432 AND ABOVE EME NEWS
OCTOBER 2002 VOL 30 #11

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THE NL WEB VERSION IS PRODUCED BY W6/PA0ZN AND AVAILABLE AT <http://www.nitehawk.com/rasmit/em70cm.html>

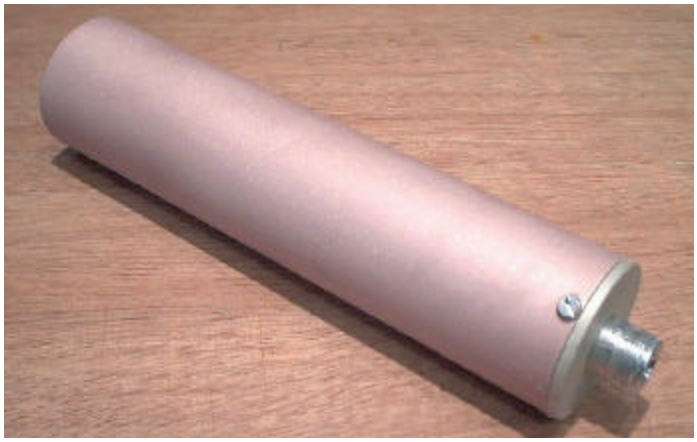
CONDITIONS: Activity has been a bit sparse since the Prague conference. I think everyone is getting ready for the first weekend of the ARRL EME Contest on Oct 26 and 27. There will be lots of activity on all the bands during the contest, but expect some special efforts on 3 and 6 cm this year. F2TU has suggested activity times for the microwave EME bands – see his report below. I am still hearing of interest in JT44 by small stations who have not previously tried EME, but there is little news of JT44 QSOs this month. I do not expect JT44 to be used much during the contest.

JA6CZD set for the EME contest on 23/13 cm with this neat mechanical feed switching arrangement. The dish is 5 m.

DJ5MN: Bernhard writes dj5mn@web.de the he will be on 10 GHz EME in ARRL EME Contest-- After several years of activity on 2 m, 70 cm and 23 cm EME, I will try the next step to 3 cm. When I started this project 2 years ago, I was an absolute greenhorn to 10 GHz. Now I have all the equipment running on 3 cm and will be on 3 cm EME from my new house in the upcoming contest. The 3 cm station has > 100 W at feed (vertical polarization) of a 1.5 m dish (f/D 0.407, gain 42.4 dBi), manually turned in azimuth and elevation – I need a visible moon, and preamp with < 0.6 dB NF. The dish also dish has limited window. [How limited?] On RX, I believe in my ears, so no computer analysis. Due to bad weather I still have not echo tested. I am very interested skeds. Please send e-mail to the address above or to dj5mn@9a0tcp.ampr.org.

DH1FM: Tilo tilo.arnhold@gmx.de is giving EME using JT44 on 432 and 1296 some consideration. He has on 70 cm 400 W and a 23 dBi antenna, and on 23 cm 100 W to 26 dBi array. But he his antennas are not set up for elevation and he is normally QRV only during contests from a portable QTH. [One possibility is skeds before the tropo contests as was done by ES8X.]

DL4KG: Gerald's znoyek@t-online.de EME newsletter report -- The EME conference in Prague was a thrill. I was really pleased to meet all the guys. The lectures were superb and I took a lot of new information home. When back home, I was motivated to go ahead with station improvements. As I wrote in the last NL, I have collected all material to change from coax to open tube feeder. Meanwhile I have soldered the 4 dipoles to the 6 mm Al tube feeder. Soldering Aluminum is a hard job, if one has never done it before. I then attached a 200 ohm line (slug tuner) and the quarter sleeve balun. It could easily tune the dipole array and got a VSWR of 1:1, which proves that the system is working. The balun was made by PA4FP. He did a really great job for a reasonable price. Now I have to put all the stuff into the antennas on the roof. I hope to be ready before the ARRL contest. I also found a little time to work on 432 K9SLQ and KJ7F for initials #76 and #77, both on CW and JT44. I will scan some pictures of the open tube feeder system and put them to my web page at <www.qsl.net/dl4kg>.



