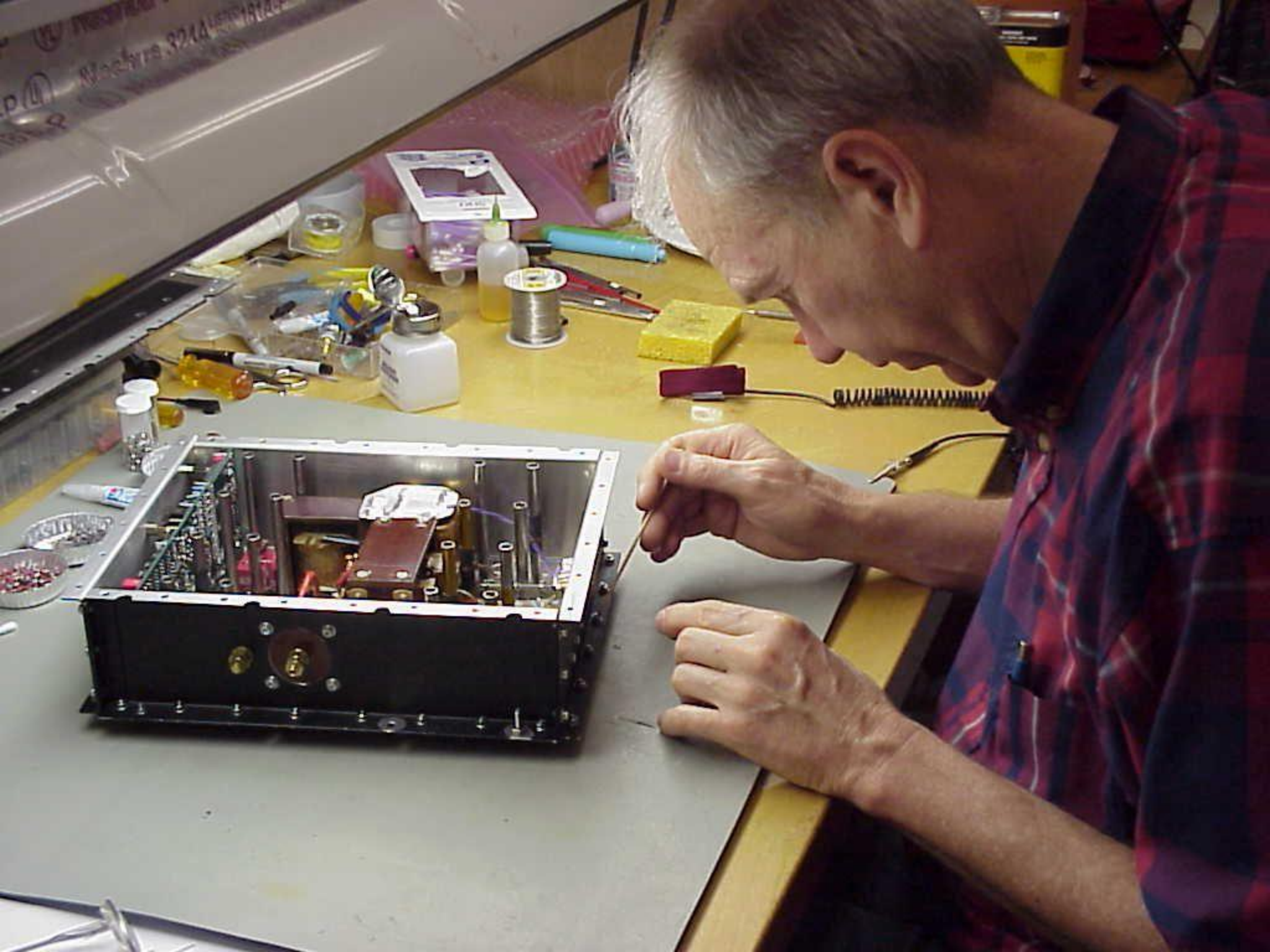






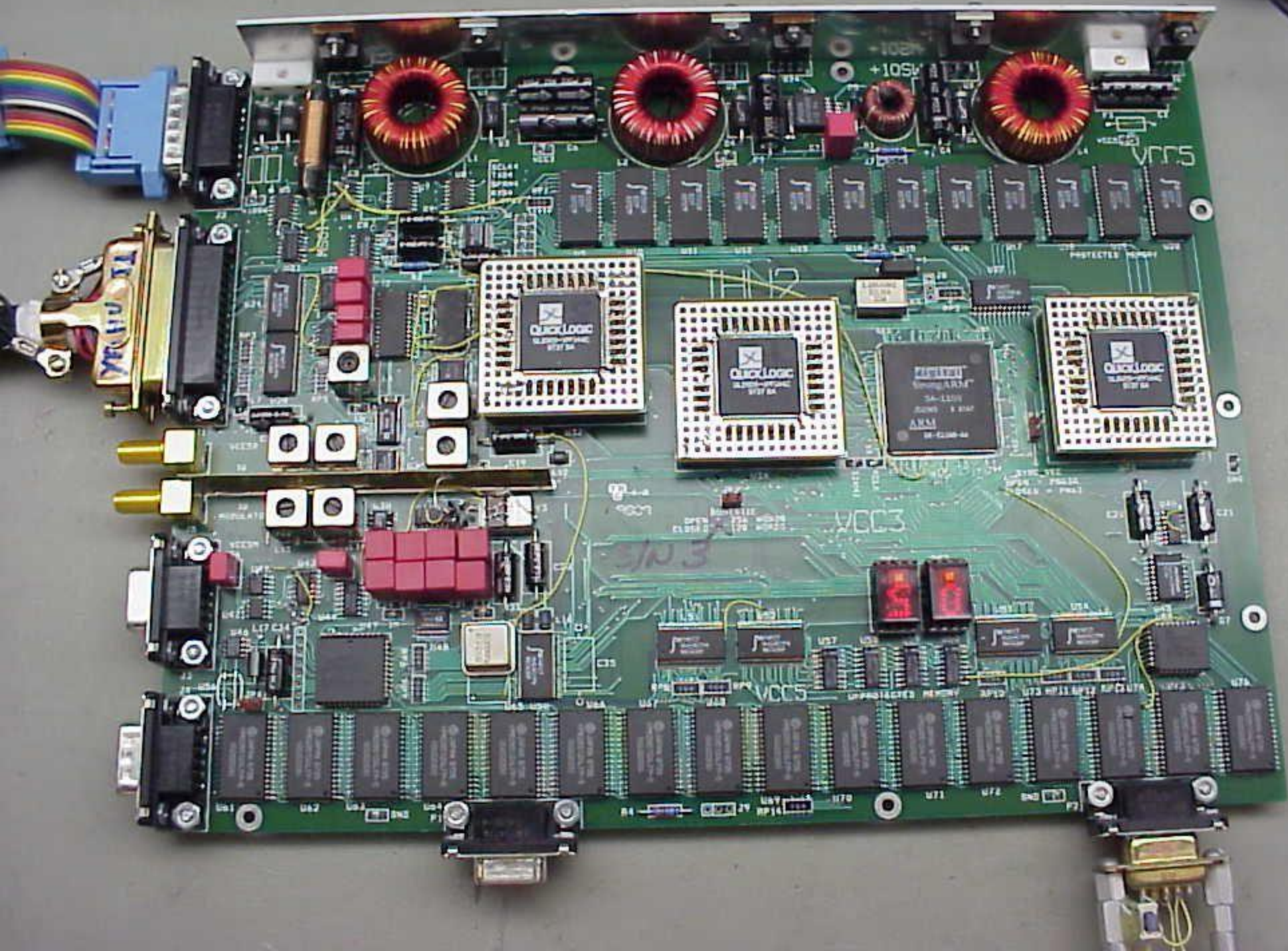


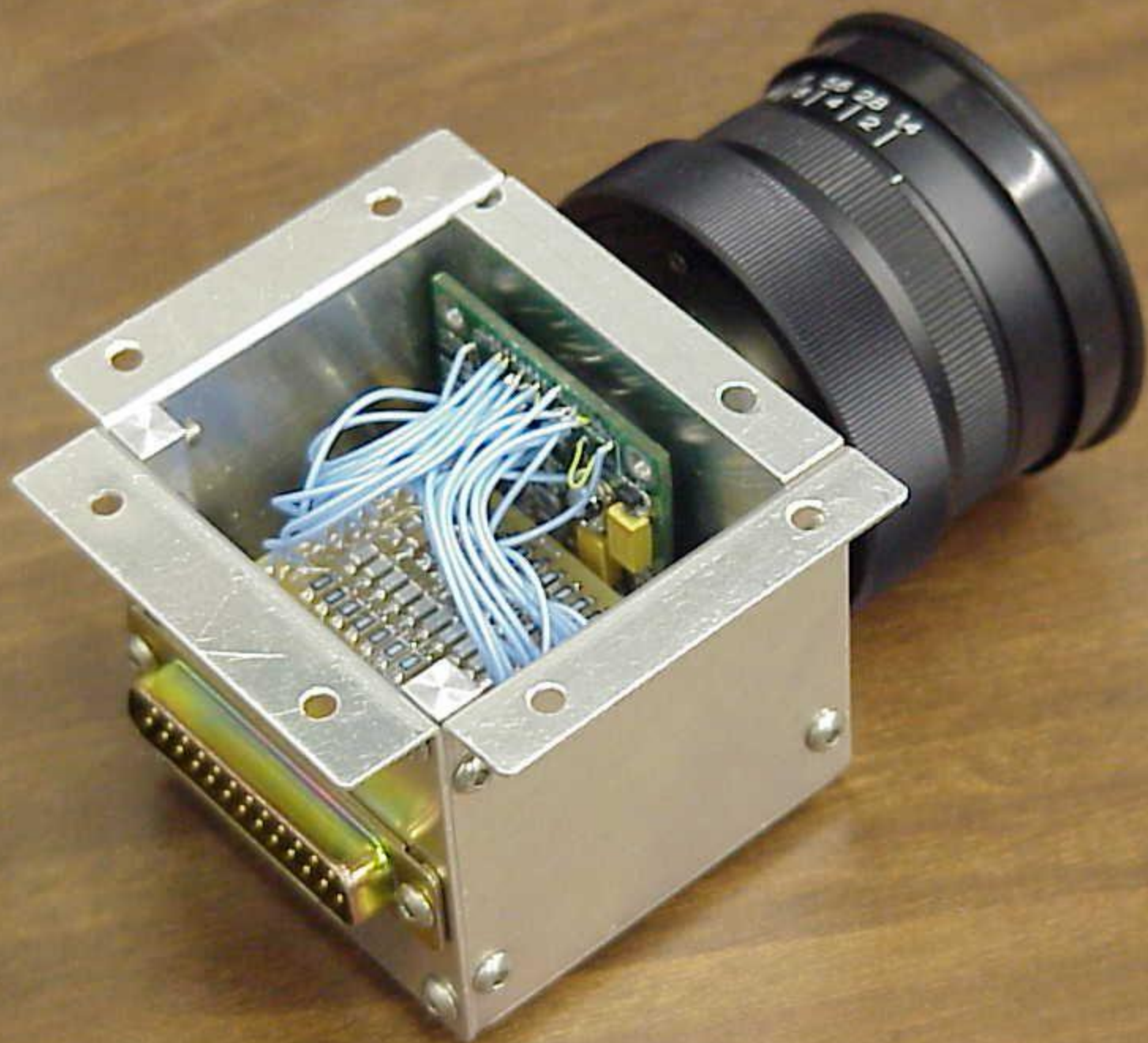


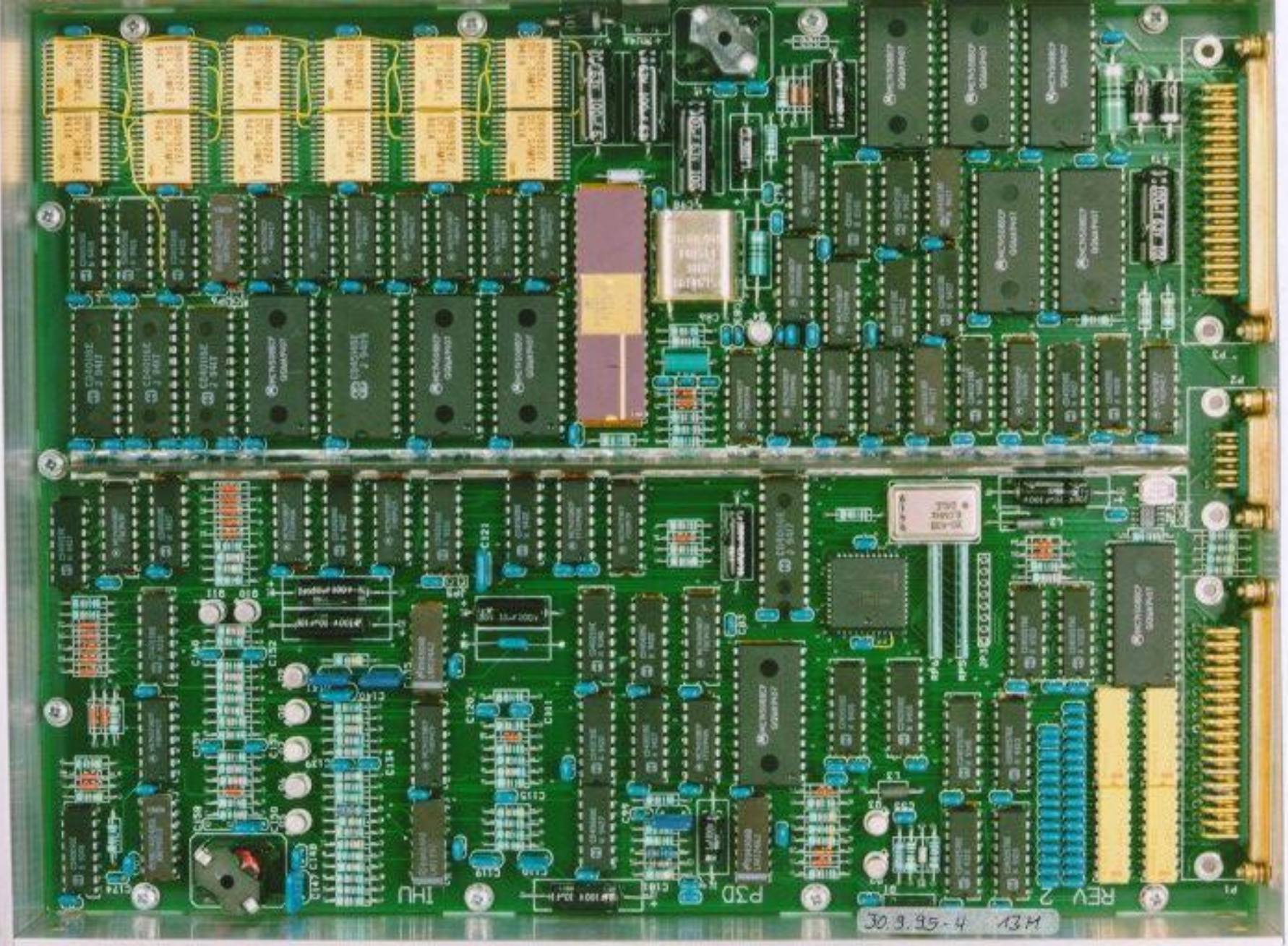












REV 2
30.9.95-4 WEL

13-4H
b

IHU - M04-00000000

17 Model

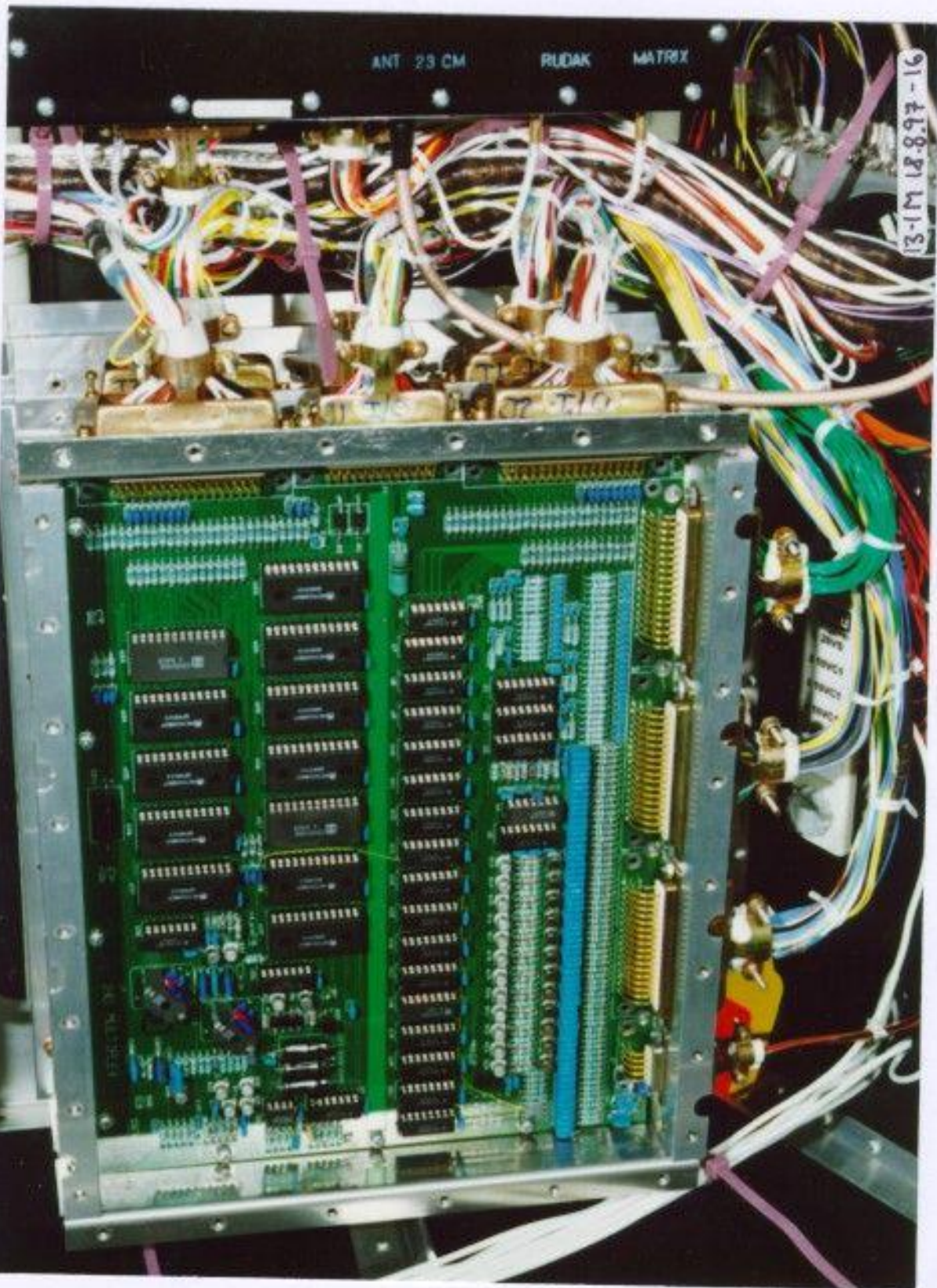
13-27
a

ANT 23 CM

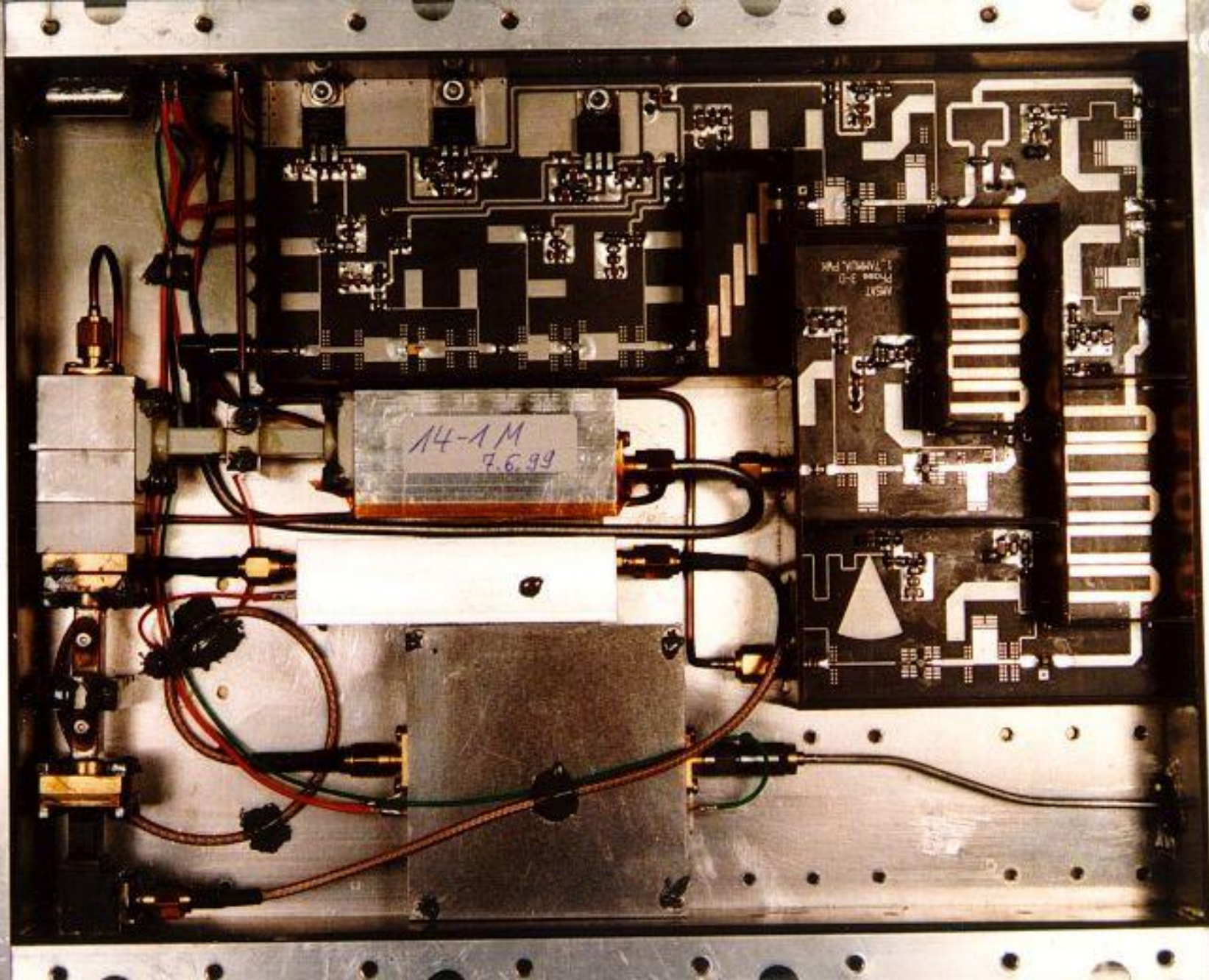
RUDAK

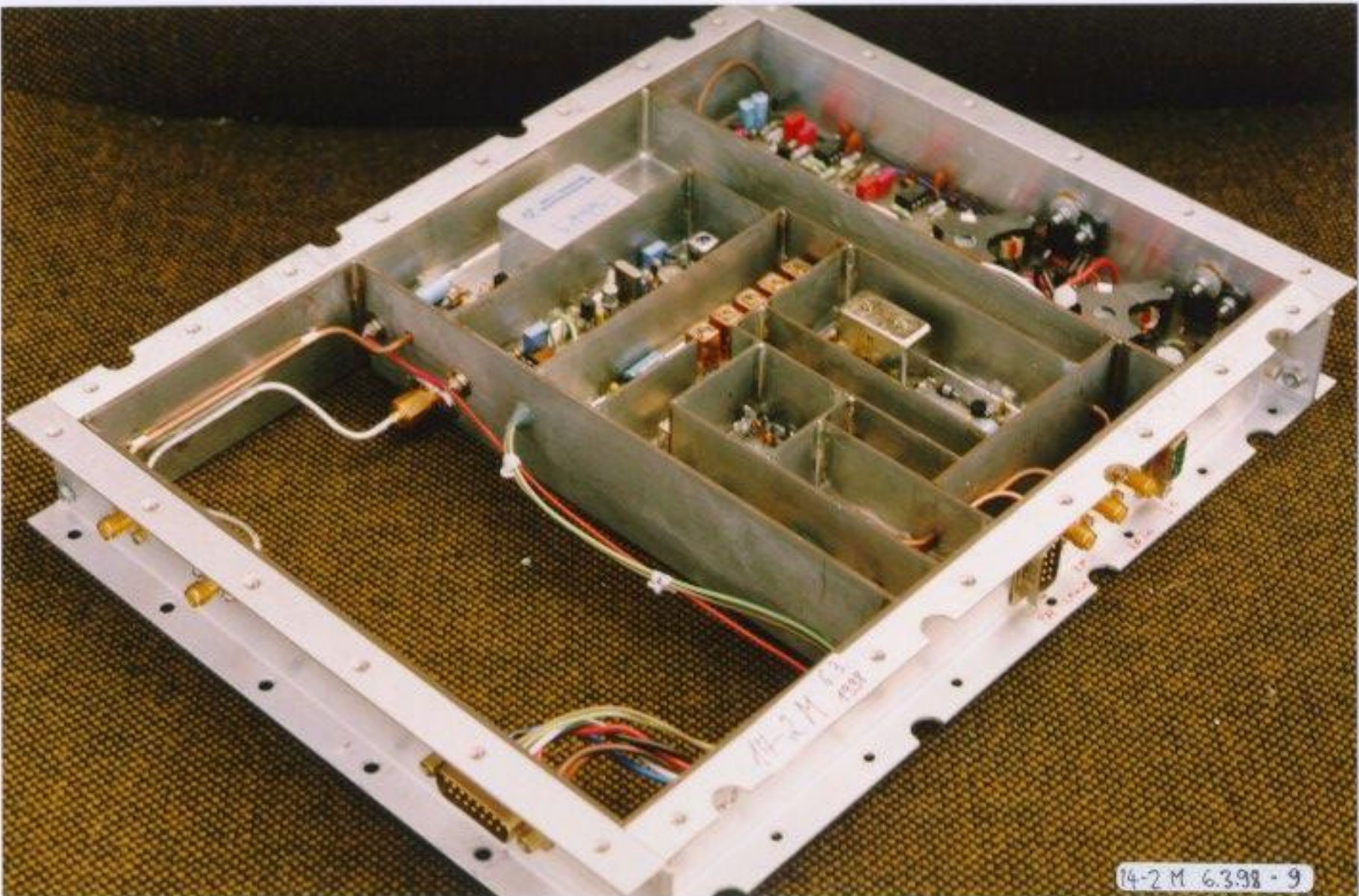
MATRIX

13-1M 12-8-97-16

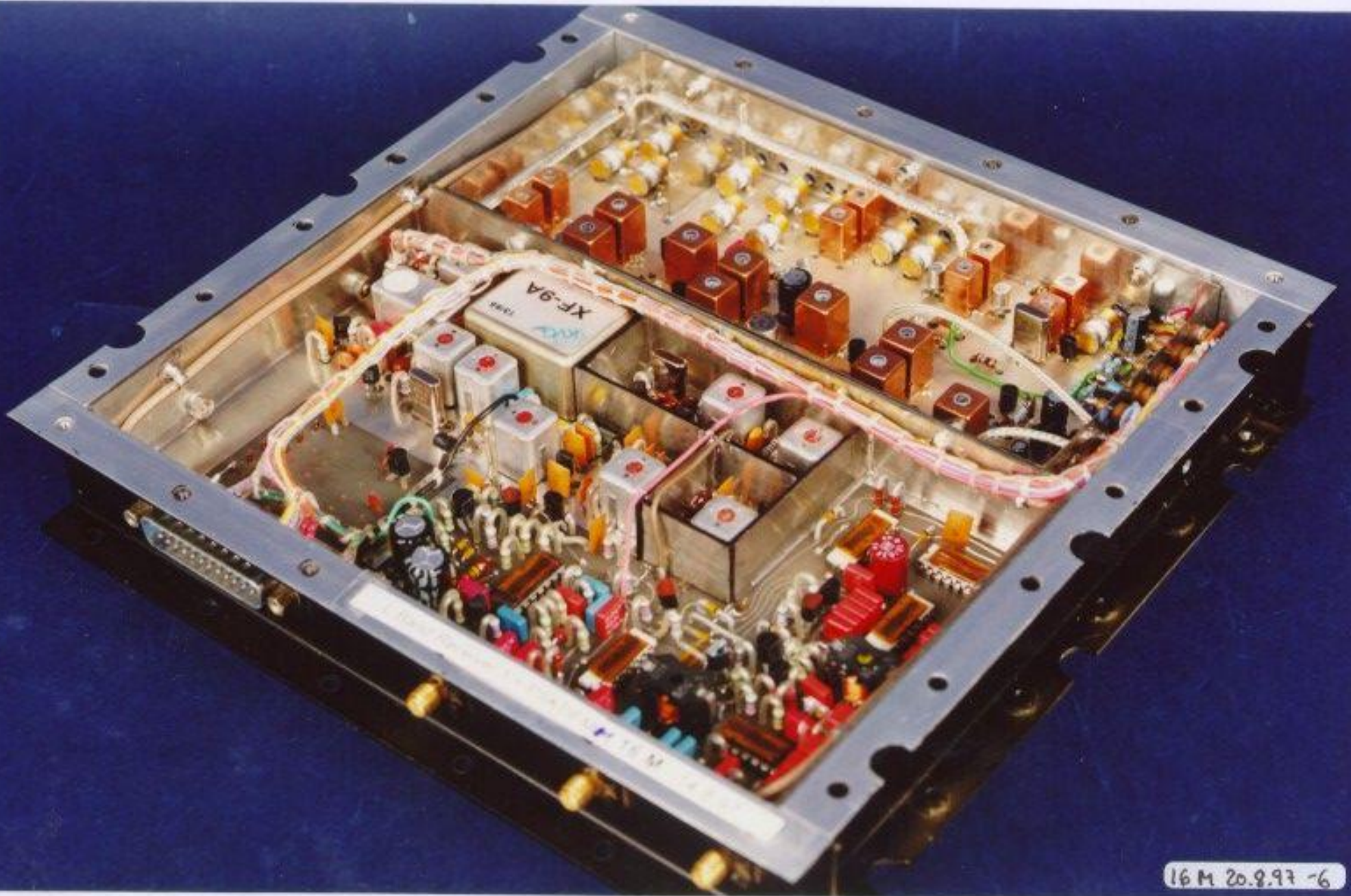


9. 669-111-1-1





