WATTS 01 - 2008

Year 78 +1m

Monthly newsletter of the Pretoria Amateur Radio Club
Maandelikse nuusbrief van die Pretoria Amateur Radio Klub.

PARC, PO Box 73696 Lynnwood Ridge 0040, RSA

web http://www.zs6pta.org.za mail:zs6pta@zs6pta.org.za

Bulletins :145,725MHz 08:45 Sundays / Sondae
Relays : 1840, 3700, 7066, 10135, 14235, 51400, 438825, 1297000kHz
Activated frequencies are announced prior to bulletins

Swapshop:Live on-air after bulletin 2m and 40m
Bulletin repeats | herhalings : Mondays 19:45 on 145,725 MHz

ZR6FD logo

	Papier / Paper
Drukwerk	Richard ZS6UK
printing	Bill ZS6KO
ZS6BAQ	Deryck ZS6KQ

Nuwe toring gaan op by Johan ZS6JPL

1m^3 beton gegiet in uitgeholde rotsbank met 1,8m aardpen en 3-punt montering vir 'n 12m staaltoring plus 8m pyp.
(Nog 'n foto op bl 3)

In this issue — In hierdie uitgawe

Next Meeting
09 Jan 2008

Time: 19:30 for 20:00
PARC Clubhouse
South Campus
University of Pretoria
SE cnr University and
Lynnwood roads

PARC Management team / Bestuurspan Oct. 2007- Sept 2008:

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Tea	Molly Peer	ZR6MOL	molly@peer.co.za	012-333-0612	
	Doreen de Bruyn	ZR6DDB		012-803-7385	082-857-9691

Minutes of the monthly club meeting of the Pretoria Amateur Radio Club held at the South Campus of the University of Pretoria on 14 Nov. 2007

These minutes were accidentally unpublished and a hardcopy thereof was distributed to members present at the 8 Dec meeting.

Minutes of the monthly club meeting of the Pretoria Amateur Radio Club held at the South Campus of the University of Pretoria on 8 Dec. 2007

Welcome: Almero ZS6LDP declared the meeting open and welcomed all who attended.
Attendance: The meeting was attendend by 12 members and 3 visitors.
Apologies : Apologies were received for Bill ZS6KO, Craig ZS6RH, Chris ZS6BGH, Molly ZR6MOL, Edwin ZR6ESP and Hilary ZR6HAL.
Personal Matters/Lief en leed: Mary, sw of Bill ZS6KO is in hospital suffering from breathing problems.
Fred ZS6MRA is in Moot Hospitaal en Jean ZS6ARA het geelsug.
Minutes of previous meeting: The minutes of the previous meeting were approved .
Proposed by Richard ZS6UK and seconded by Almero ZS6LDP.
Matters arising from previous minutes: None.

Club Activities

Rallies : Johan ZS6JHB – Rally season has come to a end. First event will be in February 2008 in Belfast.

Social: Next social event will be a club lunch/supper in February 2008. All members are invited to this social event and Johan would also welcome suggestions from our club members what venue to use.
Please forward your proposals to johandbr@absa.co.za or phone him at 0824923689.

D F Hunt: Richard ZS6UK – Next foxhunt to be announced .

Fleamarket: Almero ZS6LDP – Next fleamarket – 8th March 2008 at premises of the Pretoria Amateur Radio Club from 09:00. Tables available from Almero at R25.00 per table. Refreshments will be available. Van Wyk familie – hamburgers. Richard ZS6UK and Molly ZR6MOL – cold drinks.
Financial Report. – Richard ZS6UK – Reported on the club's finances.

Technical: Craig ZS6RH - Not available.
Club bulletin: Repeats of bulletin are on Monday evenings from 19:45.

General :
ID Cards – New members and members who are in need of a new plastic membership card must please contact Johan ZS6JHB at johandbr@absa.co.za or phone him at 082-492-3689.

Desert Island Trophy – Slegs een inskrywing is ontvang .Baie geluk aan Hans ZS6KR wat as wenner aangewys is.

Die ander trofees, Die HF Constructors en UHF/VHF Constructors trofee sal in tydens die Januarie vergadering op die spel wees. Daar is dus genoeg tyd vir lede wat wil meeding om die toekennings om hul inskrywings gereed te maak.
Sien julle almal by die Januarie vergadering!

Next meeting : 9th January 2008 at the clubhouse. Starting time 20:00.

Closing: The meeting closed at 15:10 after Almero ZS6LDP whished everybody present a Merry Christmas and a prosperous 2008. Thanks to everybody who attended the bring & braai. It was nice to see so many faces present.

Birthdays Jan Verjaarsdae

02 Alf ZS6ABA
03 Stan ZS6SDZ
04 Mike ZS6AFG
05 Pierre ZS6PJH
06 Carmyn, daughter of Gary ZR6GK
06 Brendan ZR6BM, son of Peter ZS6PJ
08 Darren ZR6TY, son of Selma and Joe ZS6TB
12 Ivan ZR6AUT
14 Gert ZS6ZB
18 Mary sw of Bill ZS6KO

Anniversaries Jan Herdenkings

03 Margriet en Tobie ZS6ZX ( )
05 Louse en Almero ZS6LDP (17)
07 Doreen ZR6DDB en Johan ZS6JHB (30)
29 Sue and John ZS6-2511 (26)

20 Errol ZR6VDR
20 Theresa, dogter van Margriet en Tobie ZS6ZX
25 Margriet, lv van tobie ZS6ZX

Simpatie Hermann ZS6SN het op Saterdag 7 Desember beswyk aan longkanker op die ouderdom van 80 jaar. Ons innige simpatie aan sy lv. Bettie en die Dormehl familie.