DL4KG's new balun.

DL7UDA: Dietmar has started EME activity on 432 MHz -- I built up 4 x 7.5 WL 21 el yagis (DK7ZB design). I finished building up my antennas on 28 Sept and heard DJ5NV with quiet good signals, but was not quick enough to answer his CQ. On 29 Sept I made my first 70 cm EME QSO with DL9KR (O/449). It took not more then 10 minutes in spite of my low experience with CW. I also heard DF3RU and DJ5NV again. My station consists of an Icom 475H driving a GS35B 700 W HB PA feeding my 4 el yagi array (24 dBi) with 1 dB feedline loss and MGF 1302 DJ9BV 0.5 dB NF 16 dB gain LNA and an AF Filter (JUDSP2 using 200 Hz & lss BW). My EME station grid-locator is JO62uu (my home is JO62TK). I should be QRV in ARRL contest and the next SWs.

EA3DXU: Josep was QRV again on 432 MHz during Sept SW. He also notes that he is now QRV on JT44 and is interested in 432 EME skeds on either CW or JT44 using 2 x 38 el M2 and a GS23B (1,250 W) PA.

F2TU: Philippe F2TU@guideo.fr wants to remind everyone the he will be QRV in the ARRL contest on 70, 23, 13, 6 and 3 cm. He proposes the following schedules for contest activity on the microwave bands above 23 cm as follows: for NA: 2304.1 MHz (rx also on 2320.1) on 26 Oct from 0600 to 0730, for 5760.1 MHz on 26 Oct from 0800 to 0900, and 10368.1 MHz on 27 Oct from 0600 to 0900. Similar arrangements should be possible for the Nov contest weekend. See Philippe's webpage at http://www.qsl.net/f2tu/.

F5VHX: Graham was active on 1296 at the end of Aug and worked DF4PV for initial #38. He has a PA module for 13 cm and is working on a 3 m dish. He did not make it on at the end of Sept, but will be QRV in Qct. Look for Graham in the contest.

F6DRO: Dom Dominique.DEHAYS@enac.fr (JN03tj) reports on his EME progress – I am working on systems for the 6 and 3 cm bands. The concrete

block and the dish mount and rotation system are now in place, but the house has priority one (at least for my XYL), so I have had to stop my work for a few months. I hope I'll be able to finish the work this winter. I am also planning to have a 2nd dish (7 m) for 23 and 13 cm. I will have to build a heavier tower and rotator for this dish as my new QTH is very windy!

G3LTF: Peter's 100633.1656@compuserve.com EME report -- The Prague conference was very enjoyable, well organized and the OK team deserve much credit for their efforts in the face of the disruptive floods. It was great to meet so many old EME friends again. Between 16 June and 9 Aug I completely rebuilt my 6 m, 0.375 f/d dish. It now has a stronger hub and stronger outer rim. I also re-covered the center 4.3 m with 6 mm square mesh, the rest has 16x19 mm mesh. All 16 ribs were rechecked in the original jig and finally the whole thing was assembled to a much higher accuracy than when it was erected in 1995. I believe the ribs are accurate to about 3 mm. I have some final work to do to adjust some of the small mesh panels but initial results show a definite improvement. I estimate a 3-4 dB increase in gain on 13 cm and about 0.8 dB on 1296. The present sun noise results are 19.3 dB on 13 cm, 21.2 dB on 23 cm and 16.5 dB on 70 cm. Sun flux was 160-164 for these measurements. I see 0.7 dB moon noise on 13 cm and 0.3-0.4 dB on 23 cm. All measurements are with a 300 kHz RX and an attenuator in front except on 70 cm, which is done in 2.5 kHz. I made the first QSO with it on 9 Aug on 23 cm with OZ6OL on SSB and then on the 10th with F1ANH, N2UO for initial #189, W2UHI, VE6TA, W7BBM, N7AM #190, G4CCH on SSB, K0YW and WA6PY. I was on holiday for the Aug activity, but will be on in Oct.