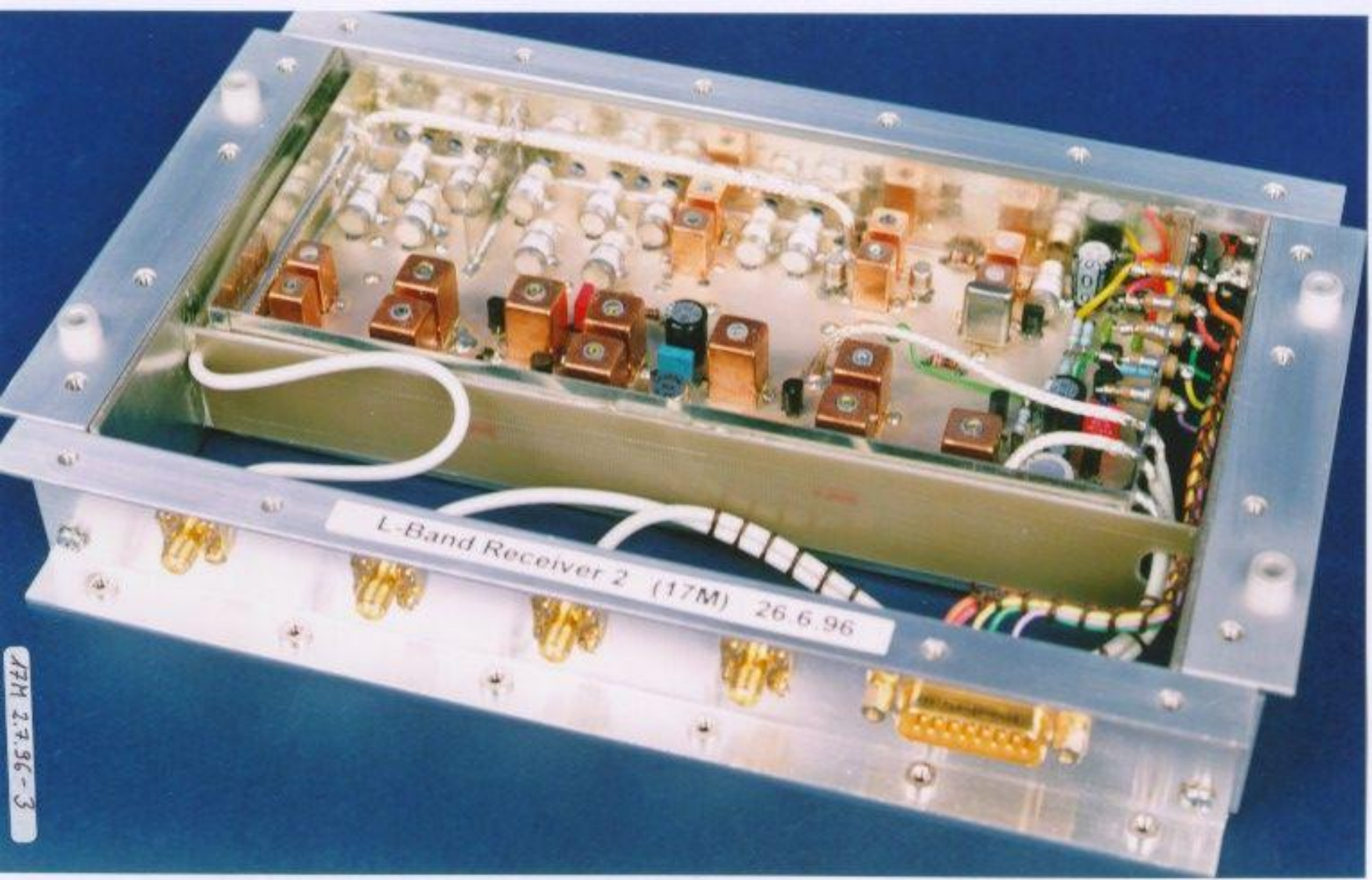
14-2 M 6.3.98 - 9



L Band Receiver 1 PSKDEM 1

16 M 20.8.97 -6

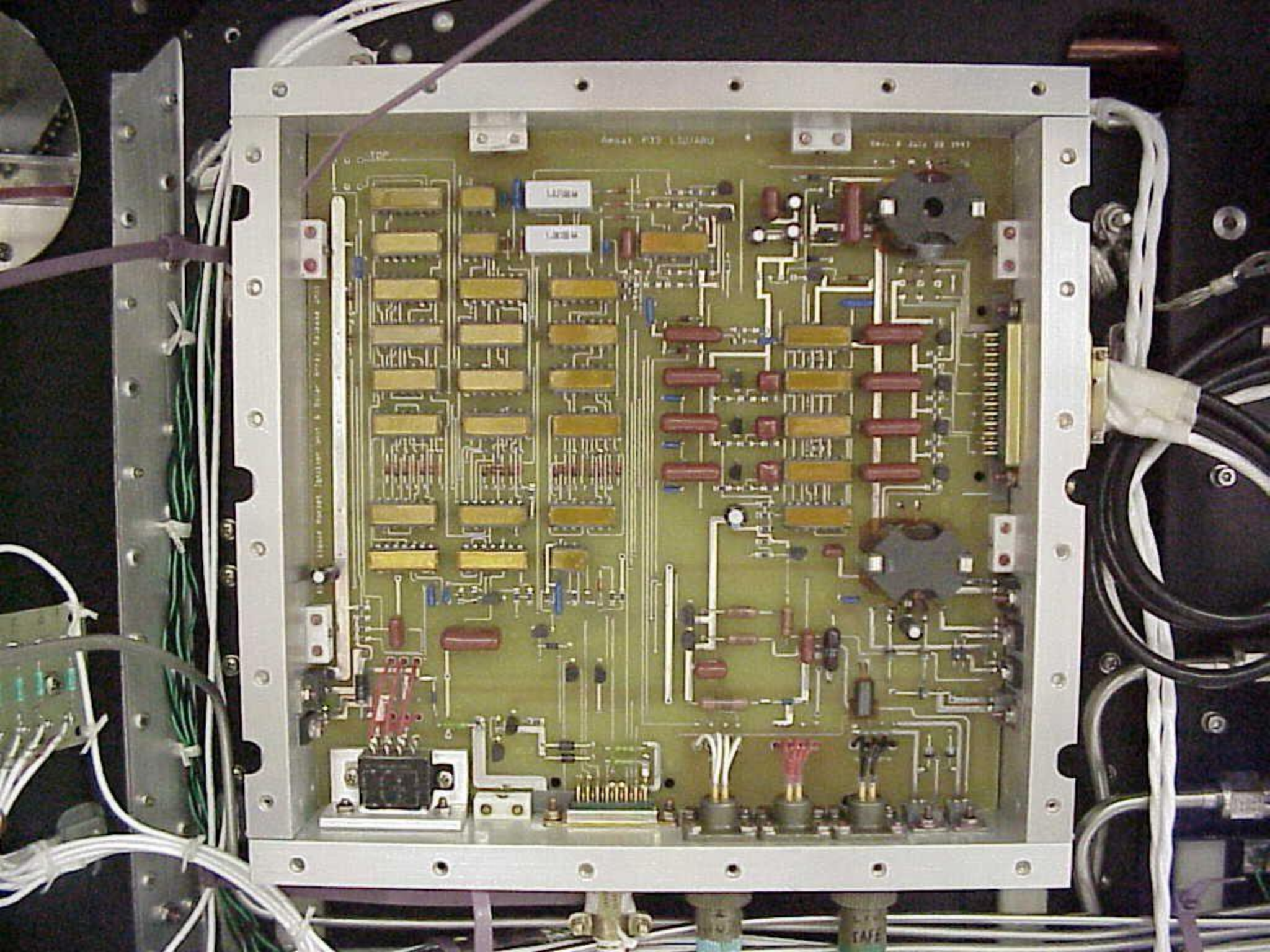
16 M
a



L Band Receiver 2

L-Band Receiver 2 (17M) 26.6.96

17M 2.7.96-3



Model PTD L32740

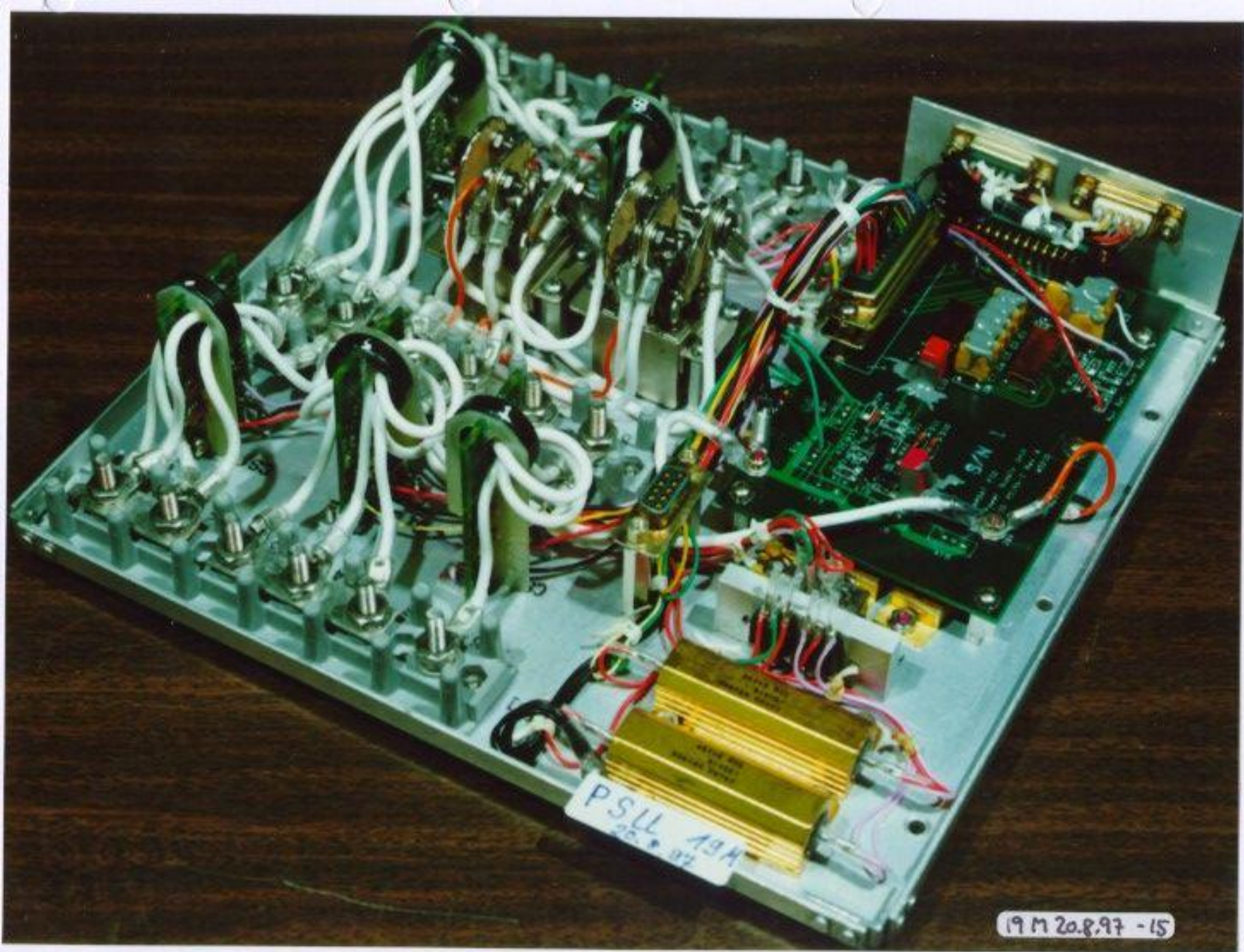
Rev. 8 July 22 1991

1100V AC Input Voltage with 5 Amps (max) Available

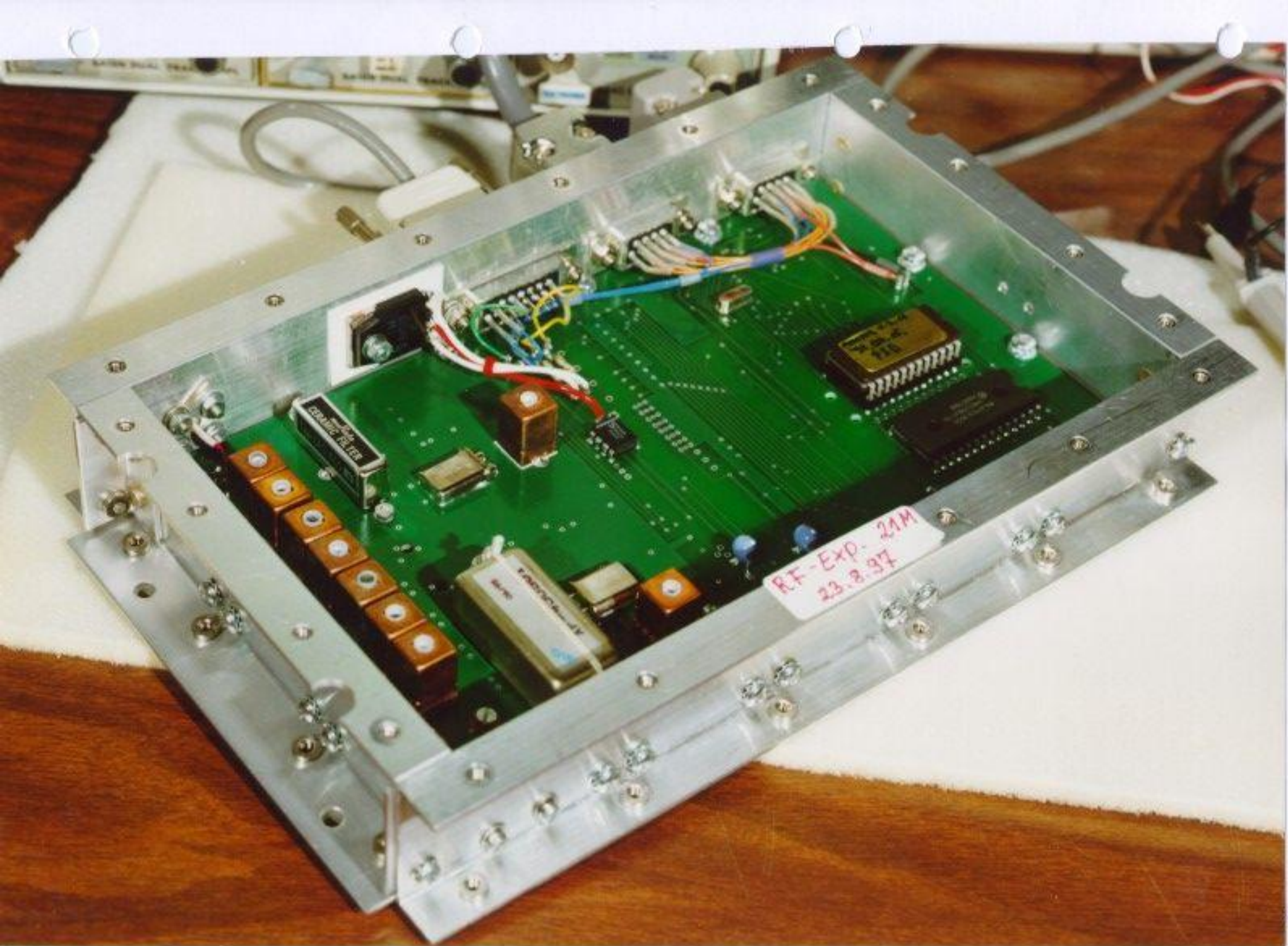
1200W

1200W

TAPE

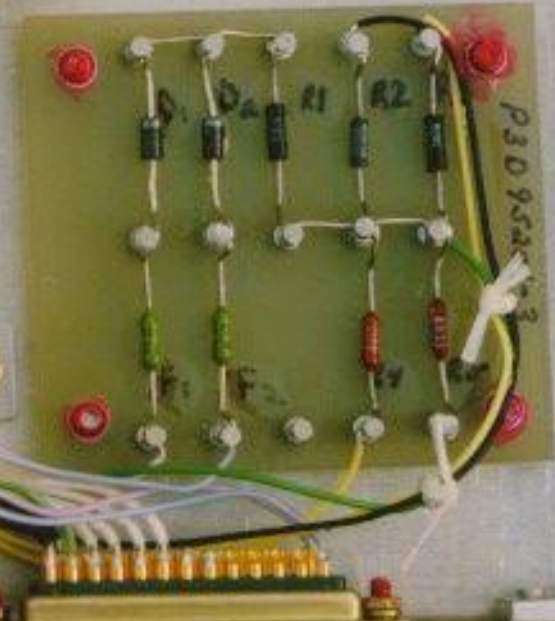
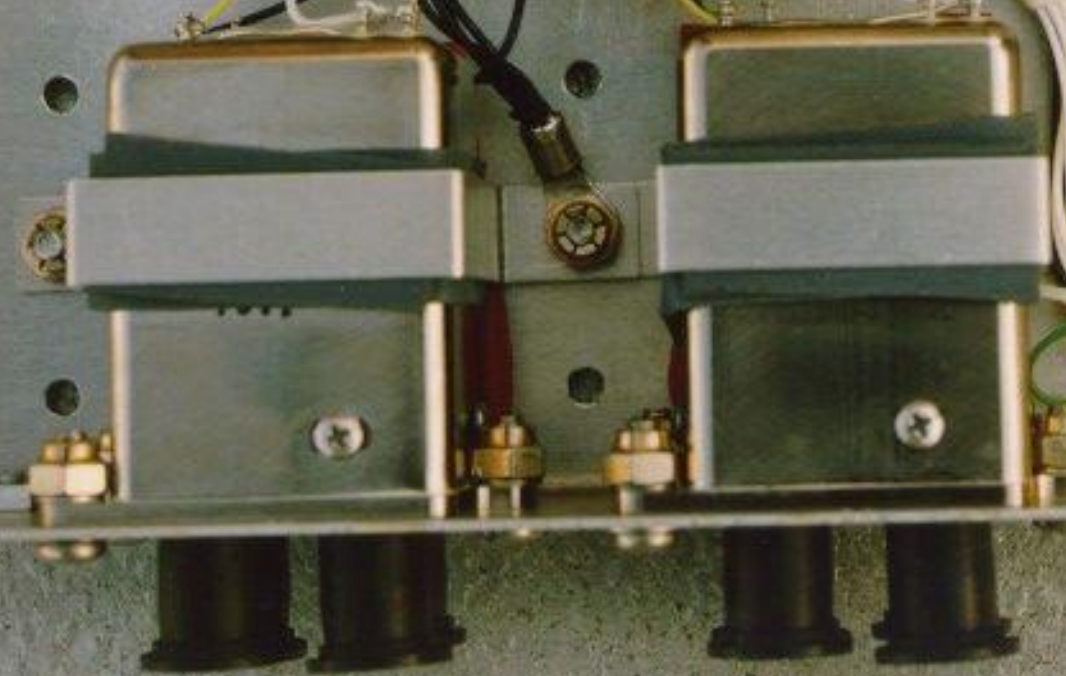