G3SEK: Ian G3SEK@ifwtech.co.uk writes -- Following a final discussion at the Prague EME Conference, the 2002 version of the 432 MHz and Above EME Operating Guide is now on the Conference web site at: http://www.emecz.cz/convent/eme%20operating%20guide.pdf. This guide is written for beginners as well old timers. It includes lots of new information and advice on how to make random QSOs, how to answer a CQ, what to do when someone answers your CQ... Although this document has been open for review/correction for two years, I'm still happy to receive comments and suggestions. You can also find my notes on the discussion of 'Digital' EME modes at the Prague EME Conference on the conference web site at: http://www.emecz.cz/convent/digital%20eme%20communication.pdf. These are much more complete than the brief report in the last 432 and Above Newsletter. Note particularly that all conference recommendations on operating frequencies must be considered "temporary". The whole problem has been referred to IARU for worldwide coordination.

G4RGK: Dave g4rgk@hdeng.freeserve.co.uk made it on 70 cm for the end of the Aug SW -- I got on at 2200 Sunday evening, too late for many I'm afraid. Activity was low, but I found DJ5NV, RA3LE and DF3RU in the couple of hours I was QRV. All had very big signals. I had a good time in Prague. The turnout was really impressive. I was surprised there were so many people there!

GW3XYW: Stu's gw3xyw@thersgb.net EME report for Aug/Sept on 1296 MHz – I QSO'd on Saturday 31 Aug DF4PV (549/559), K5JL (569/569), PA3CSG (559/559) and F6ETI (339/549), and on Sunday 1 Sept F5VHX (M/O), G4CCH (559/559), K5JL (569/569), W7SZ (549/549), K2UYH (44/55) on SSB and OZ6OL (559/559). I have JT44 installed in my shack machine and notice that the Doppler shifts at 1296 predicted by this program do not match up with the numbers from the VK3UM program, which in turn are also slightly out with actual "on air" measurements. For example at 3 different AZ settings the measured, VK3UM and JT44 readings were respectively +100, +3, –315 Hz; –300, -425 and –650 Hz; and –660, -770 and –925 Hz. I think that my QRA loc is ok at IO71xr. The measured readings were obtained by TXing a tone on SSB and tuning the RX to match the echo pitch of the original tone. The JT44 TX freq was checked by a counter with a 10 MHz timebase locked to the Droitwich (198 kHz) frequency standard. The computer clock is set against a HB digital radio clock. I think that the main problem for JT44 on 1296 will be the Doppler settings. [Remember you have a +/- 600 Hz window and can easily tune, if nothing is heard.] It might be worth trying 432 MHz first. I am still QRV on 10 GHz and am looking for any possible skeds with interested stations who are QRV on 10 GHz.

K5WXN: Dan reports that there was not a lot of activity on 70 cm during the end of Sept activity weekends. He did work PA3CSG, OH2DG, DJ5NV, SM2CEW and DF3RU. He also heard DJ3FI with a good signal. Dan found some bad BNC connectors in his receive line and reports that his system is now back up to normal.

K9SLQ: Wayne k9slq@parlorcity.com reports -- After almost a year of 70 cm activity from EN70kk in OH, I have finally got the antenna system where I want it. This means I am available 90 % of the time for skeds, anytime - 24 hours/day, 7 days/week with 1.5 kW and 16 x FO22 array. Repeat customers are always welcome. Please send sked information or activity plans directly to me via email. My WEB page is http://www.parlorcity.com/k9slq. [Wayne QSO'd DL4KG, SM3AKW, PA3CSG and PA4FP for new ones in Sept.]

LU8EDR: Danny lu8edr@softhome.net sends some 23 cm news from SA – I am surviving in this southern and confused land. In the mean time I'm still working to improve my EME station. My work is focused on obtaining better accuracy of the azimuth and elevation indicators and the addition of an infrared camera. Checks of Sun noise, fortunately, remain OK at 21 dB after 10 months without activity. Work on a solid state PA has stopped, as the hybrids are now too expensive. I plan to reassume activity with my old fashion 4 tubes cavity. I am seeking 2C39s everywhere! After the dish mount modification, it is now 0.45 m higher up, I can reach 5 degs of elevation. My target is to QSO Japan, New Zealand and/or Australia by looking to the West. By the way, is the SETI beacon still QRV on 1296? [It is temporarily off, but should be back on soon with an improved signal.]

N7AM: Jack jackriggs@attbi.com had things working well on 1296, but then had some problems – I was on during the Sept SW for a short spell and worked PA3CSG when the final conked out and I had to shut down. Later I found a connector on the feed line shorted out and put the bias supply out. After fixing things, I worked on 27 Sept G4CCH, GW3XYW, OZ6OL, PA3CSG and IK2MMB, and on 28 Sept JA6AHB.

PA3CSG: Geert was QRV on 1296 during the Sept SW. He worked N2UO, DL8OBU, WA6PY and F6KHX for new ones. He also heard OK1UWA and F5VHX, but got no reply to his calls.

PI4LIM: Jac is a new station that is working to be QRV on 6 cm EME for the contest. He is focusing on getting a power amp going, but reports having problems.

VE6TA: Grant ve6ta@telusplanet.net writes -- I am in the process of optimizing my feed for 1296 and in so doing need to ensure I have proper circularity. As I do not have a network analyzer available, I want to try an alternate method using a helix antenna and milliwatt meter to tune the polarizer section. Therefore if anyone has an old milliwatt meter in their junkbox that works at 1296, and are willing to part with, I would be happy to make a deal with you. Perhaps a 100 mW bird slug could be used for this task. Any advice will be appreciated. [The old HP430C power meters and heads are readily available and should work for this purpose.]

W2WD/0 Dxpedition site – portable 20' dish for 70 cm.

W2HUI: Frank was active as usual on 1296 in Sept. He worked SM2CEW, F6KHM, DF4PV, K0YW, K5JL, N2UO and W7BBM. Frank CWNR F6ETI and OK1UWA.

W5LUA: Al will be on 23 cm during the ARRL contest and can also be available for 10 GHz skeds. He has rewired his TH-327 power supply and reports all is working well. Al has a TWTA for G3WDG producing 80 W on 24 GHz. Al has picked up a new 2.4 m offset fed dish for 47 GHz.

WA6PY: Paul pchominski@mobilian.com is now QRV on 13 cm -- I switched feeds to 13 cm and QSO'd on 28 Sept in skeds OK1CA and HB9SV, and nil from G3LTF, but on the next day made it with G3LTF. On 13 cm I can transmit from 2304.000 to 2304.100 and can listen on 2304, 2320, 2424 (for JA), if requested. I am using my 2.4 m dish with 100 W. I have some problems with my 13 cm PA. The power from my YD1381 suddenly jumps down by 3 dB and I have to retune cavity. I did not have time to perform any deeper trouble shooting during my skeds. On 2320 I also found an increased noise floor versus 2304. When I listened on 2424, I found that the band is covered by very strong wide spread modulated signals. It looks like Bluetooth or 802.11b, but at the moment

I cannot borrow spectrum analyzer in order to check what it is. I am using my 15 years old LNA with a very high gain (close to 60 dB) in order to overcome cable loss and the high NF of my converters and the loss in splitters and band pass filters. Consequently the IP3 of my RX system is very low. 15 years ago high IM performance was not needed, but it looks like it is now a must on 13 cm. I am preparing for multi-band operation in the contest. In Oct I will operate on 144, 432 and 1296 and in Nov I am planning to be on 144, 432, 1296 and 2300. On 144 I will use two yagis pointed on horizons toward Europe and on Moon set JA and VK. The window will be short. On 432 I will use a dual dipole/dual polarization feed with my 2.4 m dish. The Moon window will be longer, but I will be able to work only a few big guns. I will move the position of the feed, so basically I can cove the entire Moon window.