Power Supply Unit



RF Relay Unit
P3D95201

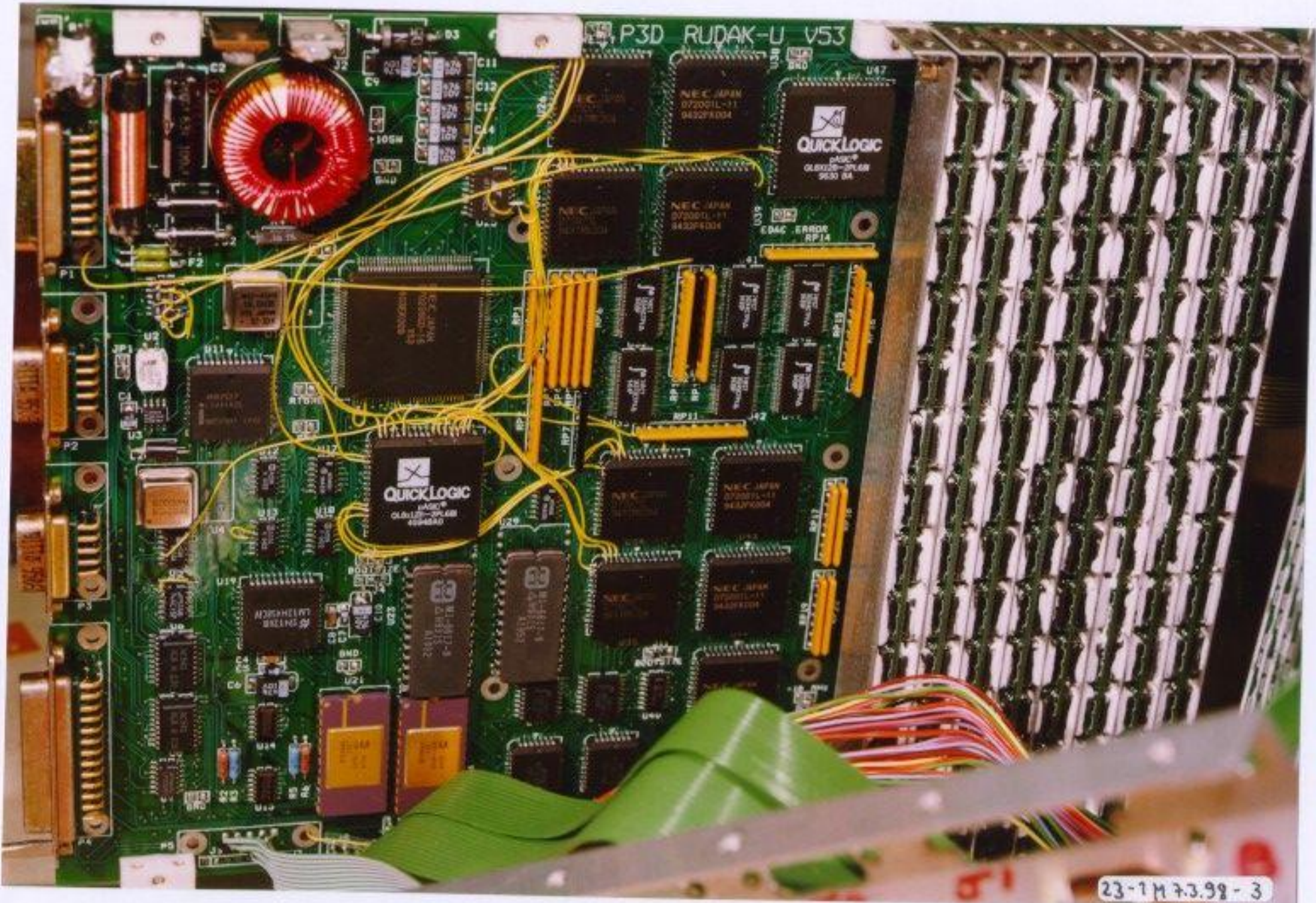
22M 13.3.
1998



22M 13.3.98-11

RF Relay Unit

22 M



P3D RUDAK-U V53

QuickLogic
ASIC
QL6020-3PL6M
9631 84

QuickLogic
ASIC
QL6120-3PL6M
4094840

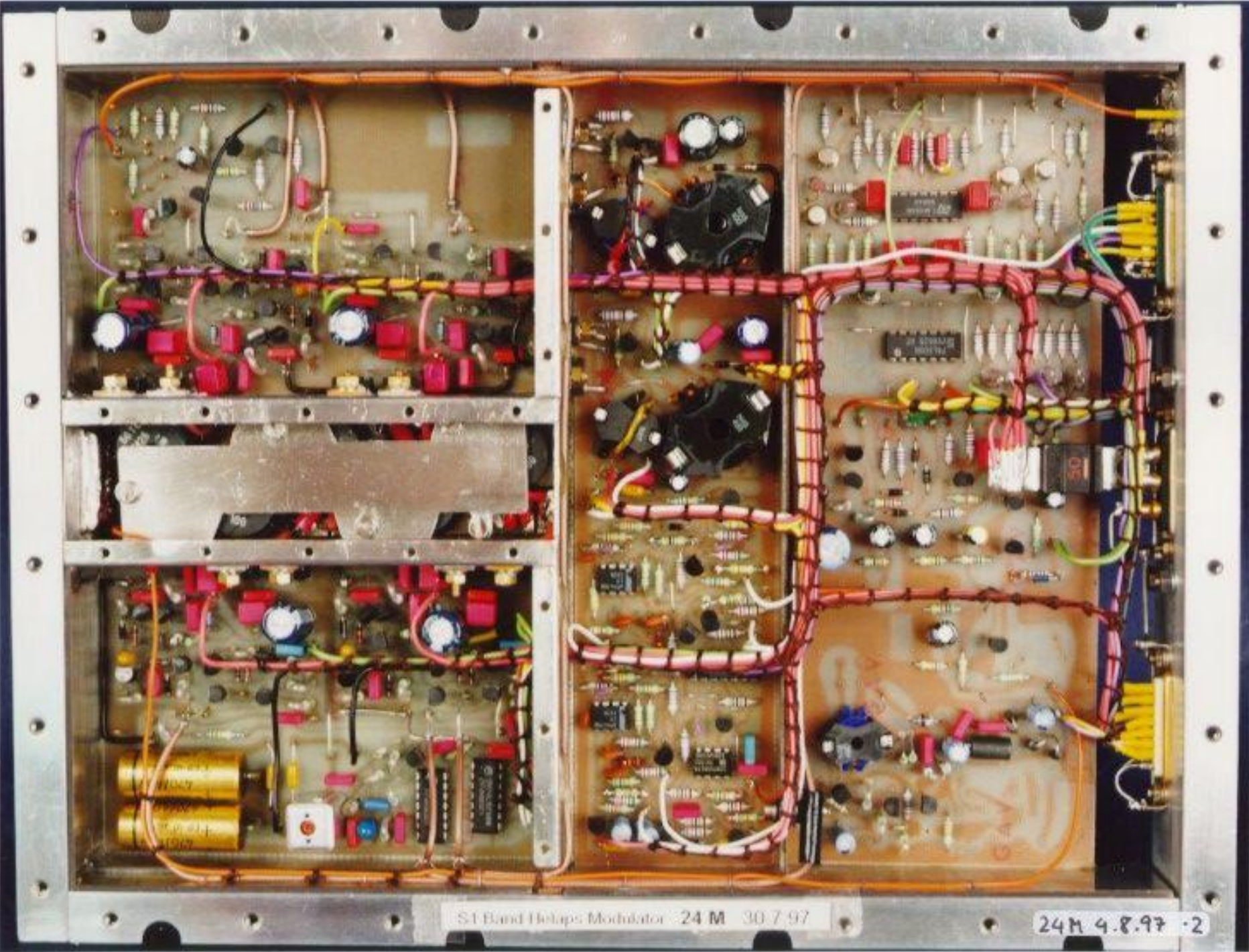
NEC JAPAN
072001L-11
9430P004

NEC JAPAN
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NEC JAPAN
072001L-11
9430P004

23-1M 7.3.98-3



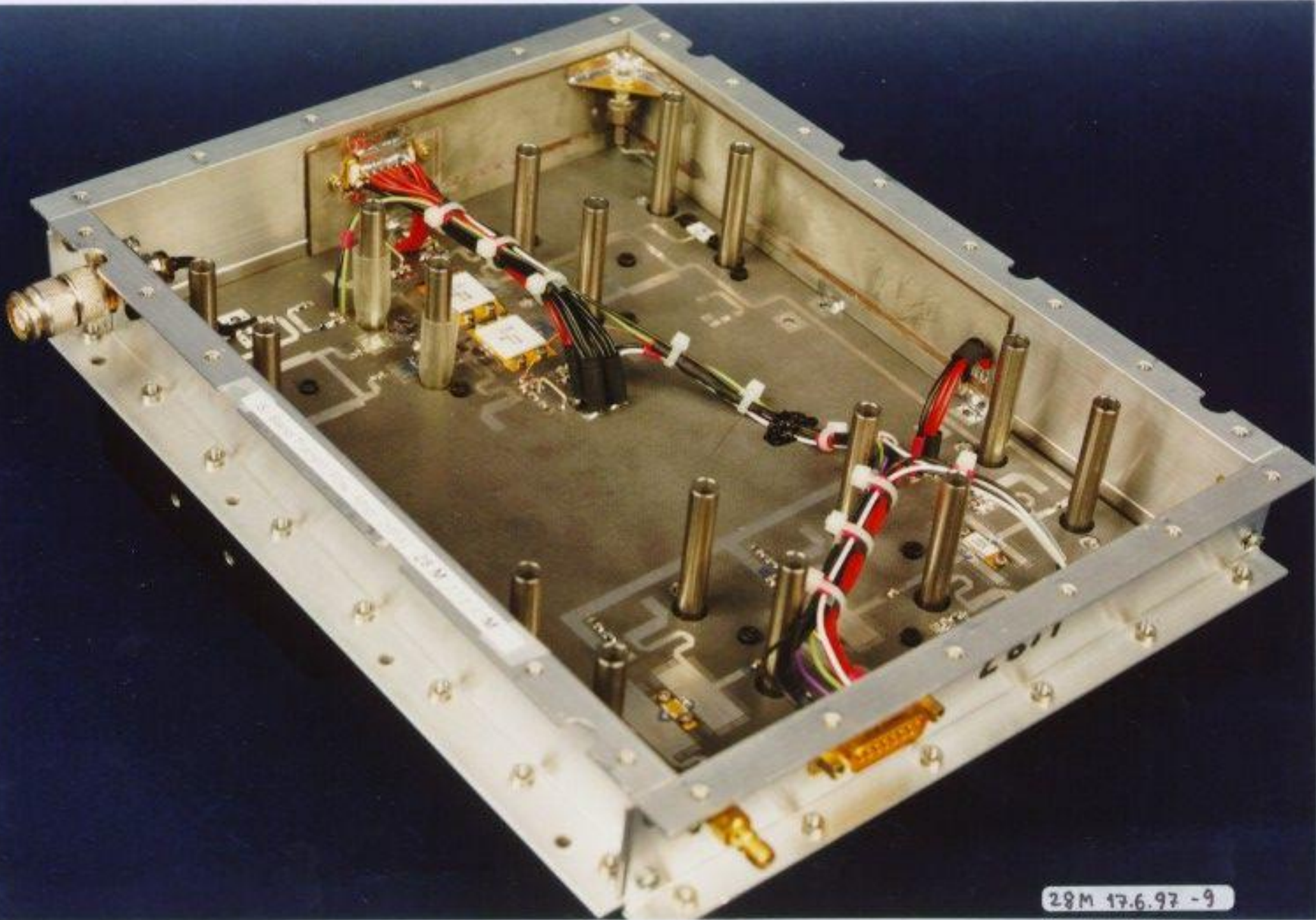
S-Band Helix Modulator - 24 M 30-7-97

24M 4.8.97 -2



S1 Zusatz-Wandler für Helaps Modulator

24-2 M
a

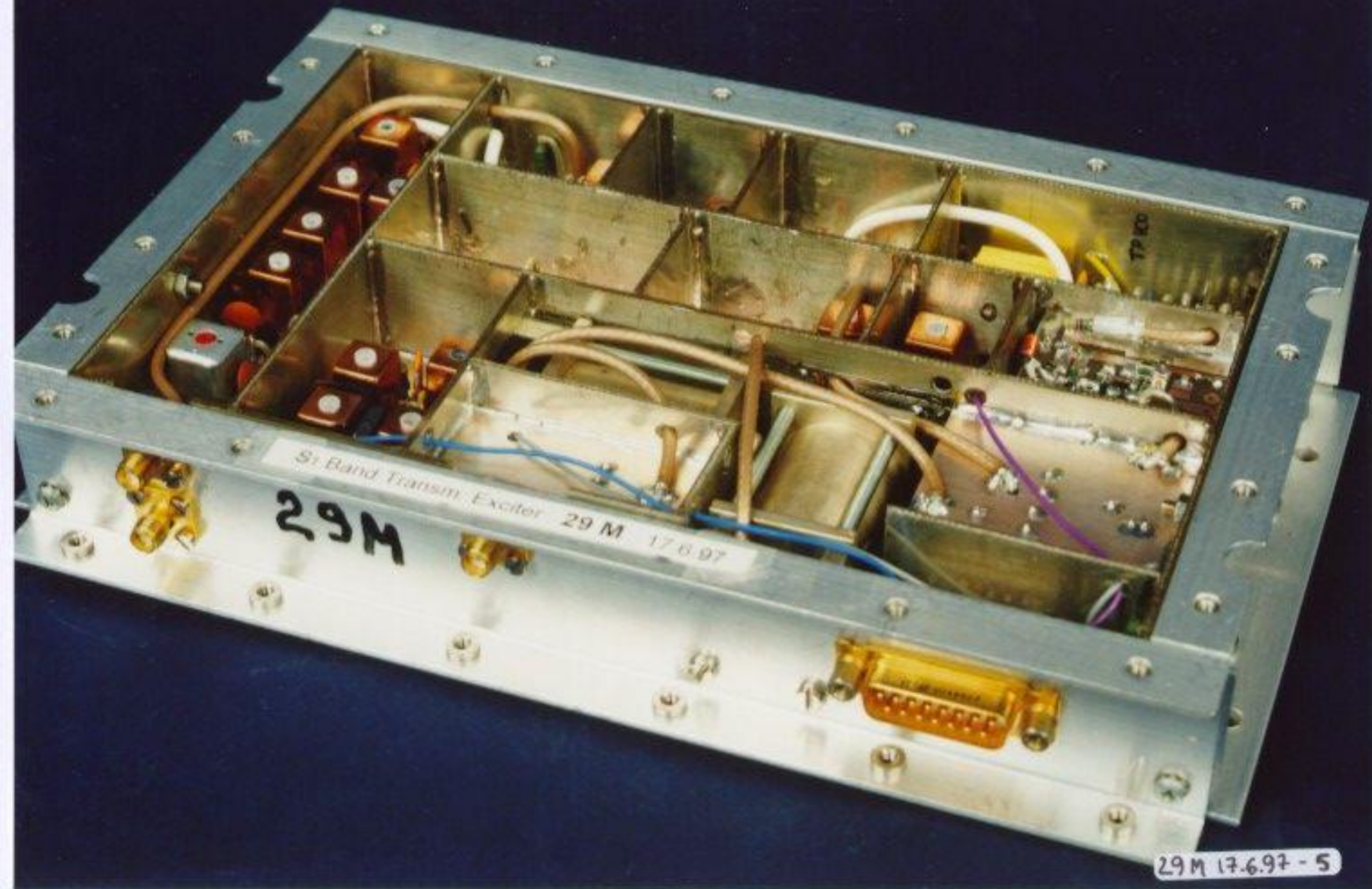


S Band Transmitter Power Amplifier (HPA)