K2UYH: I have been traveling a great deal this year. Besides the two weeks I spent attending the Prague Conference and visiting with F5SE in Aug, I was in Europe and Israel at the end of Sept and beginning of Oct. This caused me to miss the last SW. I was QRV and worked on 31 Aug on 432 at 0825 DJ5NV (569/559), and on 1 Sept on 1296 at 0912 GW3XYW (559/559) and (55/44) on SSB, 0935 OK1UWA (559/559), 0952 SM2CEW (569/569), 1007 OZ4MM (569/569) and 1025 IK2MMB (559/569). I also tried some JT44 CQs on the new 432.044 calling frequency with no replies. I am very interested in skeds for both CW and JT44. I plan to be on 70 and 23 cm the 1st weekend of the contest.

NETNEWS BY G4RGK (based on K1RQG's Netnotes): RA3LE has built a new antenna comprising of 8 x 7 m yagis. He will be on 70 cm random on 432.008 during the contest. **KA3TOR** imborg@pitnet.net is interested in EME and looking for information. **VE3AX** is working on the mount for the 28' dish he has acquired. **WA4NJP** can be on 222 MHz EME on a moments notice, and can run JT44 on all bands from 6 m to 23 cm. **KA0Y** is looking for a better keying circuit for the FT-736. **K9BCT** was active on 23 cm in Sept. While calling CQ beaming through the trees, he heard someone answering but could not figure out who it was. He wonders if it may have been N2UO? I0UGB was copied with a nice signal calling CQ but could not be raised. **K0YW** QSO'd in Sept on 1296 N2UO, KA0Y, N2IQ, G4CCH and possibly others. At the end of Sept he added OH2DG for a new one. **KL6M** expects to be back on 70 cm EME by the end of month and is also preparing to be on 23 cm EME again. **W4OP** has been very busy at work, but hopes to have his station running for contest on 1296 EME. **W9IIX** is close to being QRV on 23 cm EME with a 10' TVRO dish and 150 W to a VE4MA feed, and tracking controls by W5LBT. He has heard G4CCH, but blew his preamp before he could reply. **SP5CJT** has a new e-mail address sp5cjt@poczta.onet.pl. **9H1BN** is preparing to bet back on 23 cm EME. He now has a TH308 amp and asks if anyone has experience with the Septum feed? **W2DRZ** is still working on absolute encoder boards. Tom hopes to be on 23 cm for ARRL contest. **VE4MA** is working on improving the surface of 8' dish for use on 47 GHz. Barry will be on 23 cm and 3 cm for the contest. **KJ7F** worked SK0CC, N9AB, DL4KG, K7XQ (on JT44), PA3CSG and DL4KG during Sept. He will not be around for first weekend of contest. **W4AD** is working on improving his 1296 tracking system, but is not having much success. **W7CNK** still does not have his 10 GHz system up yet. **WA8RJF** in Ohio (EN91) is making slow progress on 23 cm EME. He is working on his dish mount. He may be an SWL in a week or so. **DL9KR** caught DL7UDA for a new one in Sept. **SV1BTR**: has new baby. There is a chance he will be QRV again on 23 cm in about a year. **N2HLT** is not yet QRV as his new antennas are not yet up. **N2IQ** is QRV on 23 cm. **N4PU** has a new feedhorn mount built and his dish back up. **SM2CEW** was QRV on 70 and 23 cm at the end of Sept. Peter heard N7AM on 23 cm with good signals. **K7XQ** is looking for info on offset feeds.