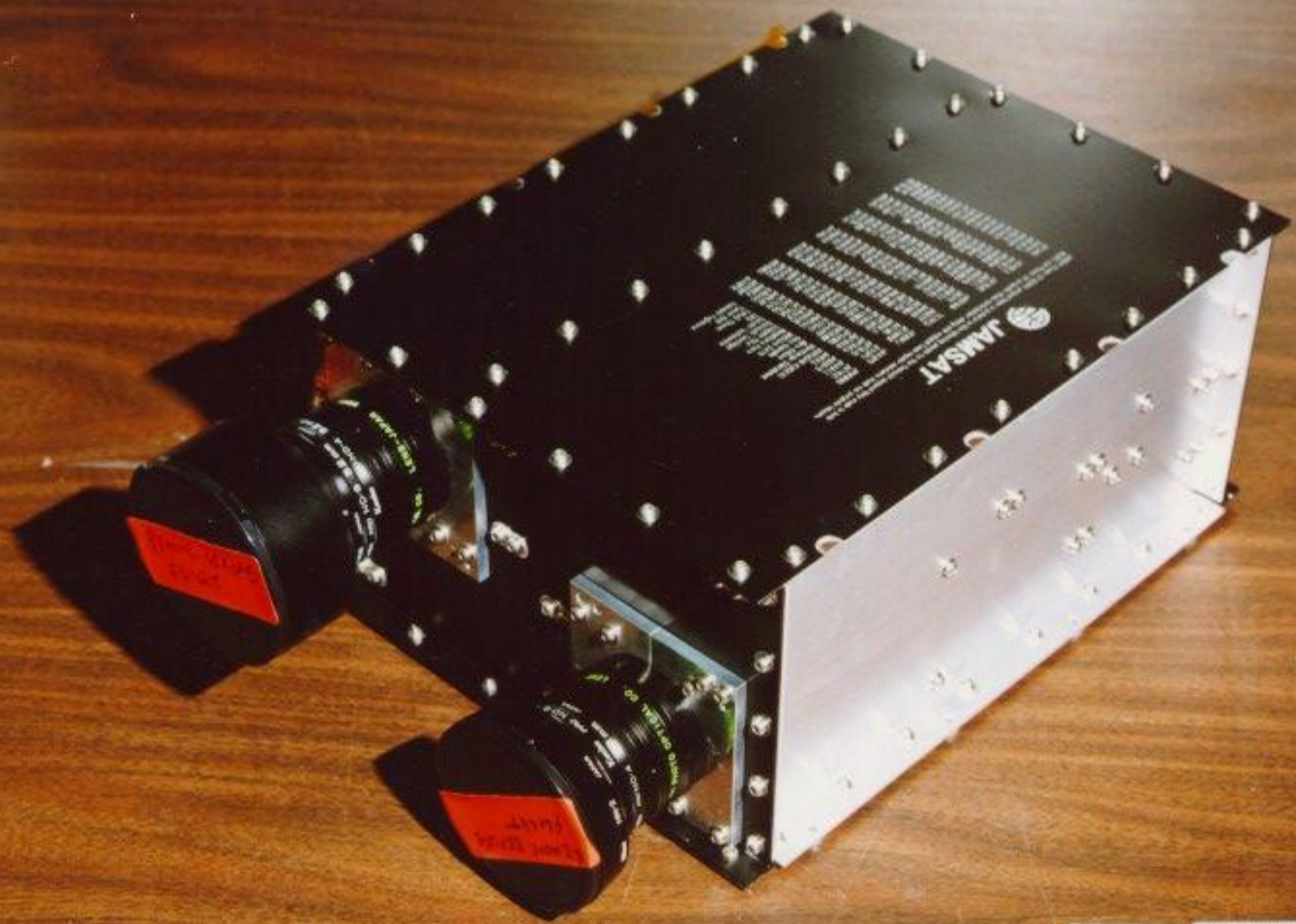


28 M
a

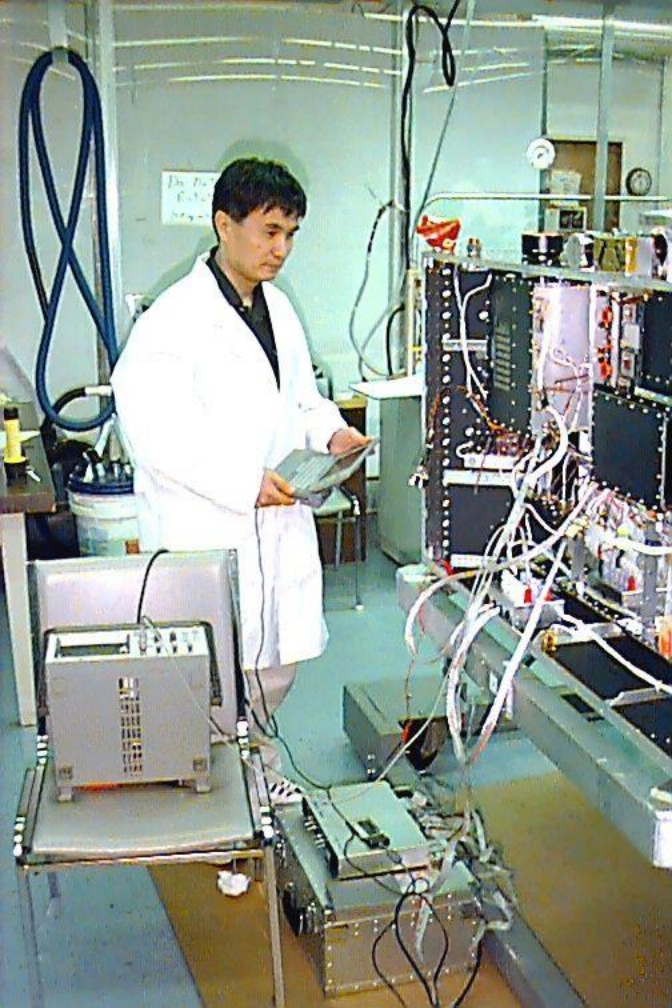
28M 17.6.97 -9

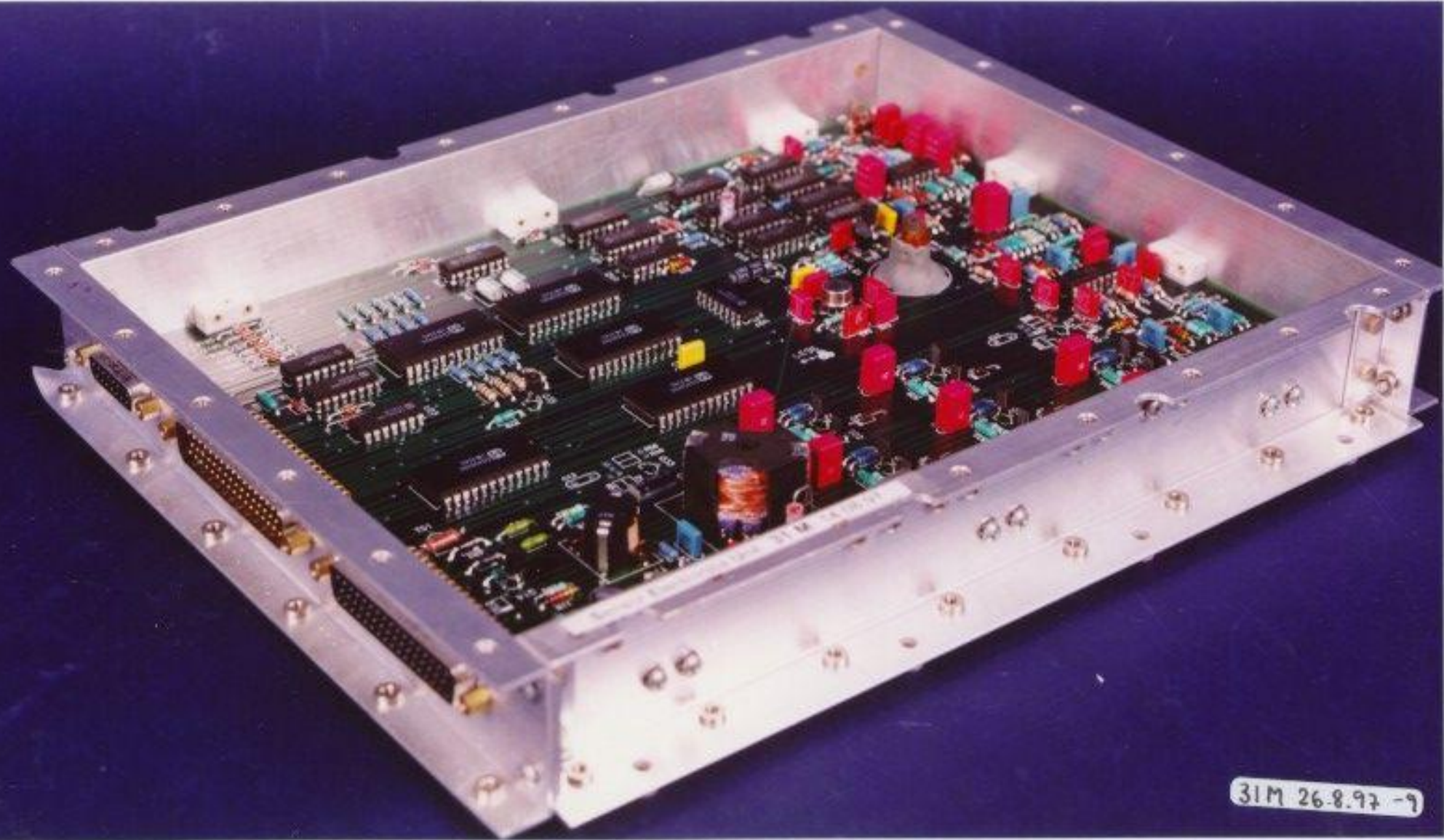


29M 17.6.97 - 5

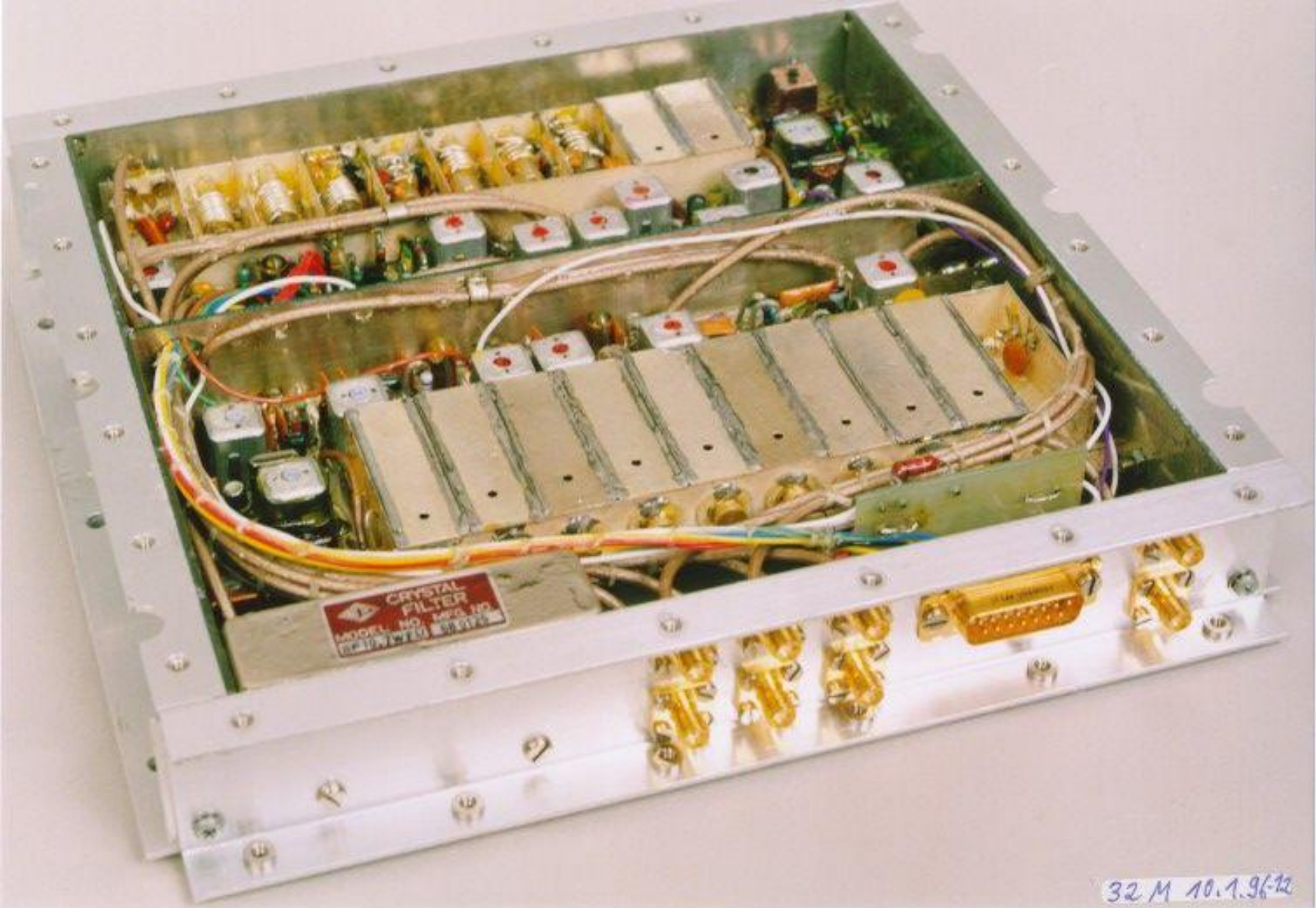


30 M 25.8.97 -18





31M 26-8.97 -9

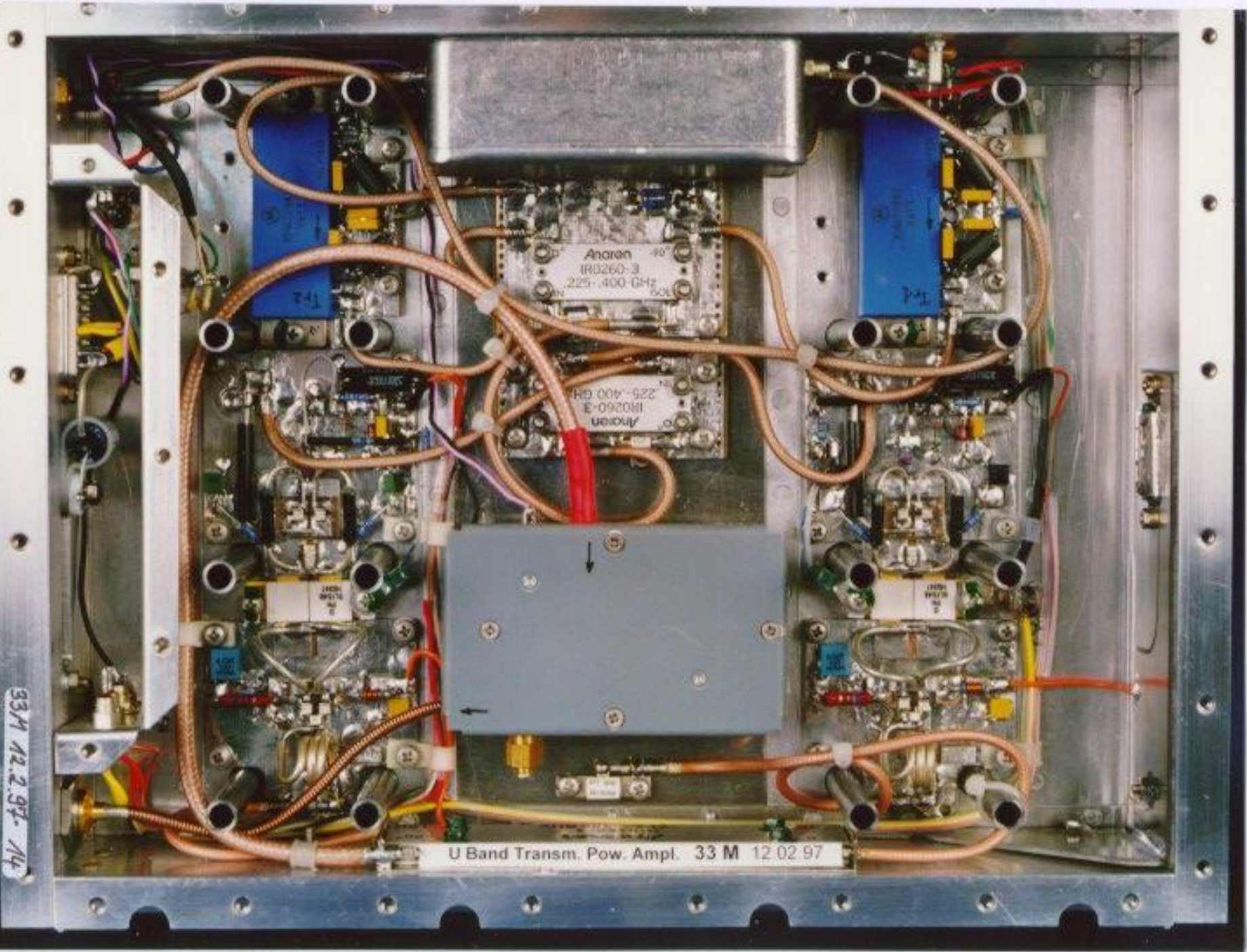


32 M 10.1.96-12

U Band Transmitter Power Amplifier

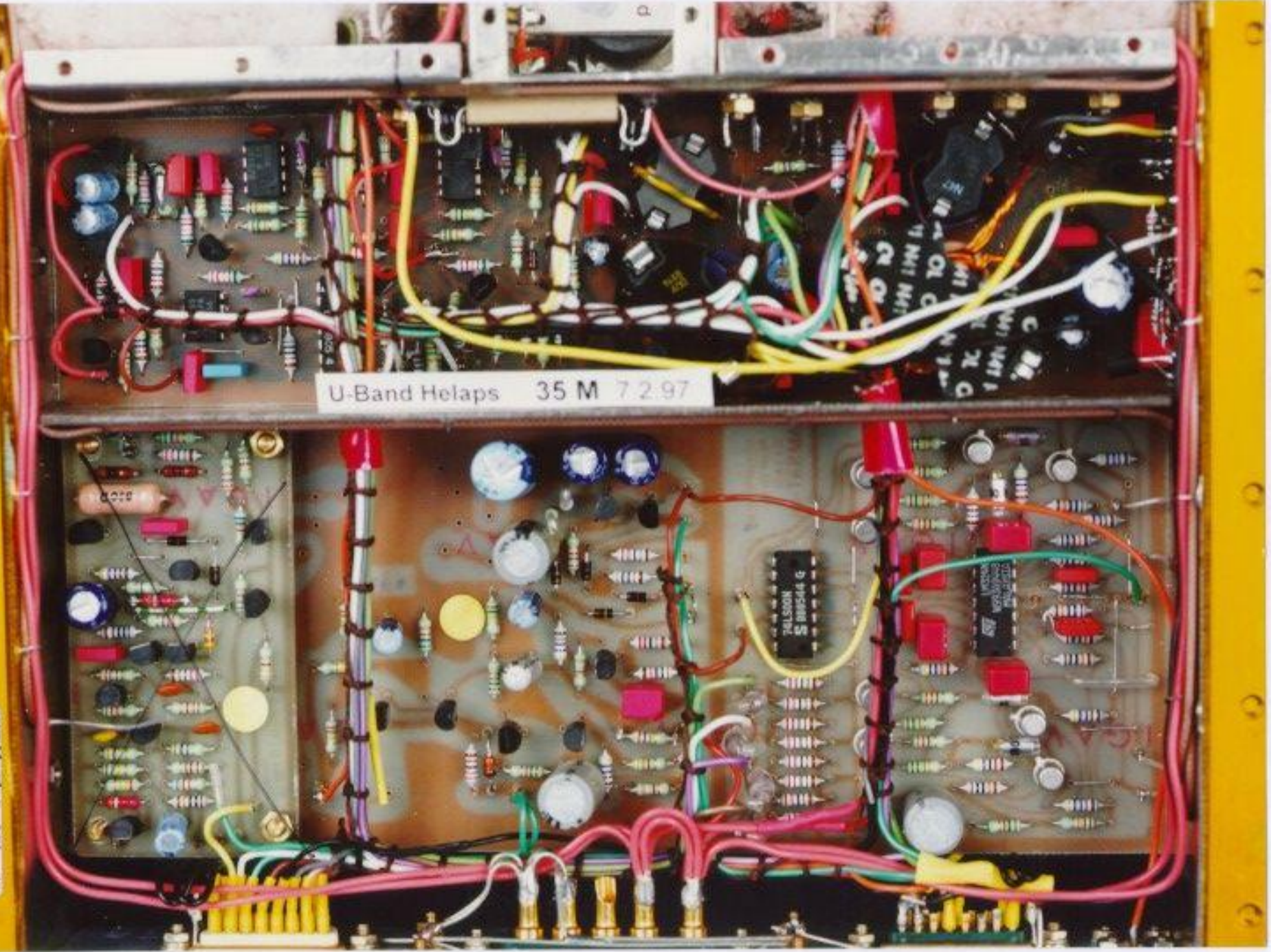


33 M
R



34H 9.1.96-3





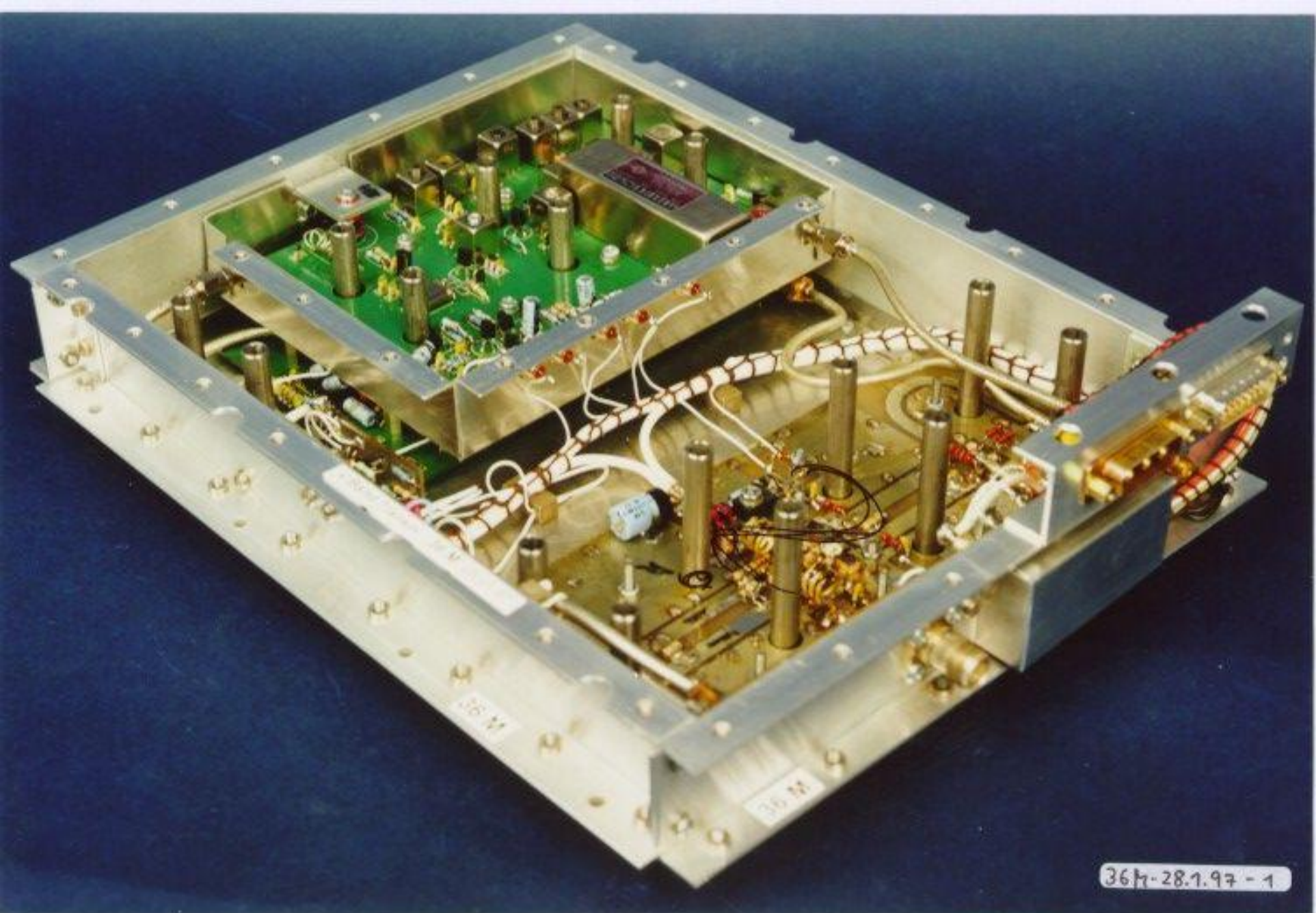
U-Band Helaps 35 M 7 2 97

35M 7.2.97-13

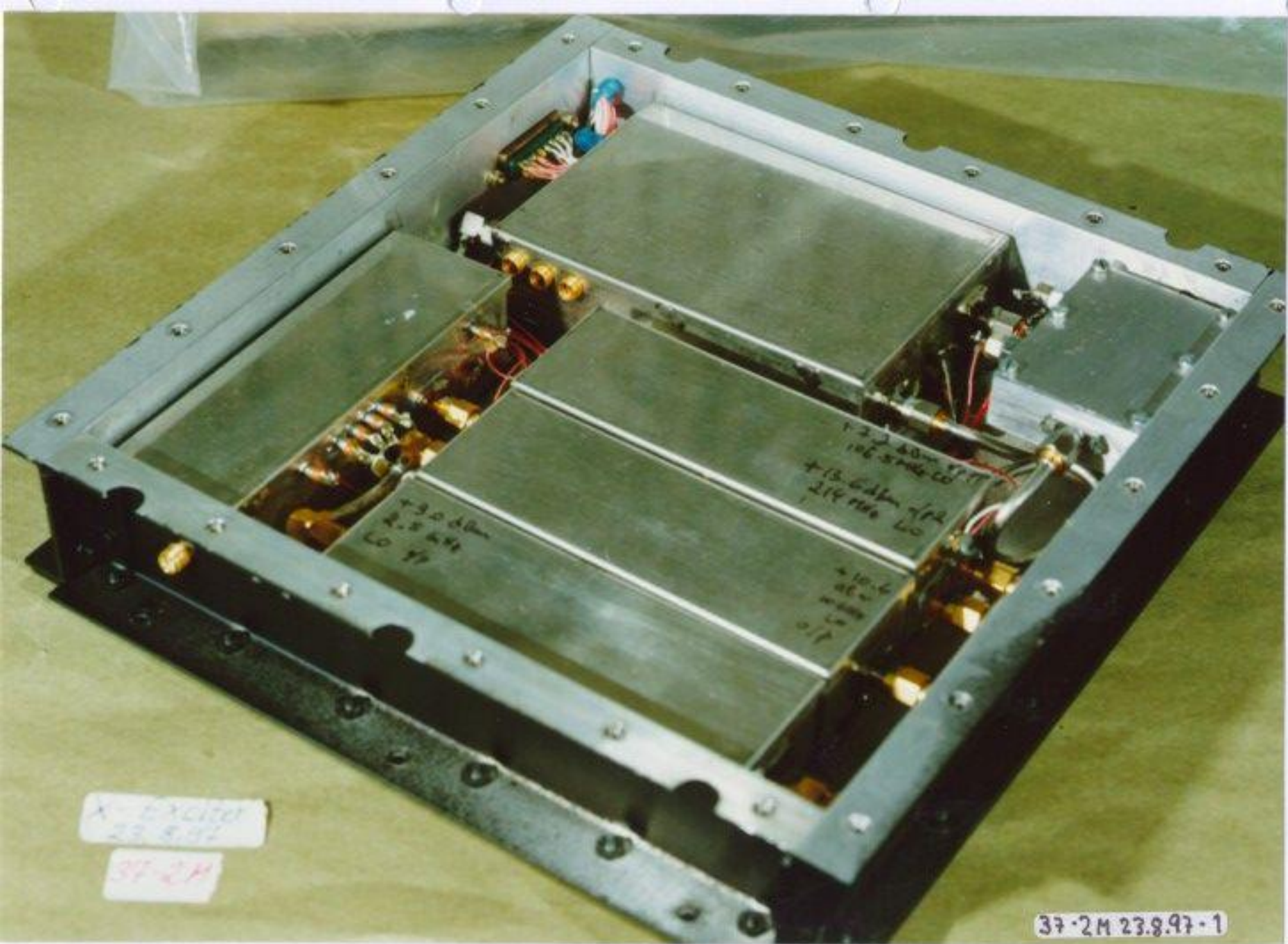
V Band Transmitter



36 M
Q



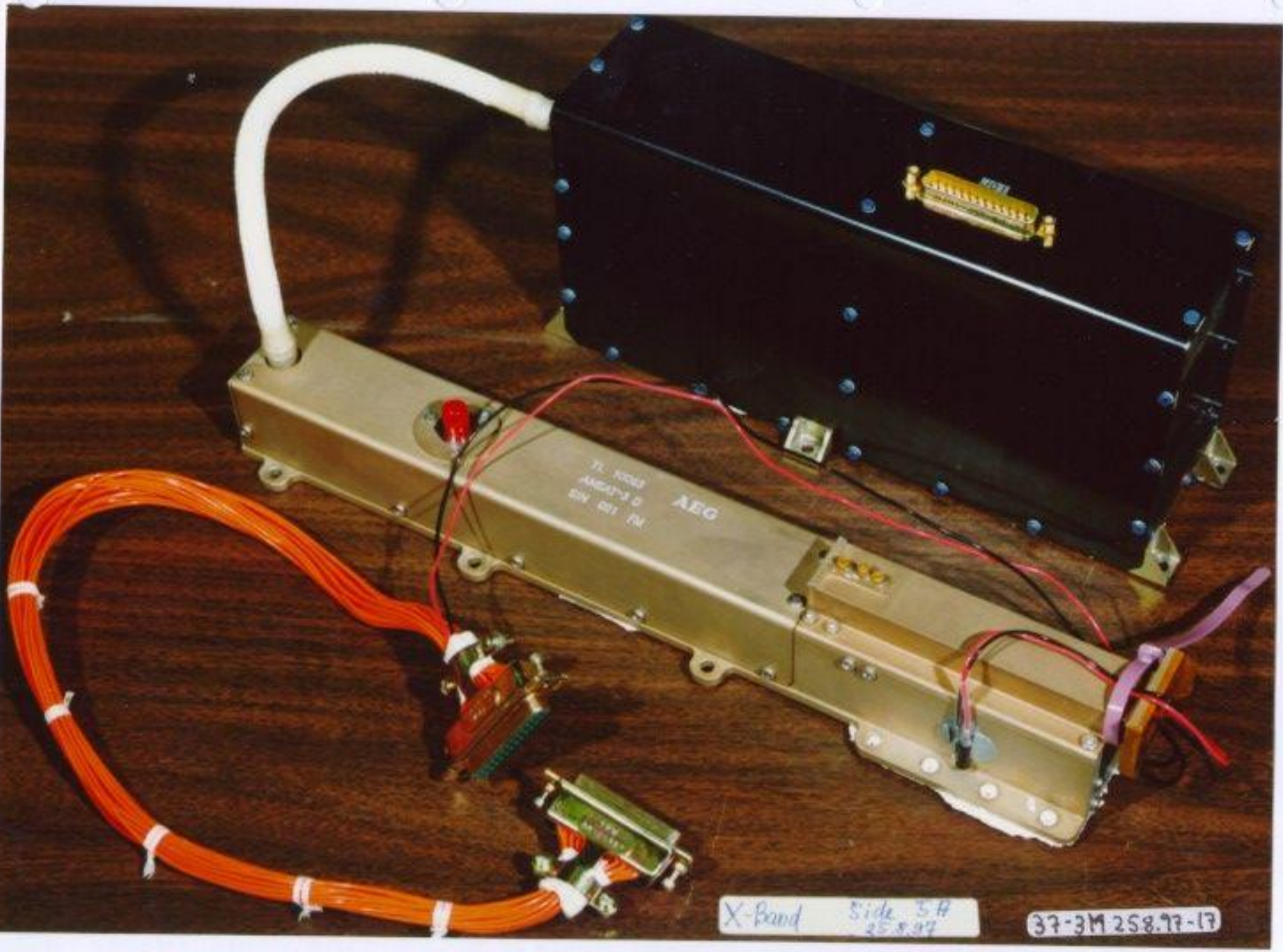
36 M-28.1.97 - 1



X-Exciter
23.8.97

37-2M

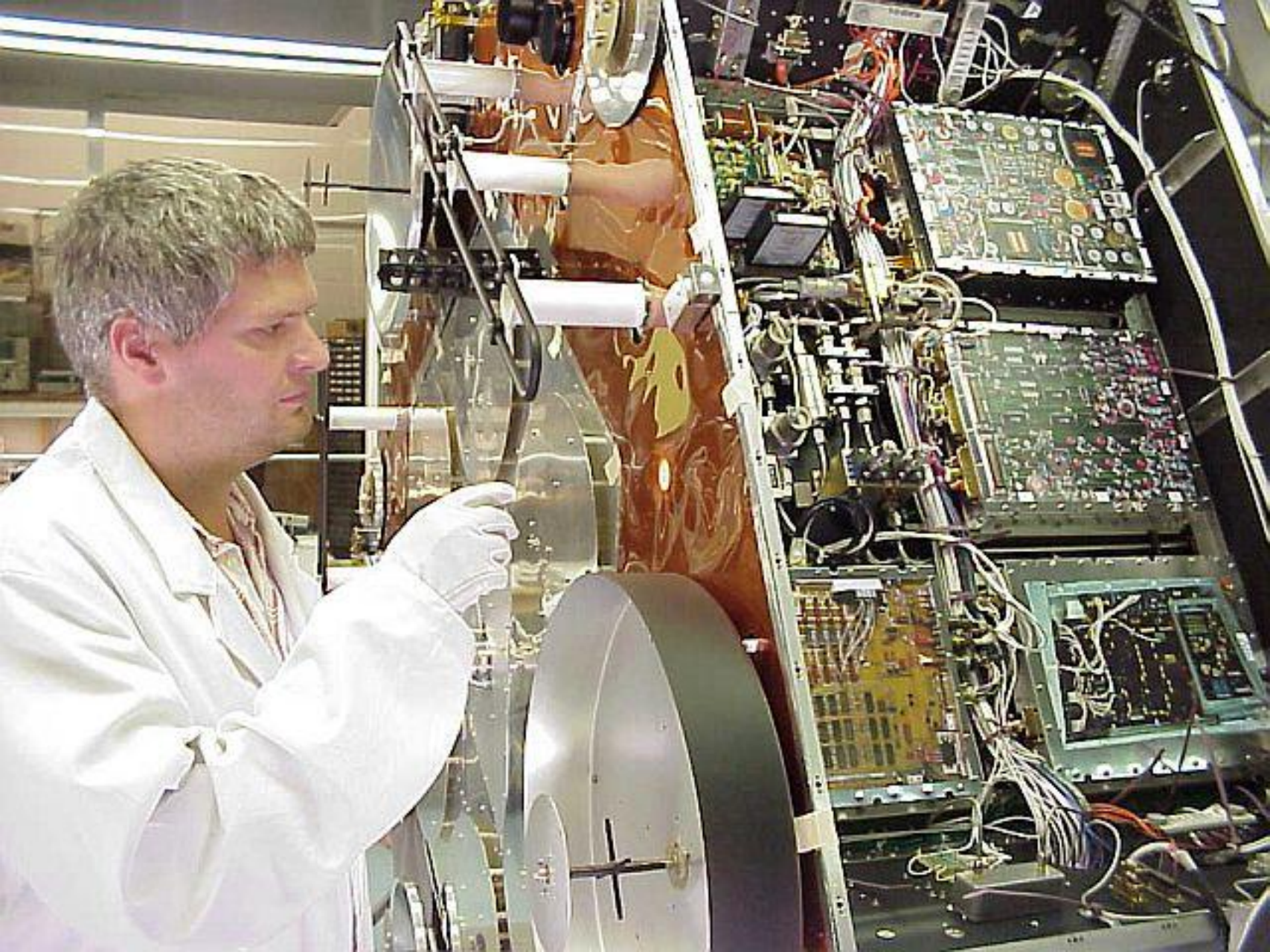
37-2M 23.8.97-1

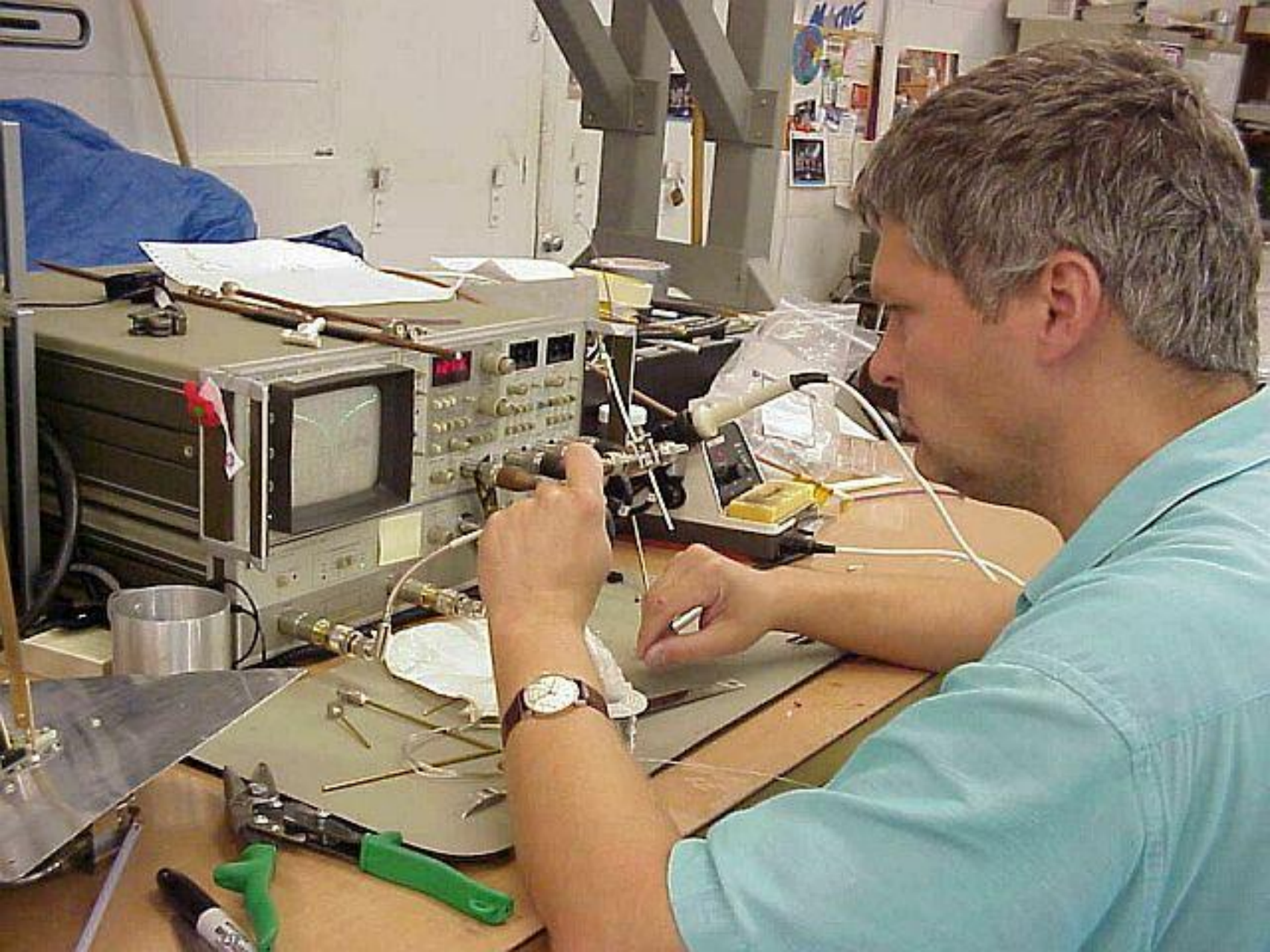