FOR SALE: LU8EDR: at lu8edr@softhome.net is looking for 2C39s/7289s. **PA3DZL** has 2 Eimac 8938 tubes available. They are used for about 50 hours and in good shape. Contact Jac by e-mail at Jac.de.Bruyn@12move.nl. **W8MQW** Chuck maccluer@math.msu.edu has 12' dish that was originally used by W2UHI available to a good home for free. **VE6TA** is looking for a milliwatt power meter - see Grant's repot above. **W7UPF** is about ready for 70 cm EME, but needs a power amp of at least 400 W. Contact Don at e-mail donsay2@cox.net. **KG6FCB** has a 16' dish and is looking for a 23 cm cavity PA for a TH-328 or similar tube.

TECHNICAL - Parabolic Dish Blockage Estimation By G3LTF: Gain loss from blockage is caused by the feed or sub-reflector and the legs that support them. I recently came across a book that sheds some light on the question of how the position of the legs affects the blockage. In the area outside the legs, the spherical wave from the feed is disturbed. Inside the legs, the effect is to block the plane wave from the aperture. The book is "Structural Engineering of Microwave Antennas" by Roy Levy, published by IEEE ISBN 0-7803-1020-9. It deals with many aspects of the mechanical design of large, high performance, antennas with good chapters on topics such as surface accuracy and blocking. MATLAB code is provided. Using the data from the book, I calculated the blockage loss for my dish, which is a 6 m 0.375 F/D. The feed support legs are 3 cm diameter and there are four of them at 2.15 m from the center. One of them carries the feeder cable and the effective diameter is then 4 cm. The feed support is a ring at 43 cm beyond the focal point. (I accept that some may find the size of these feed support legs a bit small!) The total shadow area is made up as follows, units are square cm: 23 cm feed, 40 cm diameter = 1256, 3 legs = 5895, feeder leg = 1544, Total = 6264 sq cm for case (a). For the feed legs at 1.5 m radius the result becomes: Feed = 1256, 3 legs = 3464, feeder leg = 2590, Total = 9741 sq cm for case (b). For feed legs at the dish edge we get: Feed = 1256, 3 legs = 900, feeder leg = 1200, Total = 3356 sq cm for case (c). The latter case is usually impractical except for small solid dishes because of the forces exerted on the dish edge. Note that the effect of the legs is greater than that of the feed. The effect on microwave antenna efficiency is more severe than the geometric area reduction, the book suggests by a factor of 2-2.5 times. We can calculate the % reduction in area, double it, and convert to dB loss. Using a factor of X2 for my 6 m dish, the gain reduction becomes for case (a) 0.18 dB, case (b) 0.29 dB and case (c) 0.1dB. The power lost, -11.5 dB in case (b), will appear as far out sidelobes. On the receive side, half of these will hit the ground and cause about a 1 degree K increase in the system noise temperature.

Don, VK3UM make over after visit with K5JL – "Bad Don".

FINAL: I am afraid this NL is out of phase with recent moon activity. Unfortunately recent business travel prevented my putting the NL out any sooner. Changes in scheduling have lessened the importance of getting the NL out on time. In the past, if the NL was not mailed promptly, I knew that many stations would not receive their skeds on time. Distribution of skeds was the primary mission of the NL. Today with the Internet the publication of the skeds does not seem of great importance. Although I have been working with Joe and Rein to provide a link to the most up-to-date skeds list at http://www.dl4eby.de/ltskd.htm. There are of course no skeds this month because of the ARRL contest.

Also included with the NL this month are the results for 432 and above of the ARI's EME contest and news of future contest plans by the ARI – see the end of the NL.

The Microwave Update (MWD) group expresses their frustration with the conflict in dates between the conferences and the EME contest. As a result MUD stalwarts W5LUA and VE4MA are not coming to the conference. I will not be there as well, although N2UO is foregoing the 1st part of the contest in favor of the conference. They note that when the conference was first planned and the hotel booked that there was no date set for the EME contest. As time transpired, K1FO noted that there might be a conflict, which came to fruition. Murphy is a constant in life!