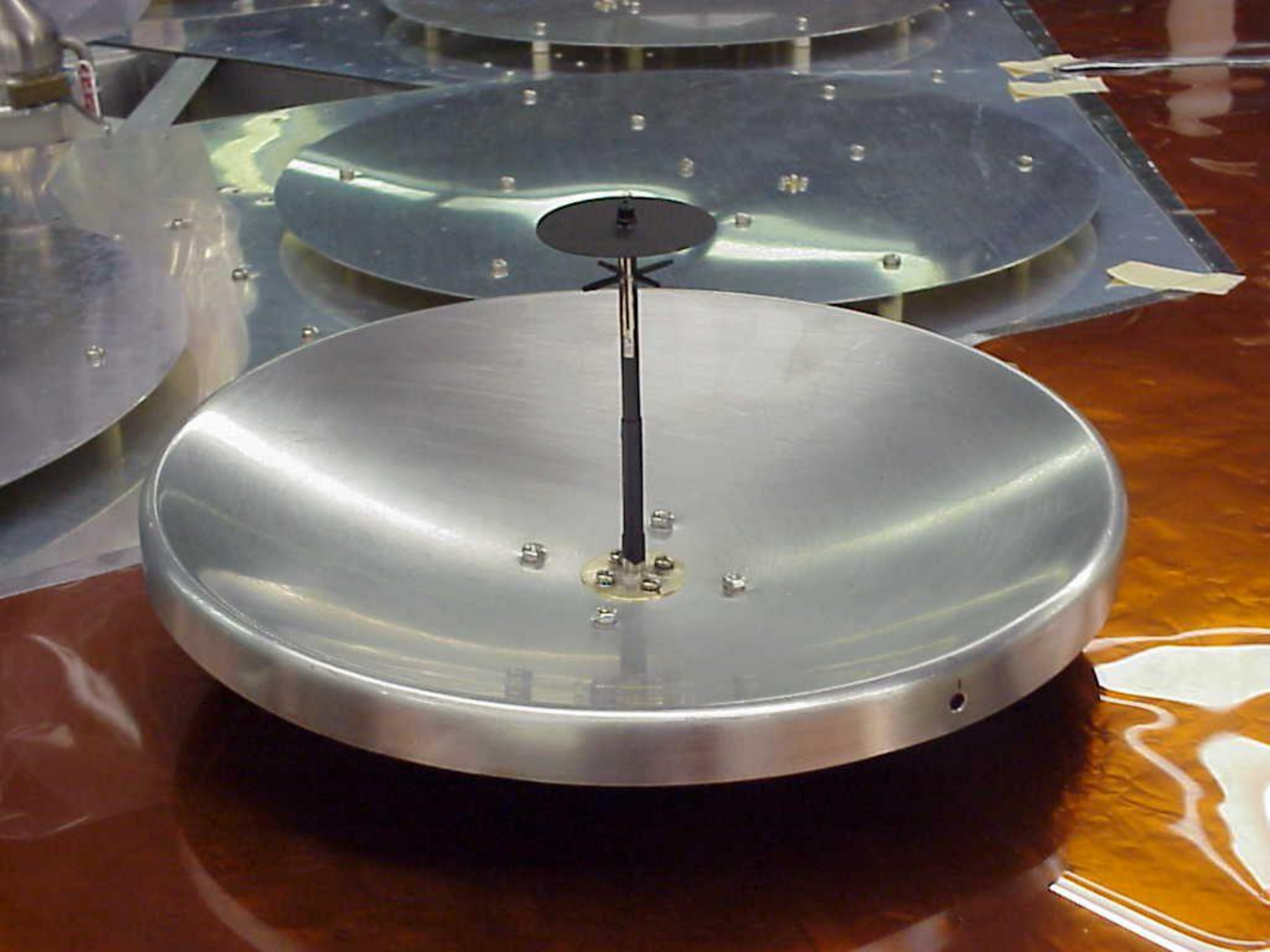
X-Band Side 3H
25.8.97

37-3M 258.97-17



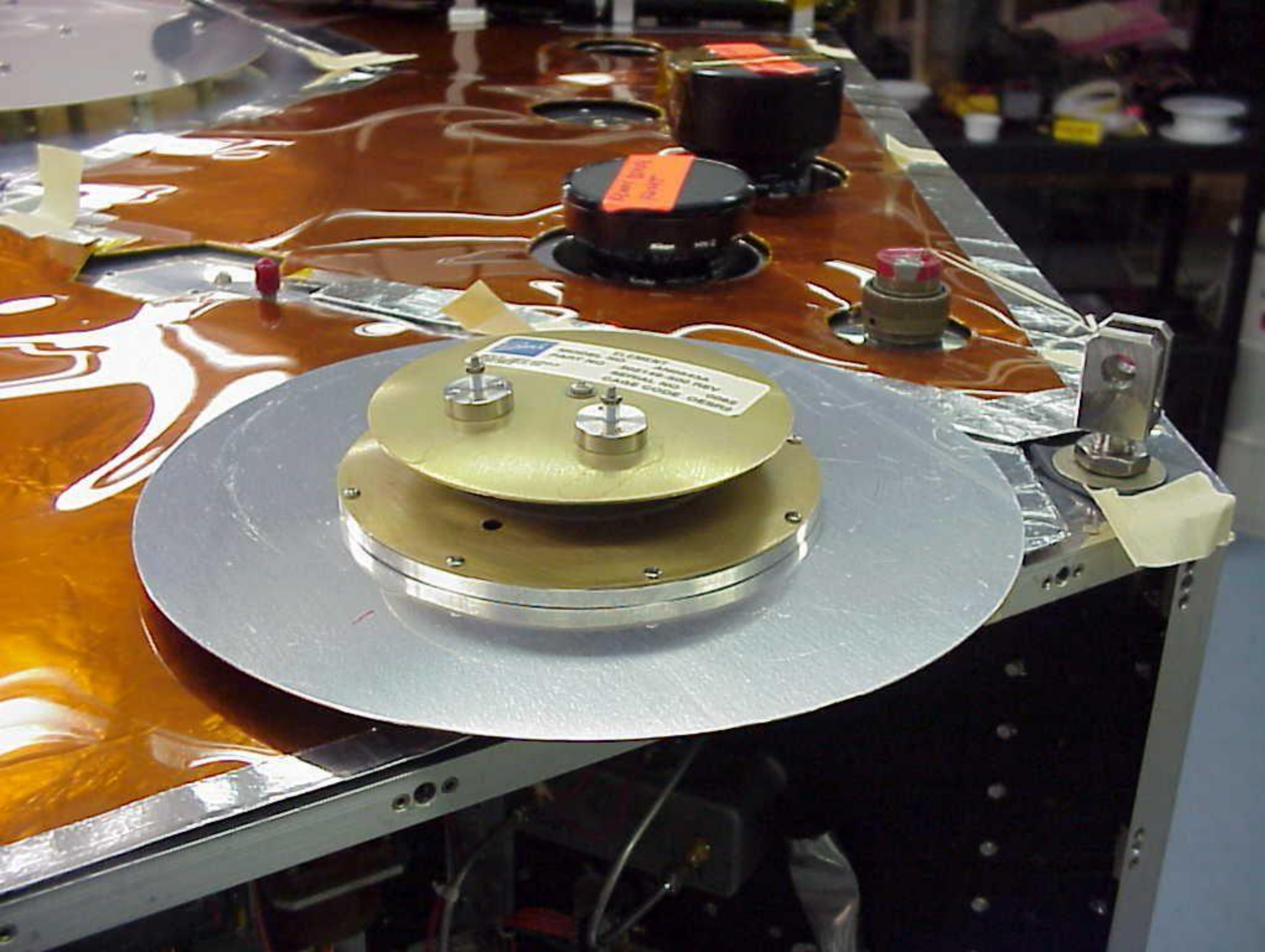


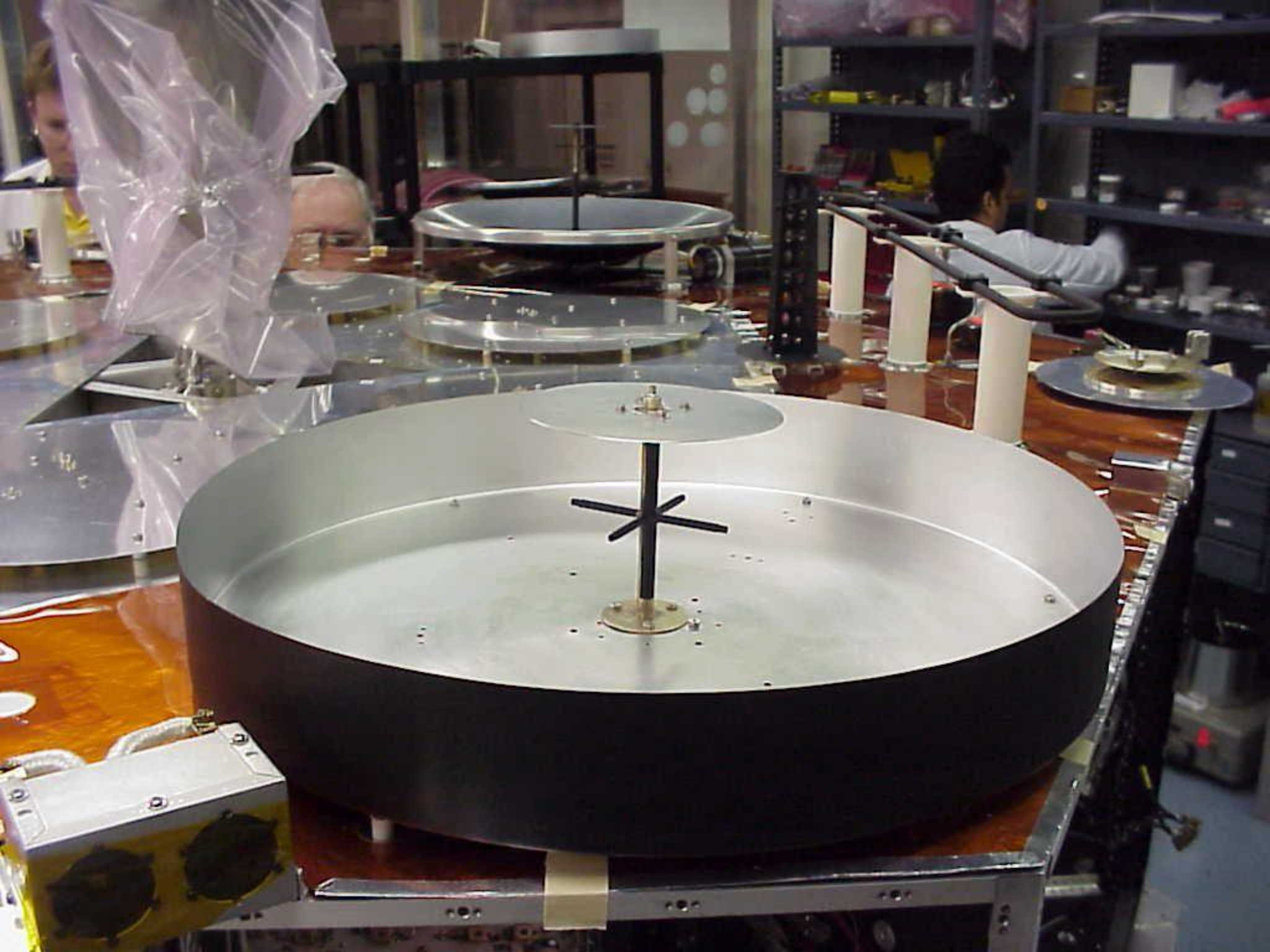


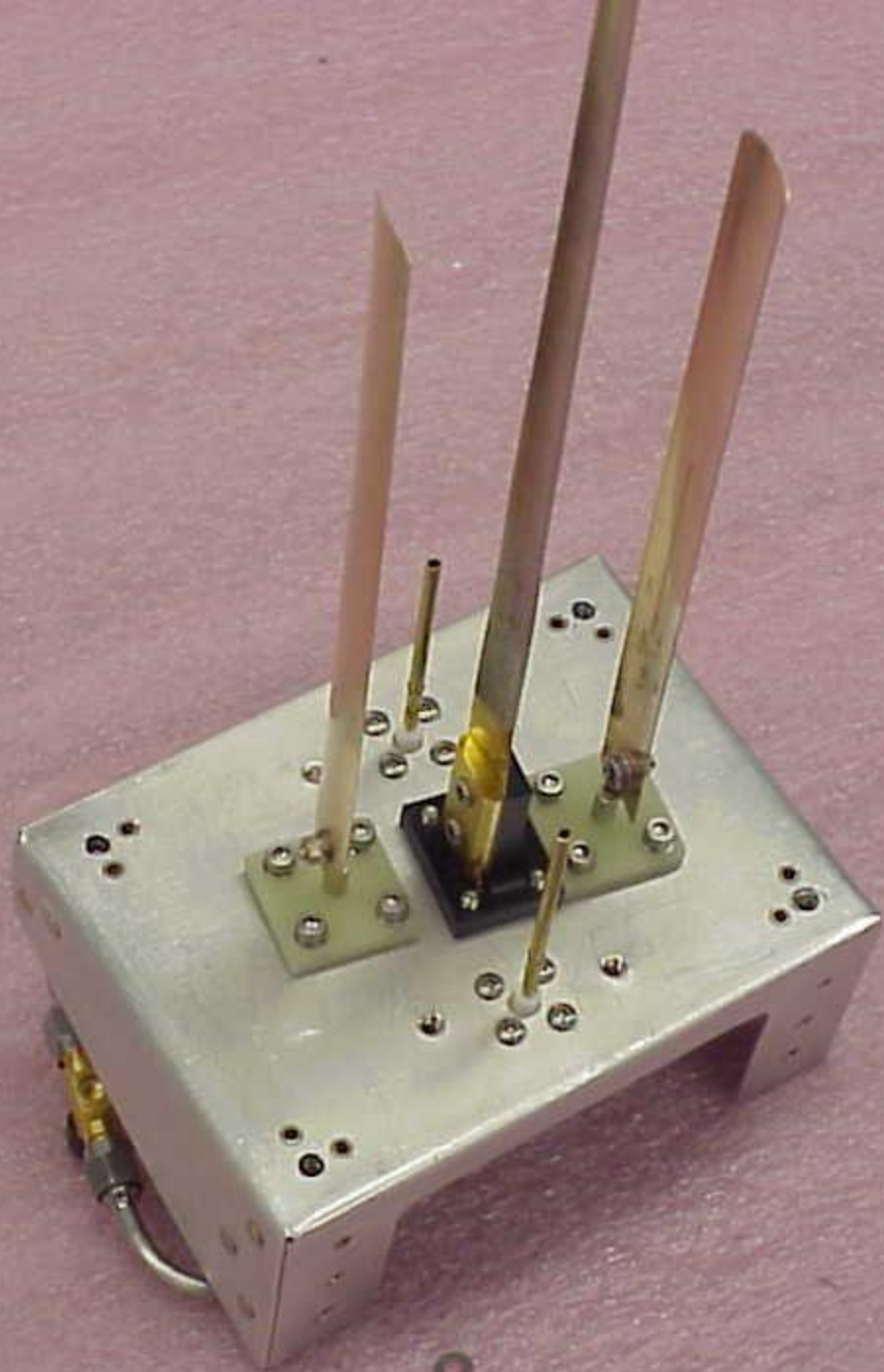




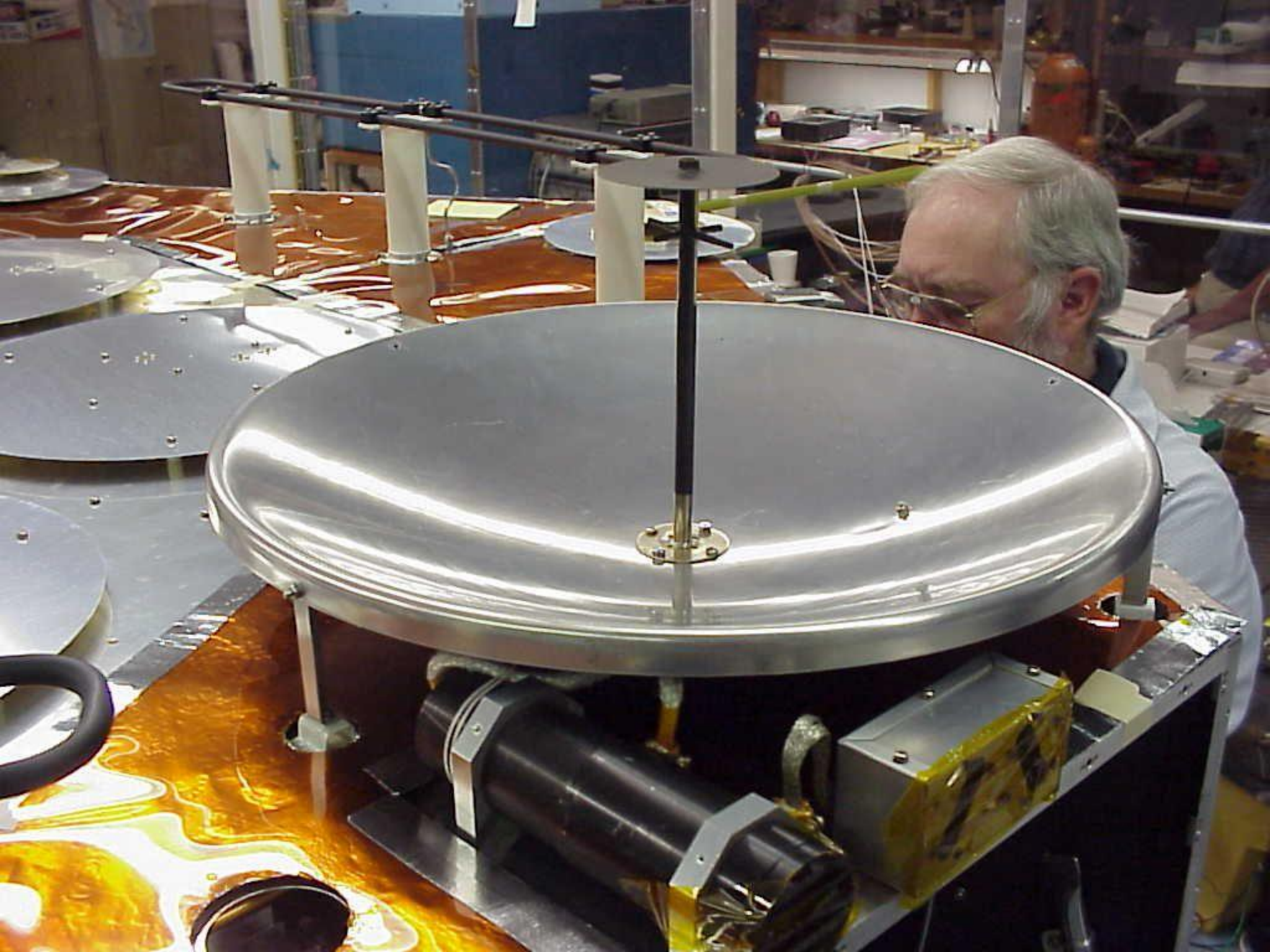
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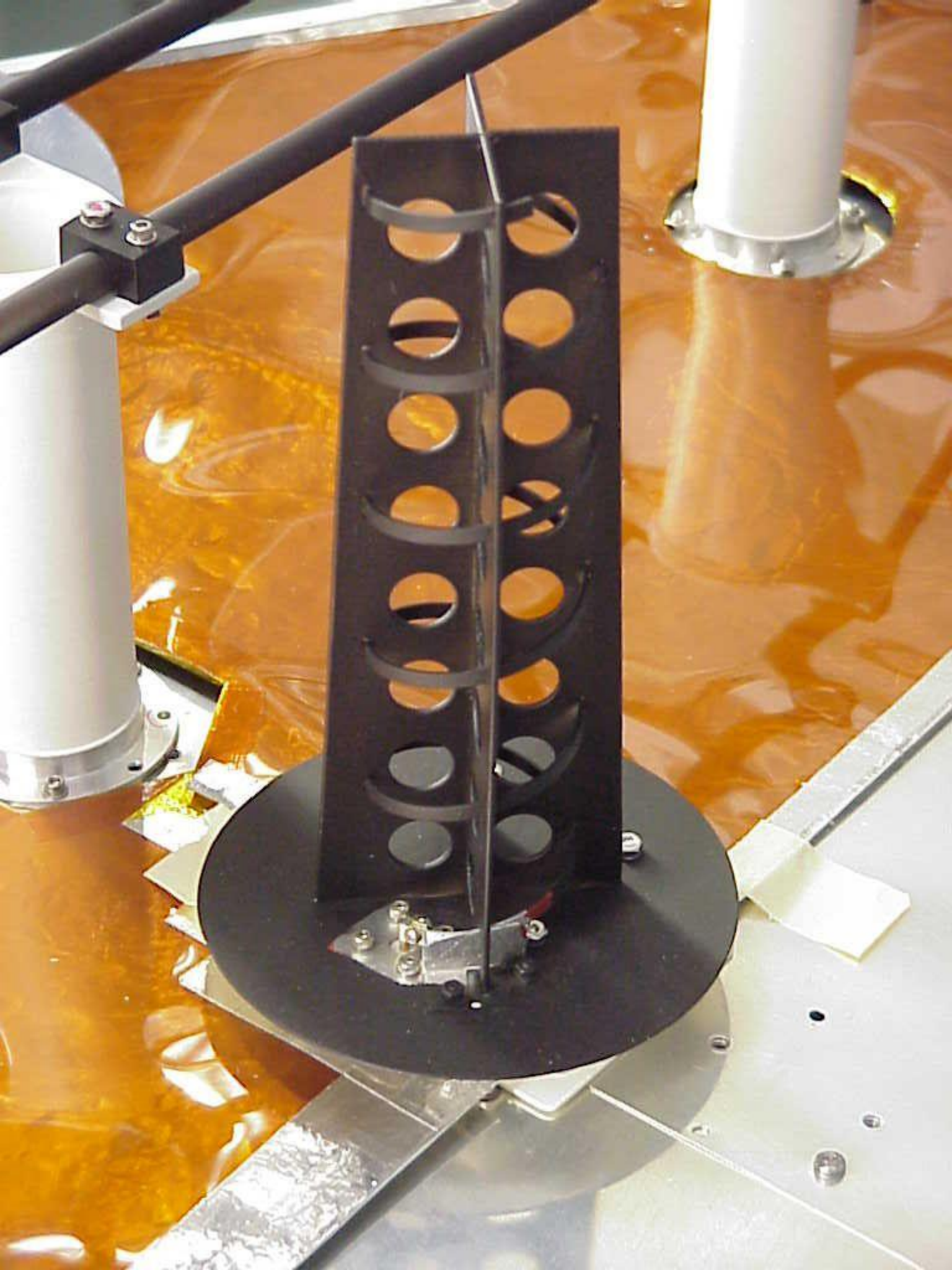