CDs of the Proceedings of the 10th International EME Conference in Prague are available from OK1UWA (Josef Sveceny, Zaluzi 195, 33011 Tremosna, Czech Republic). Send 5 Euro or USD (to cover the packing/postage and CD) in an envelope with your address and you will receive the CD by mail.

Many TNX for the reports and technical material, please keep the info coming. I will be active during the EME Contest and shall be looking forward to working all of you. Let's keep the moon warm this Oct! 73, Al – K2UYH

SKEDS INFO: For the latest skeds info go http://www.dl4eby. de/ltskd.htm.

Results of IX Italian EME Contest

432 MHz (International):						
A)	1)	PA3DZL	1	10	-	2 x 21 el. 6.6WL
	1)	JA9BOH	1	10	-	2 x 1.97 mt.
B)	1)	SK0CC	8	80	-	8 x 17 el. 2,5mt.
	2)	YO2IS	6	60	-	4 x 27 el. 5.31mt.
	2)	UT3LL	6	60	-	6 x 27 OPTO DJ9BV
	4)	EA3DXU	5	50	-	2 x 38 el.M2
C/D)	1)	UA3PTW	27	312	2	16 x 15el. 2.8mt.
	2)	F2TU	23	272	2	Dish 7.8 mt.
	3)	JA6AHB	2	20	-	Dish 7 mt.
1296 MHz (International):						
	1)	G4CCH	20	263	3	Dish 5.4 mt.
	2)	F2TU	19	253	3	Dish 7.8 mt.
	3)	DF4PV	14	203	3	-
	4)	JA5AHB	11	173	3	Dish 7 mt.
	5)	PA3DZL	1	10	-	Dish 2.5 mt.
2.3 GHz (International):						
	1)	F2TU	4	40	-	Dish 7.8 mt.
	2)	JA4BLC	3	30	-	Dish 6 mt.
5.7 GHz (International):						
	1)	F2TU	2	41	1	Dish 7.8 mt.
10 GHz (International):						
	1)	F2TU	2	62	2	Dish 7.8 mt.
432 MHz (Italian):						
	1)	IN3AGI	4	40	-	8 x yagi (total 92 mt.)
1296 MHz (Italian):						
	1)	IK3COJ	12	120	1	Dish 3 mt.
	2)	I0UGB	9	90	1	Dish 5 mt.
5.7 GHz (Italian):						
	1)	I6PNN	1	10	-	Dish
10 GHz (Italian):						
	1)	I5PPE	4	40	3	Dish 3 mt.
	1)	I4TTZ	4	40	3	Dish 7 mt.
	3)	IZ4BEH	1	10	1	Dish 7 mt.

Comment: There was little activity from USA stations as the contest dates coincided with the Dayton Hamvention. Some EMEers had indicated their expected absence, but the others?? On the other hand, in this part of the solar cycle, the choice of contest dates was at best a compromise between perigee, proximity and better declination. In 2004, we will have even worst conditions, but after this, the situation will improve again. For the "Sponsor's Law" and the contest's survival, we need your logs even if they have only a few QSOs. This is necessary to demonstrate we are there, and that there are many of us present. Otherwise, it will be hard to justify the contest to our organization. Many thanks to all participants.

Winners: F8DO, JA9BOH, K6PF, S52LM, DL5MAE, F3VS, YO3FFF, WB9UWA, RU1AA, PA3DZL, SK0CC, UA3PTW, G4CCH and F2TU; and I3EVK, IK1FJI, I2FAK, IK7EZN, IN3AGI, IK3COJ, I6PNN, I5PPE and I4TTZ.

Awarding of prizes and certificate will be during the next Italian EME Convention on 26/27 April 2003 at the Hotel Joseph, Marina di Pietrasanta, (LU). Foreign stations not present will have their awards send directly by mail. The next Italian EME Contest, to be named: **Memorial I2COR Luigi Zorzino, X Italian EME Contest**, will be 10/11 May 2003 with the same rules as 2002.

Vy 73, Mario I1ANP, Italian EME Coordinator.