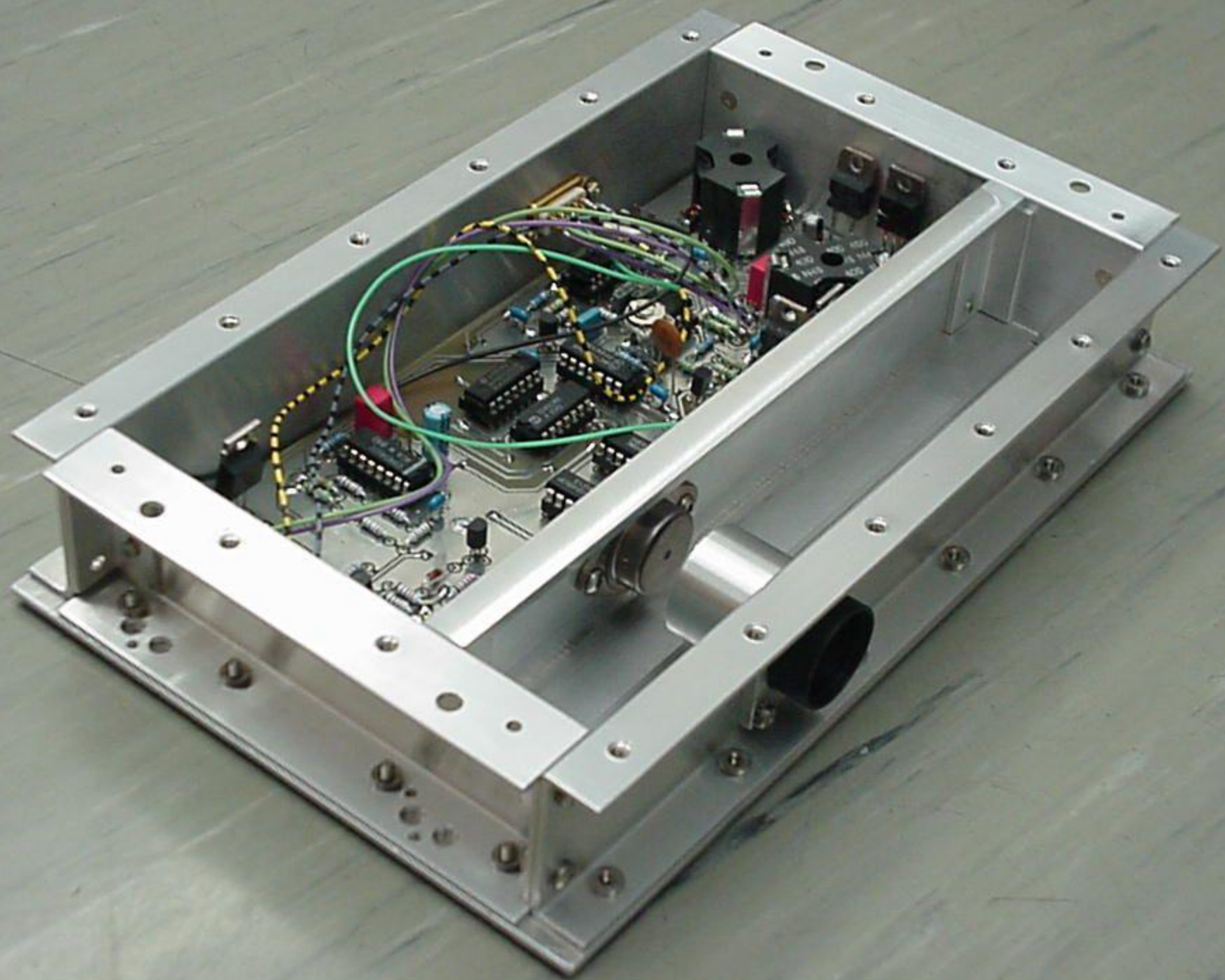


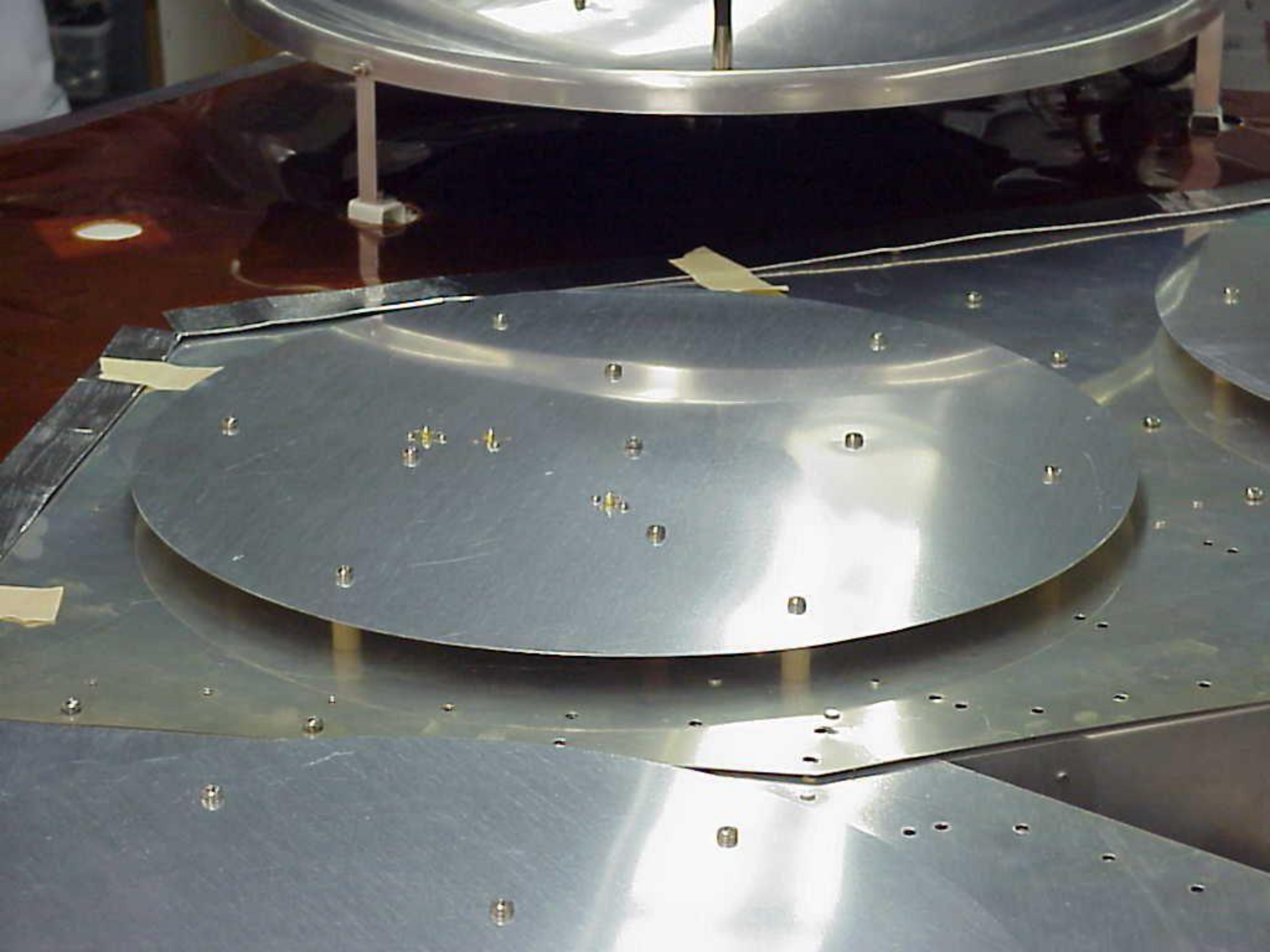








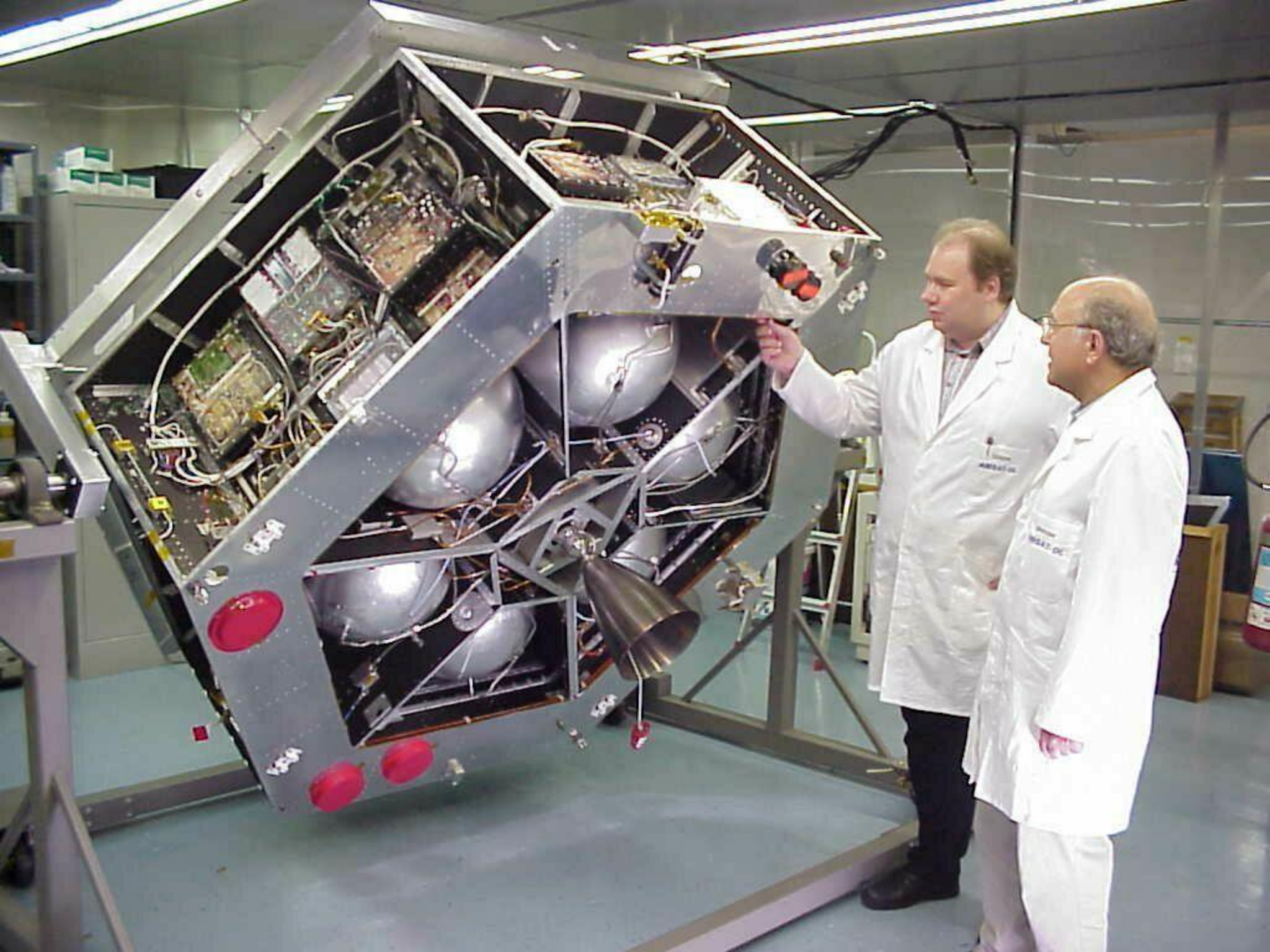


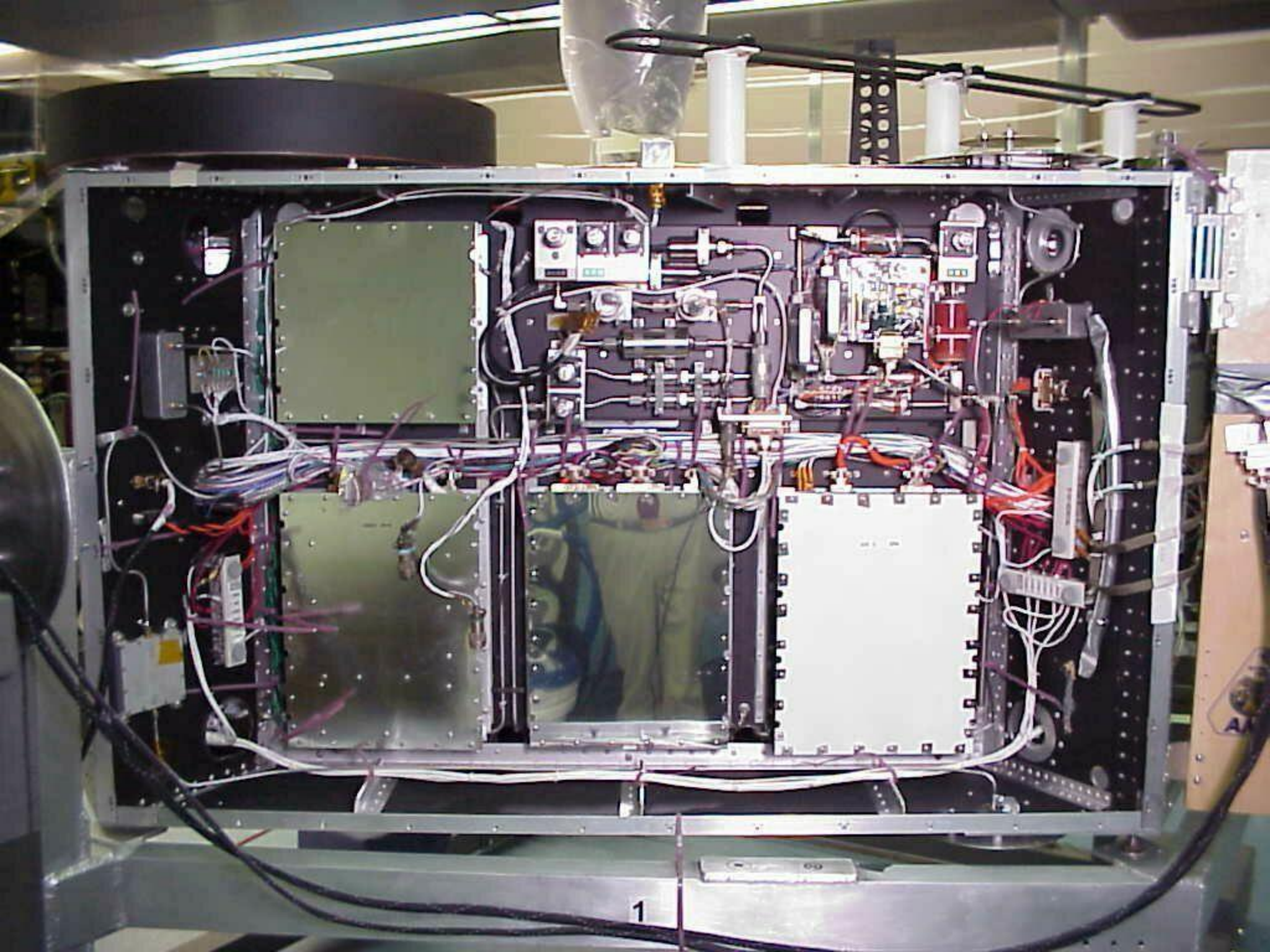




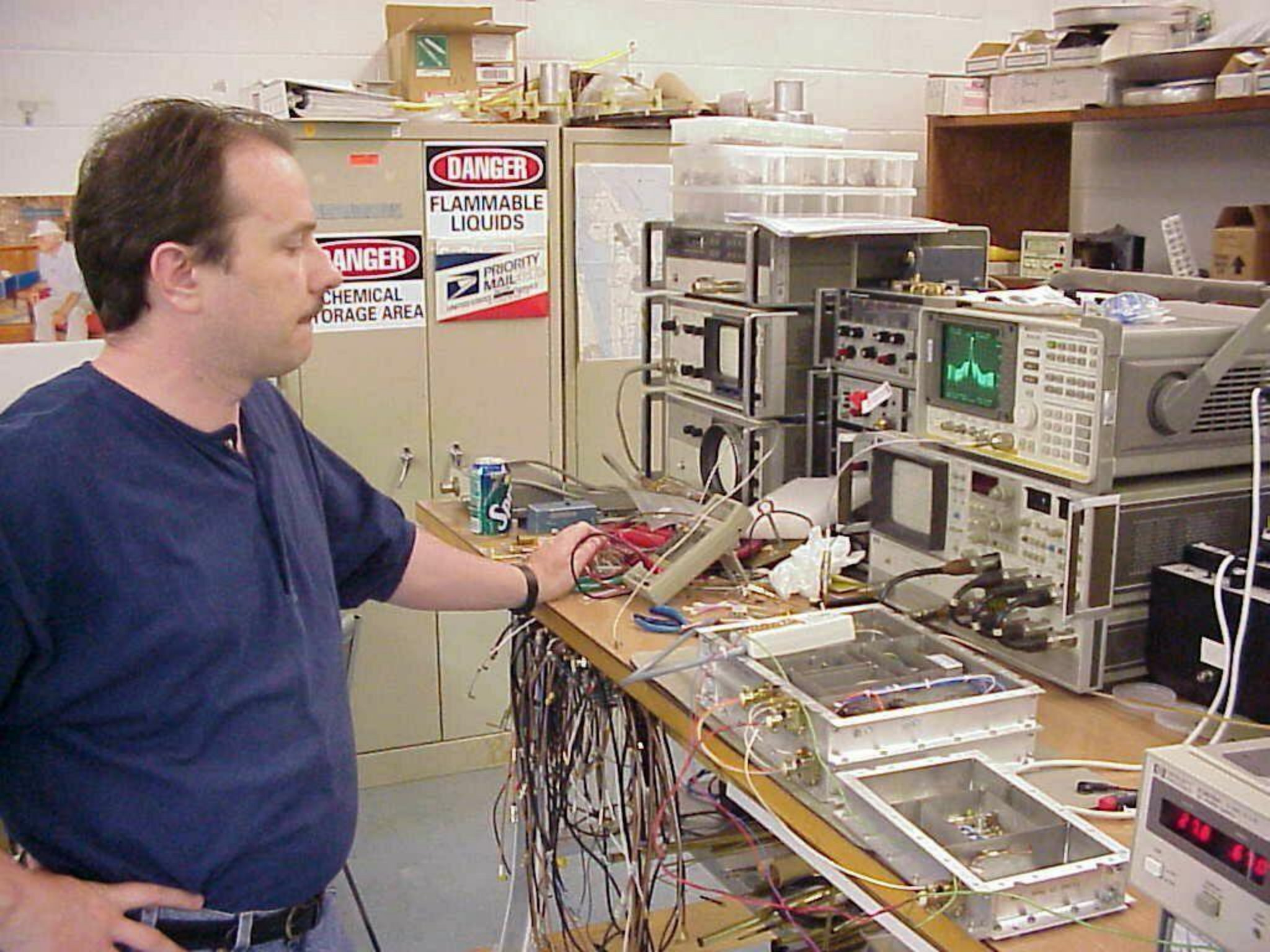






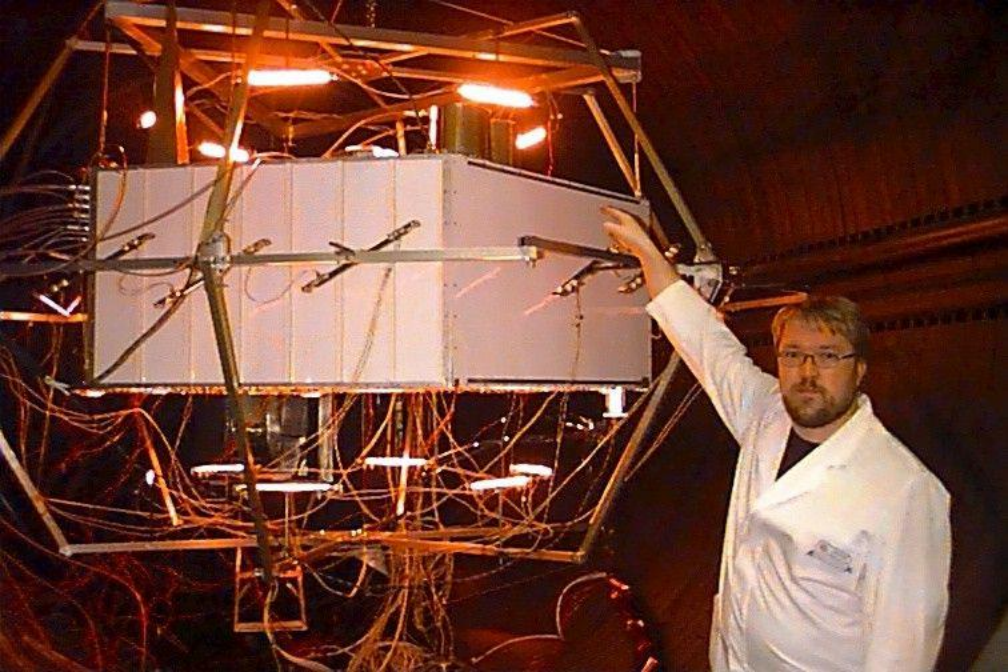


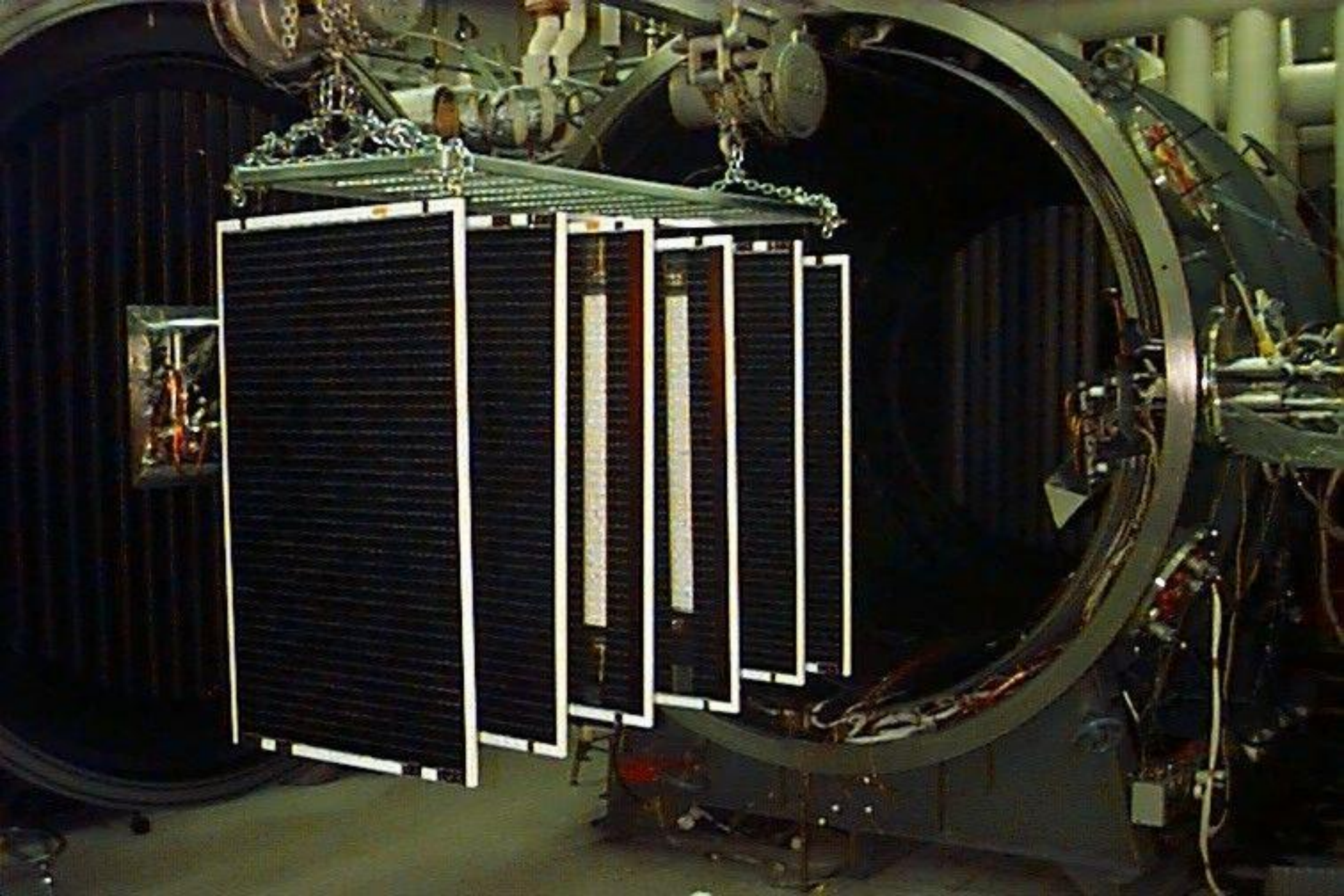
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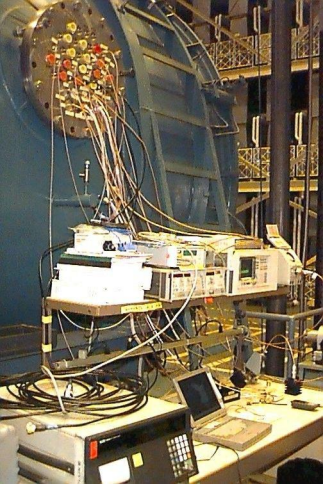




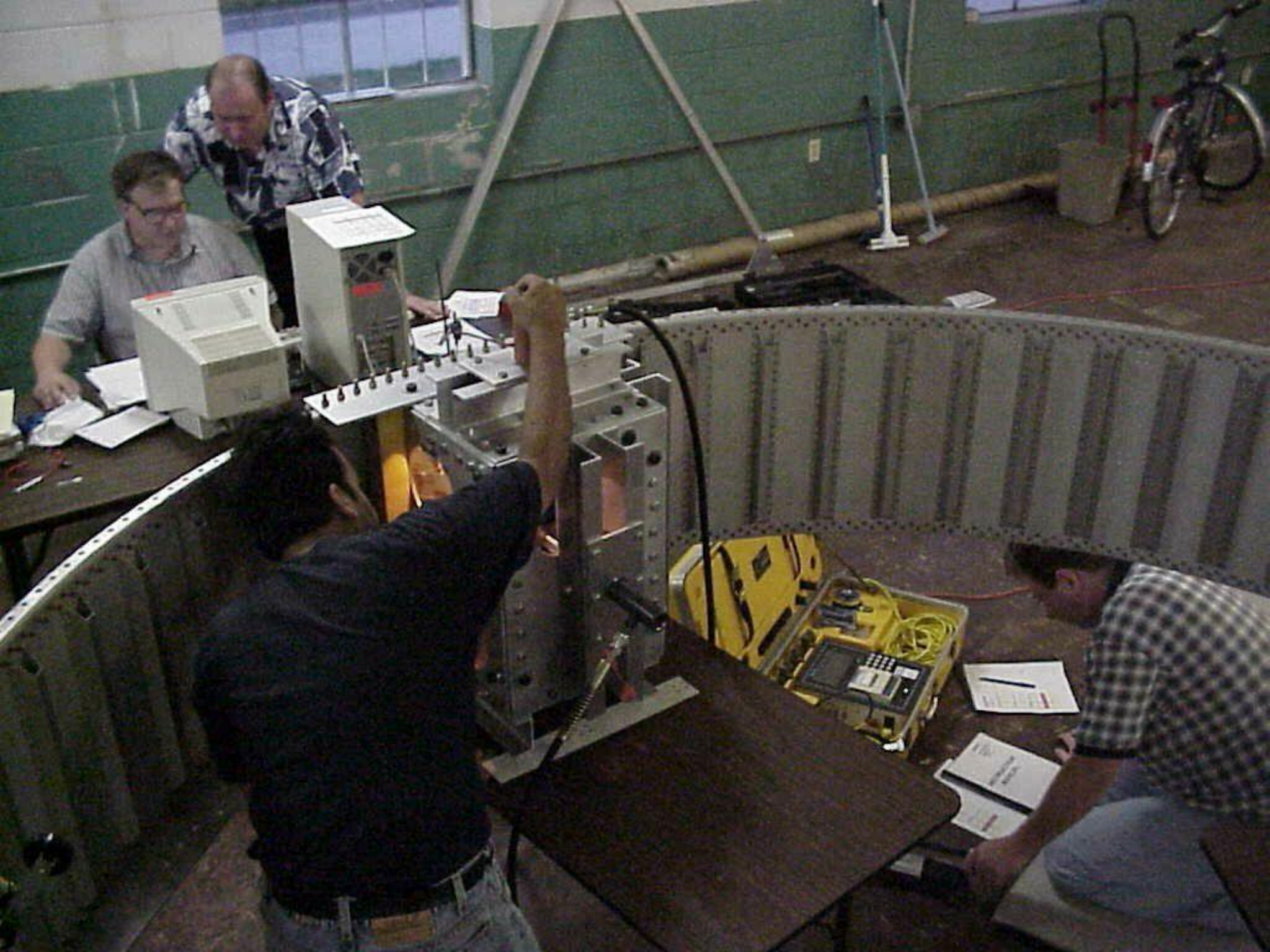




















AMSAT

E-10

E-12

E-13

E-14

E-41

E-34

E-33

E-32

E-31

(1)
GP-60



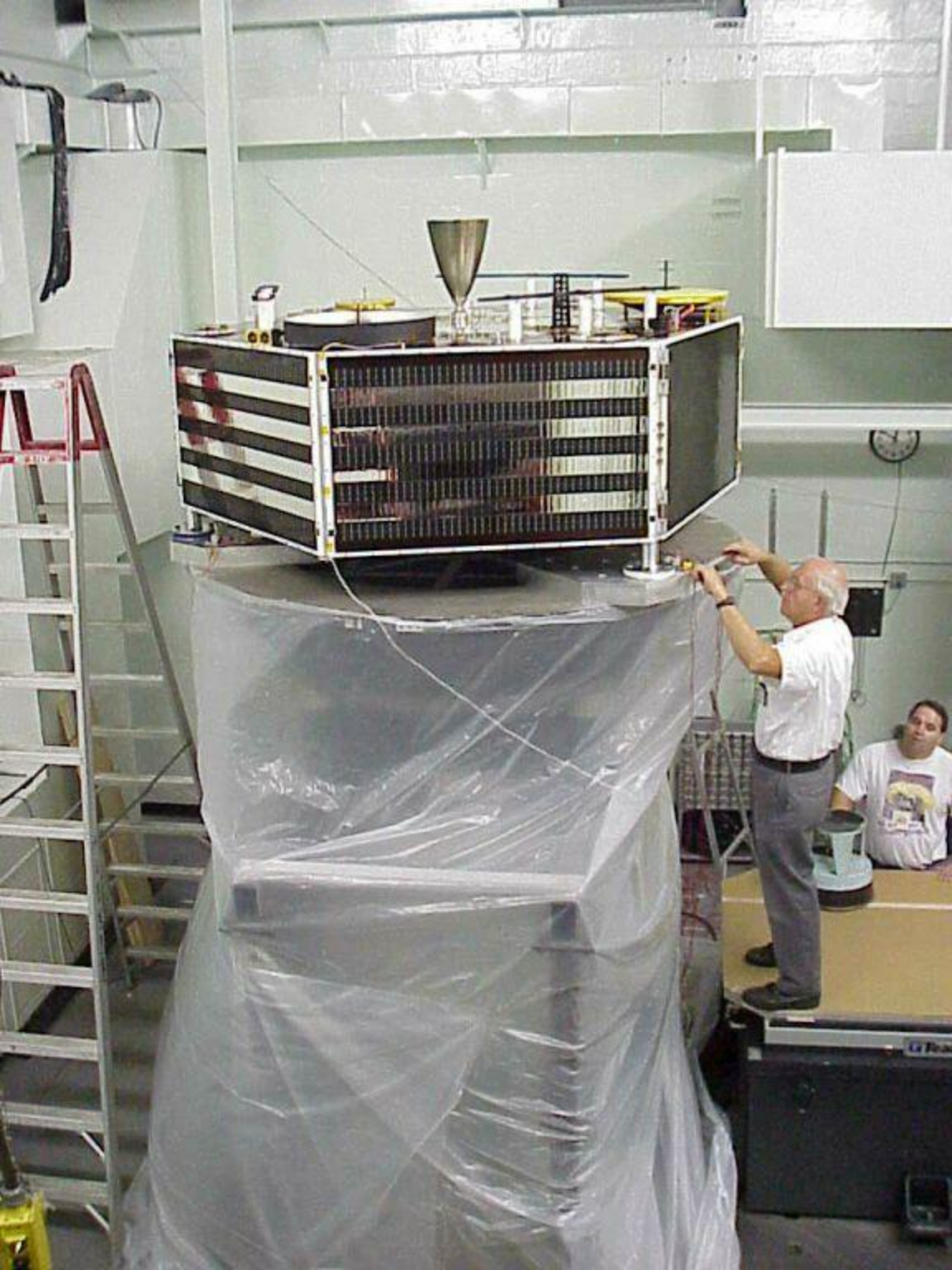
4101

RESERVED
PARKING
ONLY
←

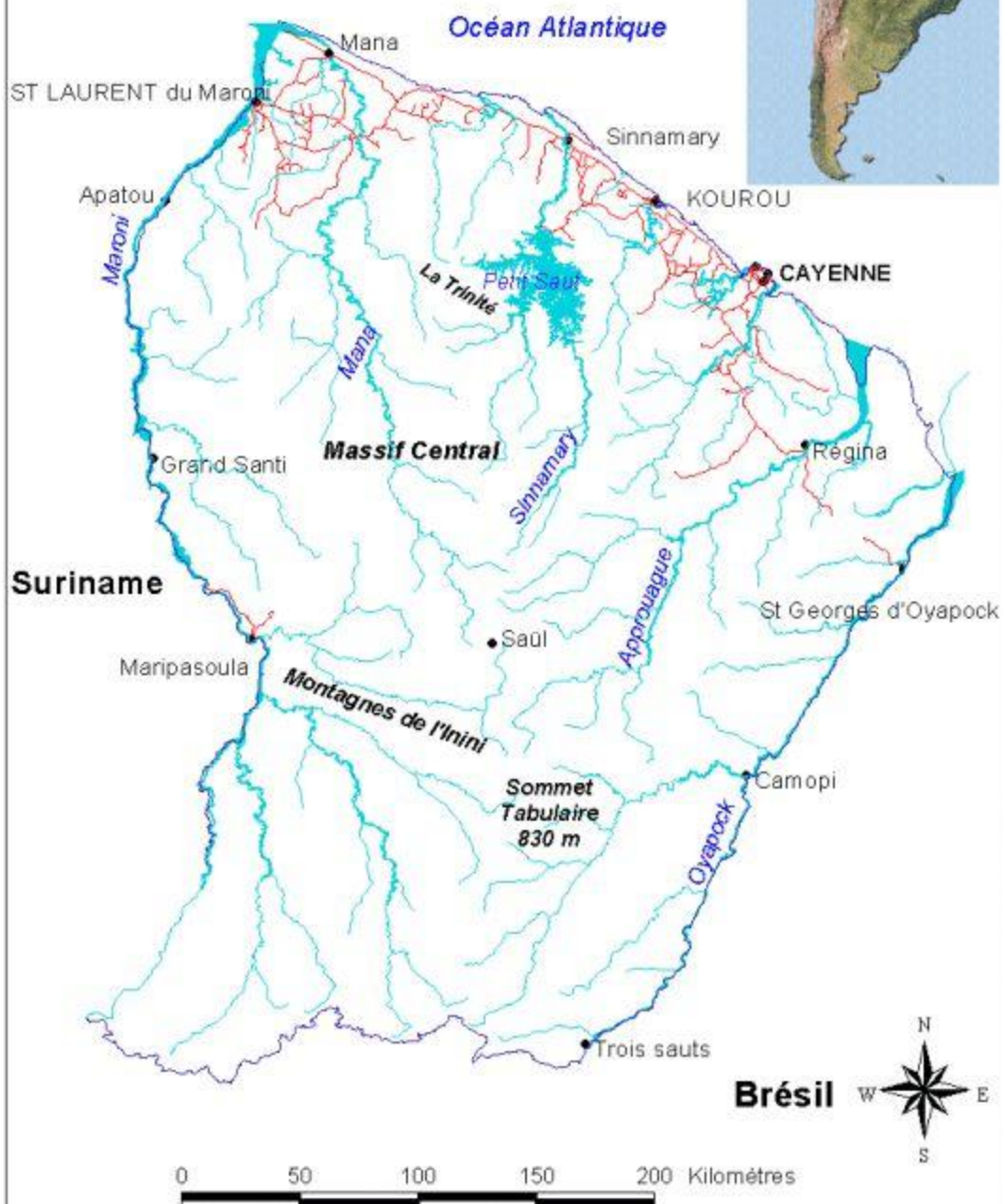
WARNING
PROTECT THESE CODES
IN ALL PLACES BY THE
USE OF THESE CODES
IN ALL PLACES BY THE
USE OF THESE CODES

NO PARKING





Guyane française



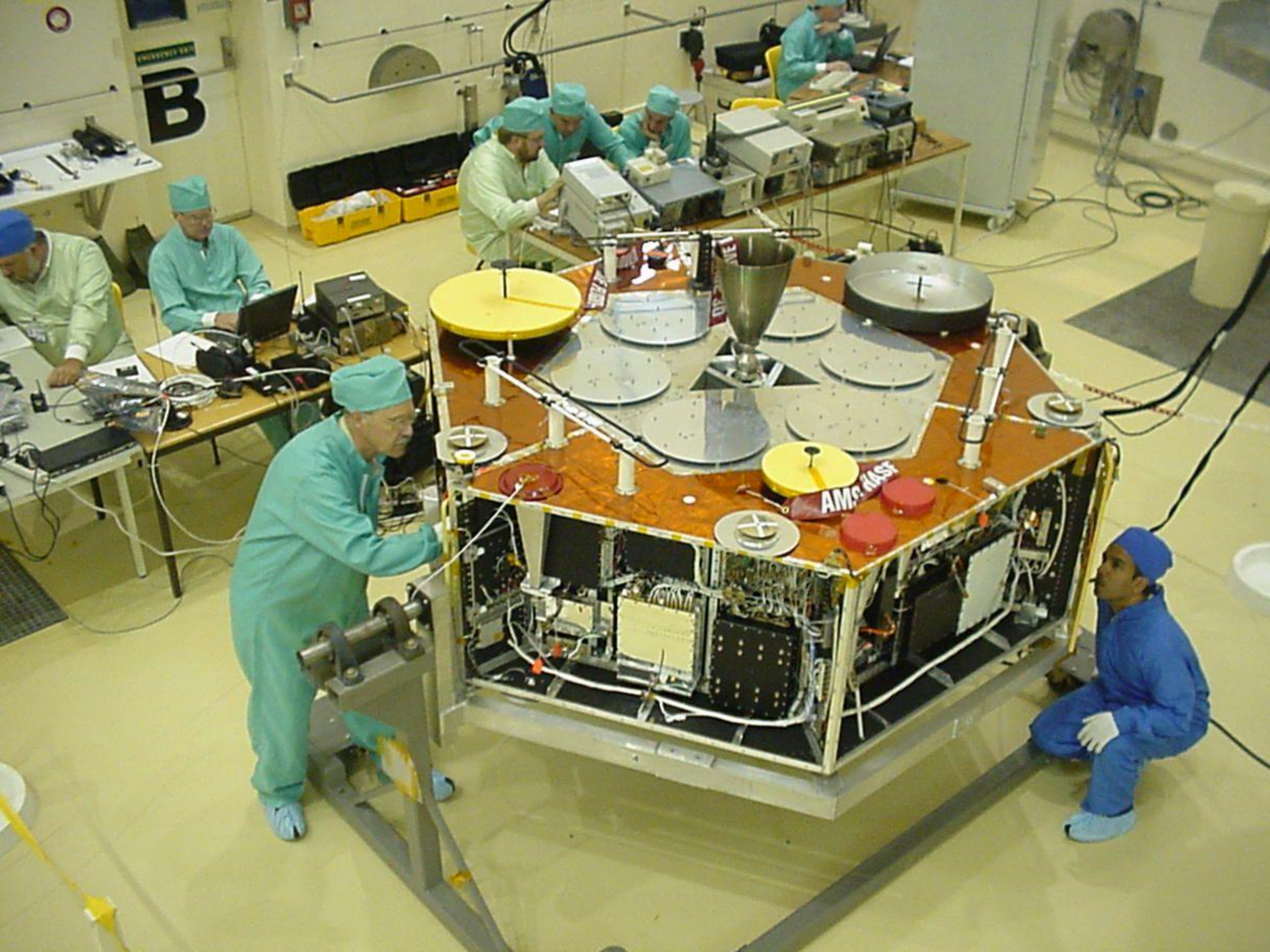




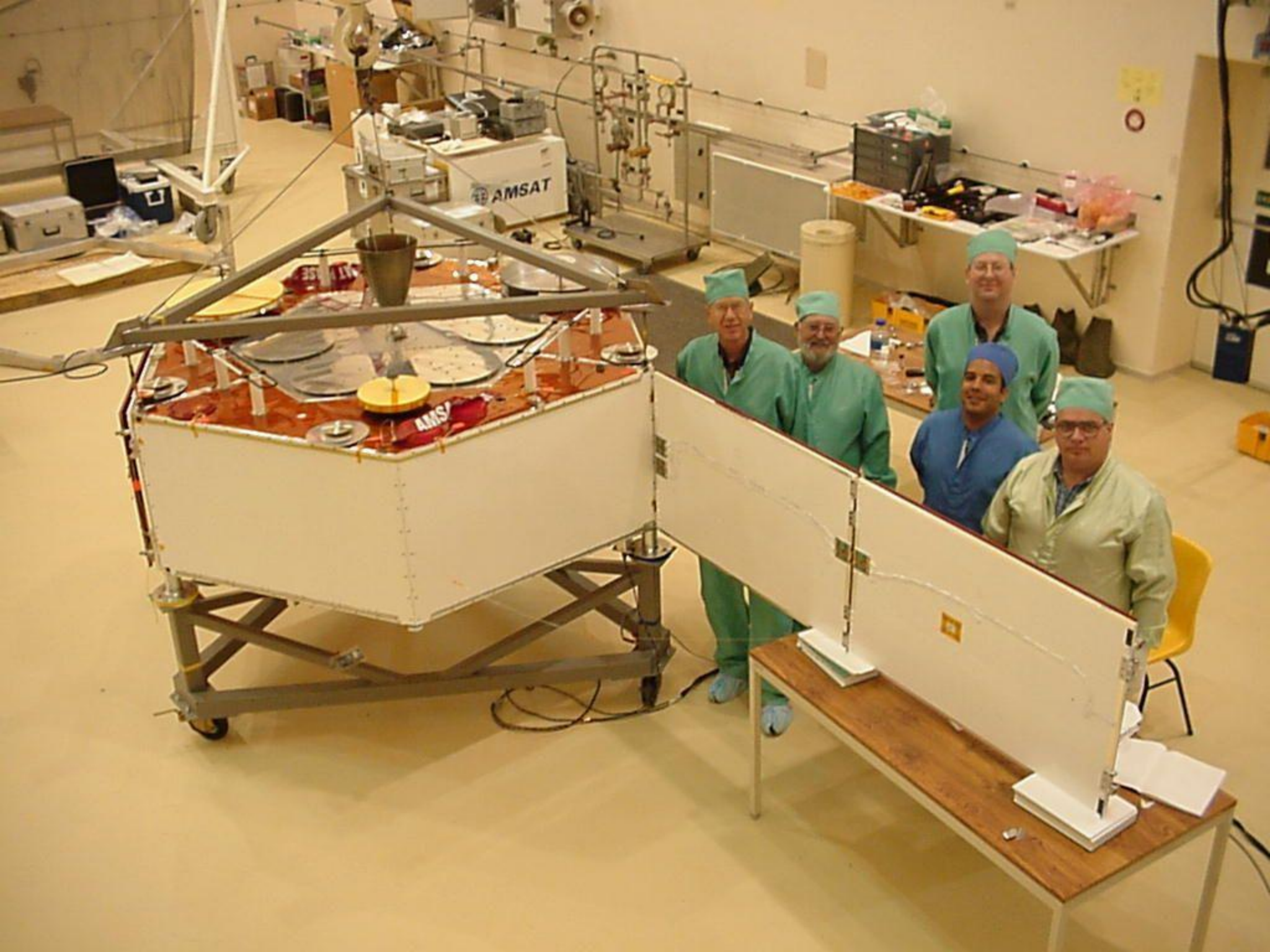


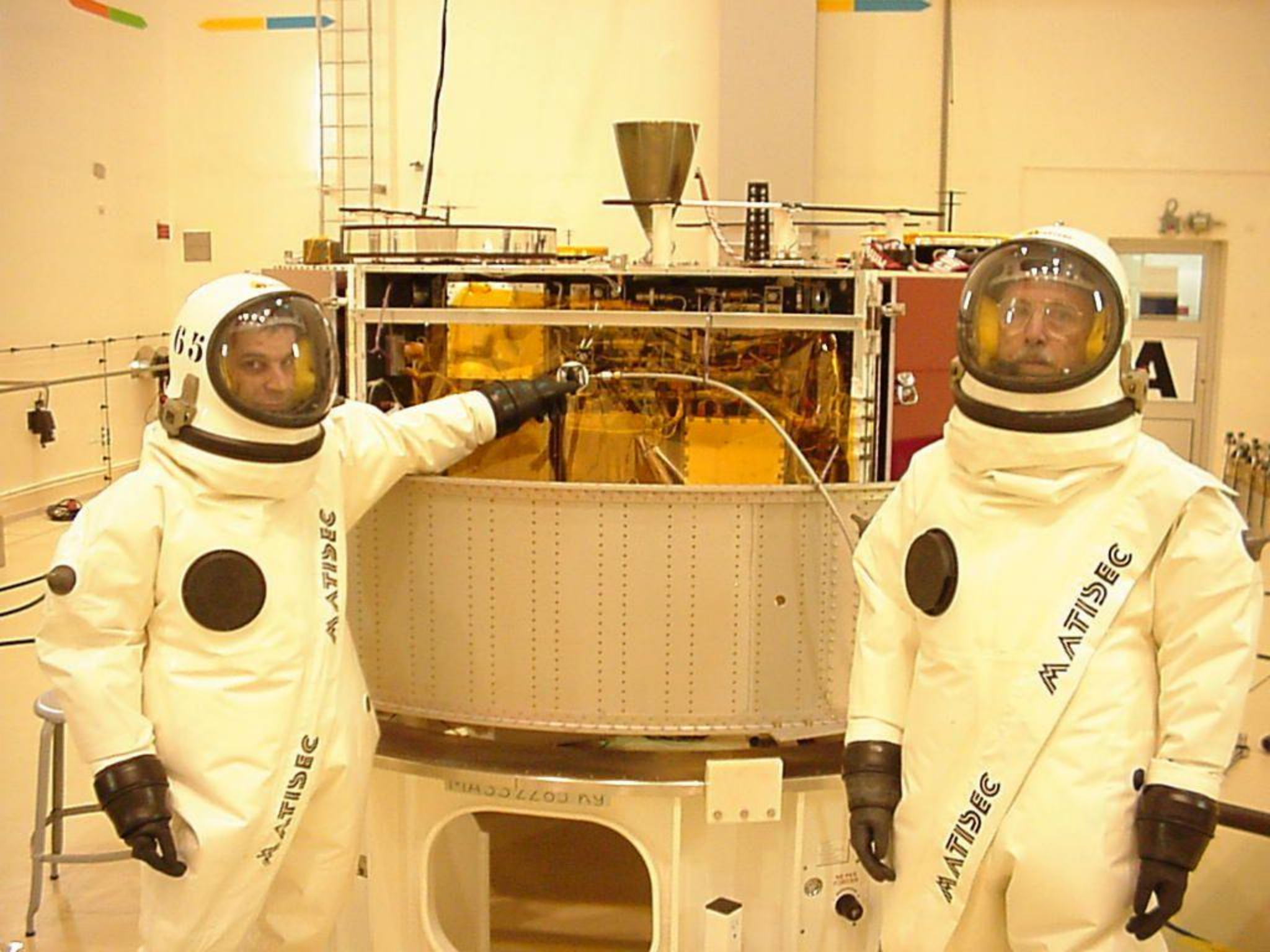
AMSAT PROJECT TEAM
671 Centre Spatial Guyanais
BP. 726
- Route de L'Espérance
97 387 KOUROU CEDEX
Guyane Française/FRENCH GUYANA
2011 Christophe Barreau



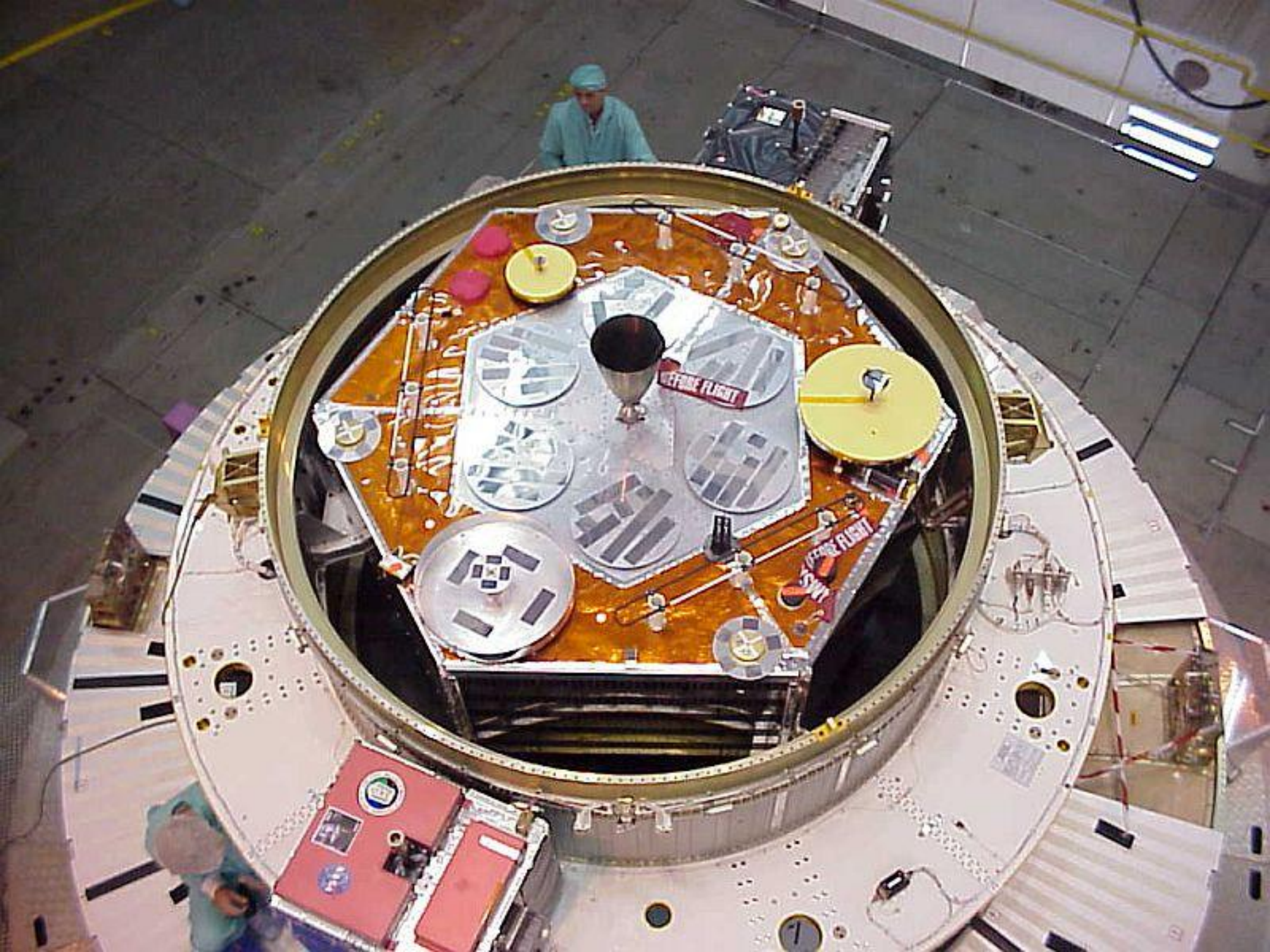






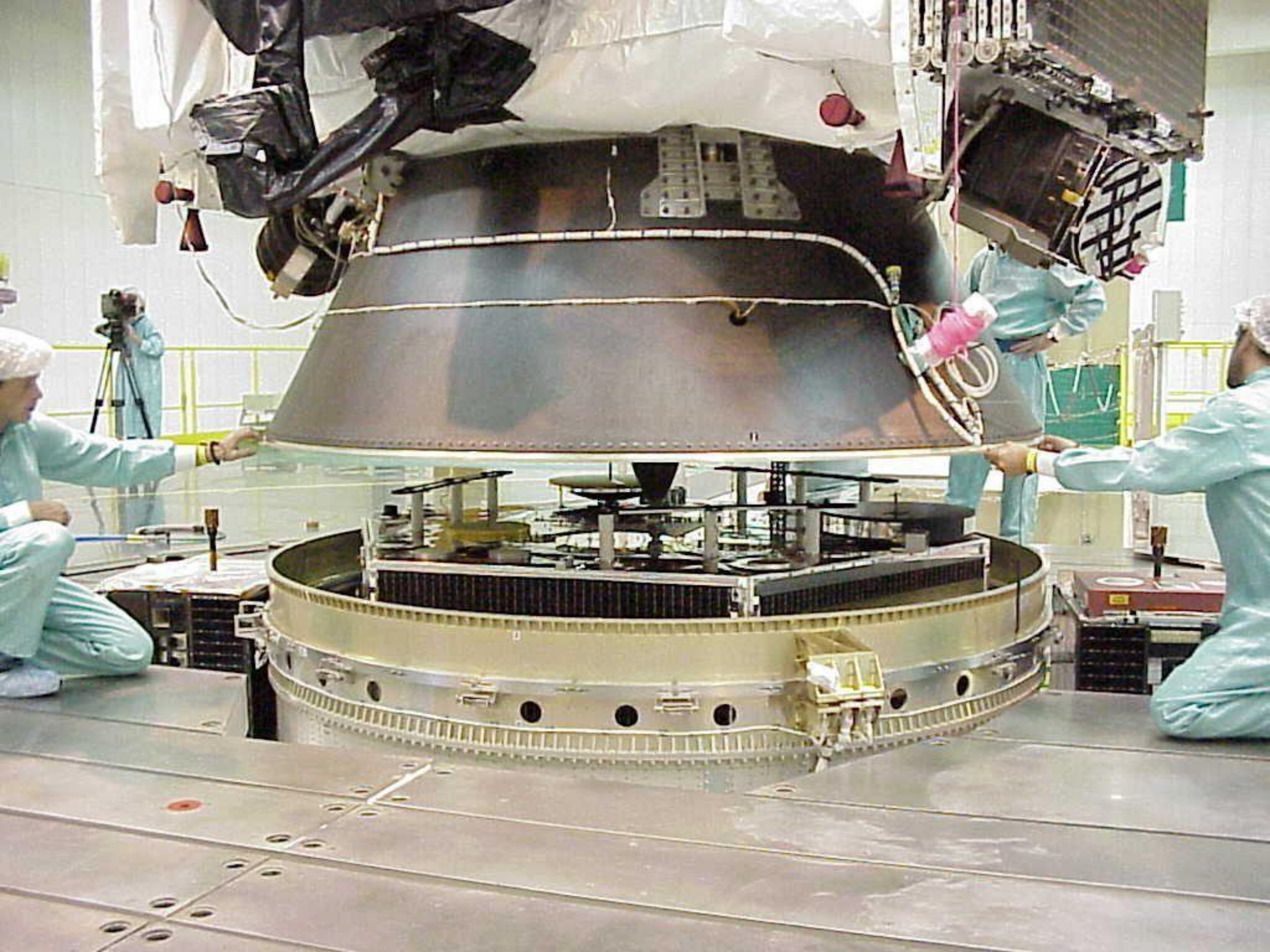






BEFORE FLIGHT

AFTER FLIGHT







ne

V 130

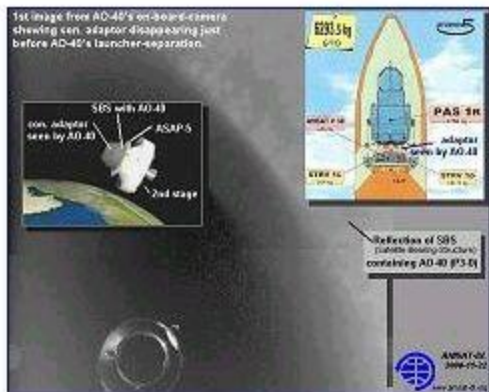
esa

ESA

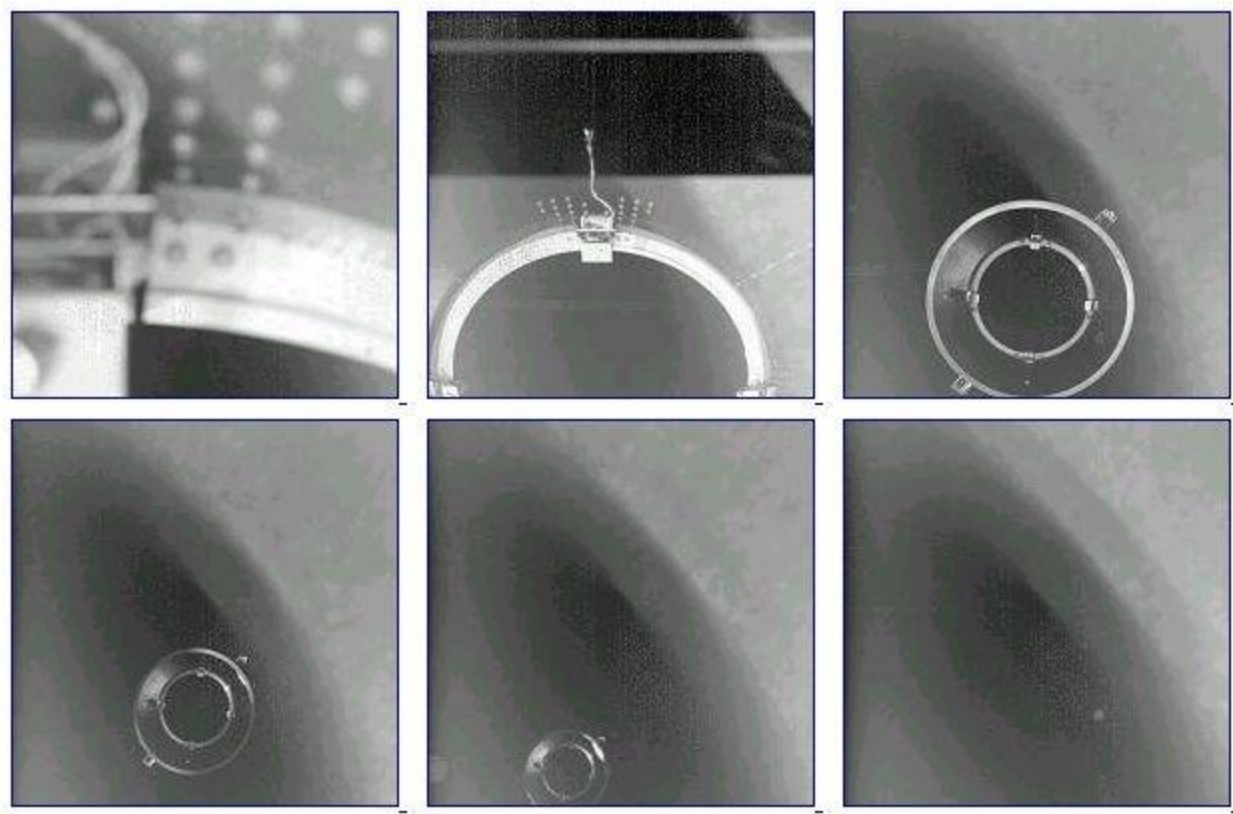


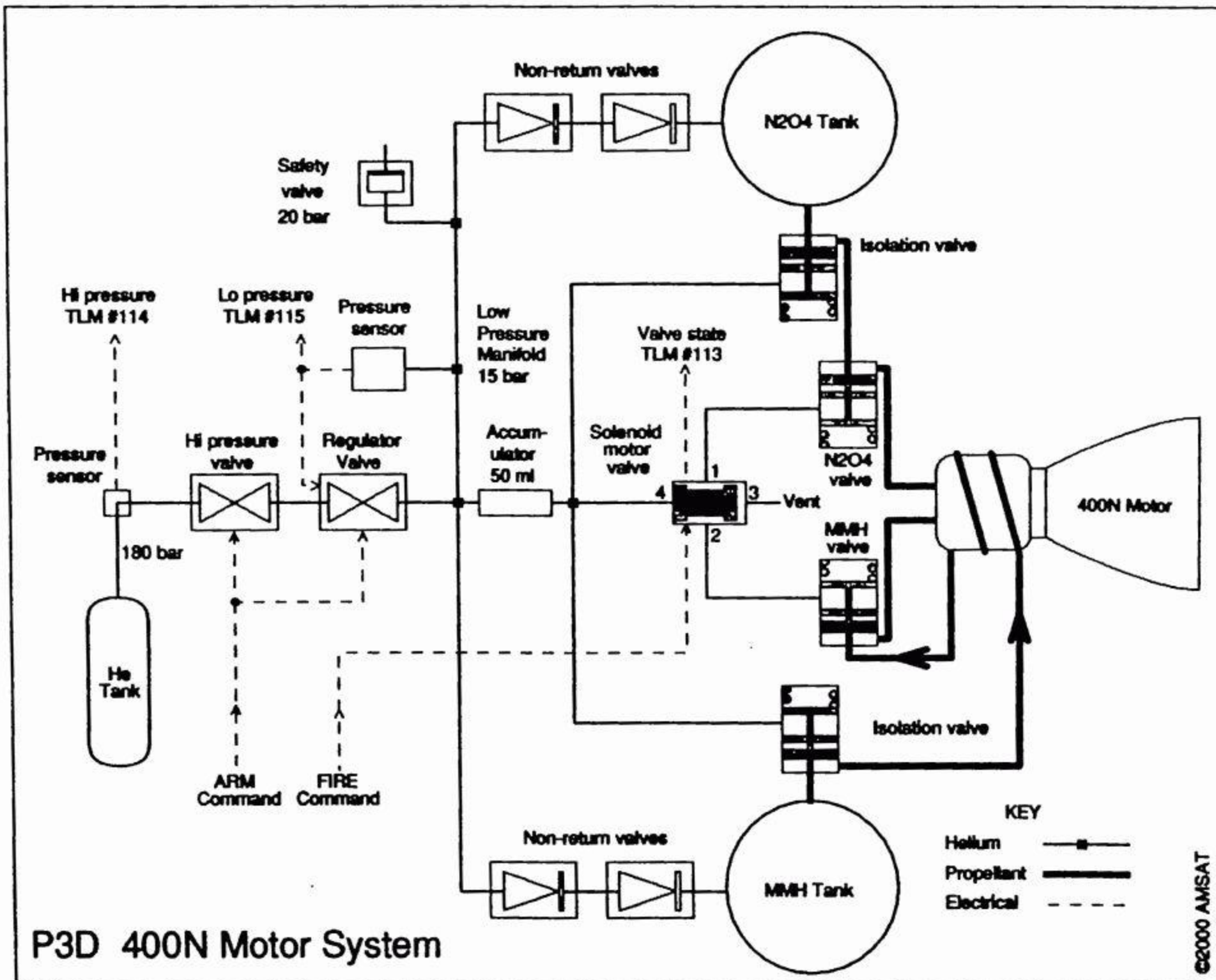
Ariane Vol 135 - PAS 1R, AMSAT P3D, STRV 1C & 1D - 15/11/2000





**AR507 con. adaptor seq.
taken by AO-40's YACE**





P3D 400N Motor System