Sick Parade | Krukkelys

- Fred ZS6MRA het 'n draai in die hospitaal moes maak vir waarneming maar is weer tuis.
- Mary, lv van Bill ZS6KO is nog in die hospitaal vir long behandeling.
- Bertha, lv van Hans ZS6KR is weer tuis op 28 Des. na hospitaalbehandeling.

Diary | Dagboek (UTC times)

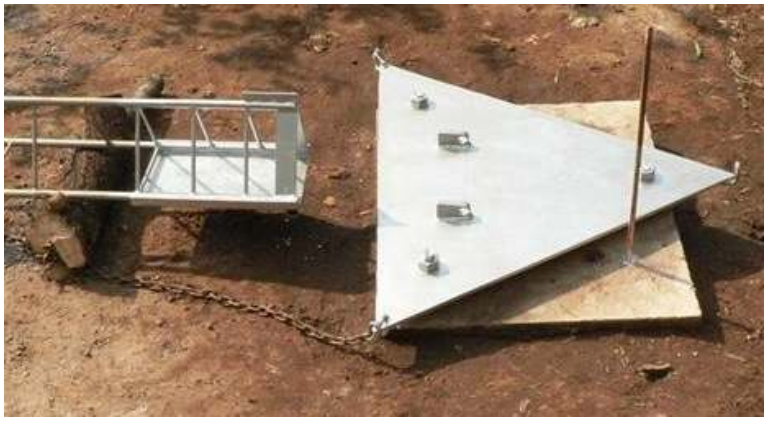
Jan	07	NARC opens
	09	Schools open
	09	**Club Meeting– bring hardware for Construction Trophies**
	12-13	Hunting Lions on the air
	18-20	PEARS National VHF/UHF contest
	26-27	CQWW 160m CW Contest
Feb	09-10	SARL HF Field Day part 1

FUTURE MEETING DATES

Even months: Saturdays 14:00			Odd months: Wednesdays 20:00		
Feb	09	2008	Jan	09	2008
Apr	12	2008	Ma	12	2008
Jun	14	2008	May	14	2008
Aug	09	2008	Jul	09	2008
Oct	11	2008	Sept	10	2008
Dec	13	2008	Nov	12	2008

Snippets | Brokkies

- **Pine ZS6OB** reports that the VHF/UHF Group's EME for Africa project will aim to visit 7P8 and V51 in 2008.
- **A third voting station** for our 2m repeater will be commissioned by Craig ZS6RH as soon as time permits
- **Harry ZS6AMP** had many reports of chirpy signals. >>>>>>>>> Hopefully it was not Lilly's washday…!
- **Johan ZS6JPL** se 14mm dik basisplaat is hier in posisie vasgebout. Die aardpen word later korter gesny en aan die mas verbind.



Your WATTS editor wishes all readers a happy and prosperous 2008

U WATTS redakteur wens alle lesers 'n gelukkige en voorspoedige 2008

Wow!

This FT897D was a total loss due to lightning.

Note the 12V entry- and UHF socket area.

Your editor bought this dud at an insurance salvage auction.

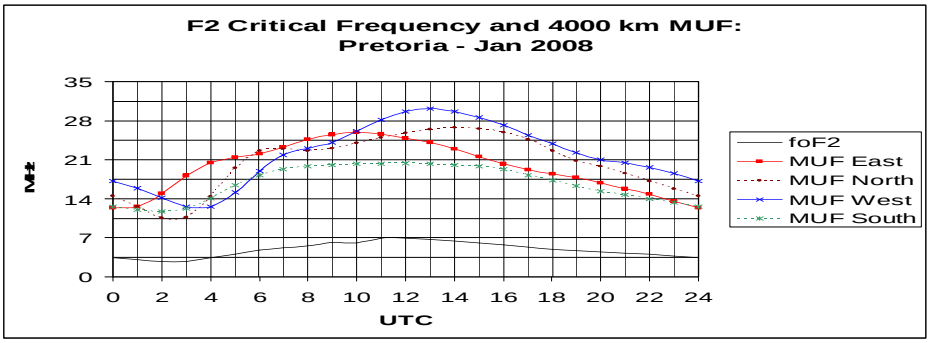
Dit was nou 'n kat in die sak! Gelukkig was daar darem ook 'n goeie item saam met dit wat gaan opmaak vir die koste!

Ivan ZS6CCW tuned up this lightning pole successfully for 80 and 160m while holidaying over the Christmas period

Long Term HF Propagation Prediction for Jan. 2008 (courtesy Vince ZS6BTY)

DX Operating
The graph shows the 4000 km maximum useable frequency (MUF) to the East, North, West and South from Pretoria for the first hop using the F2 layer.

Local Operating
The F2 critical frequency (foF2) is the maximum frequency that will reflect when you transmit straight up. E-layer reflection is not shown.



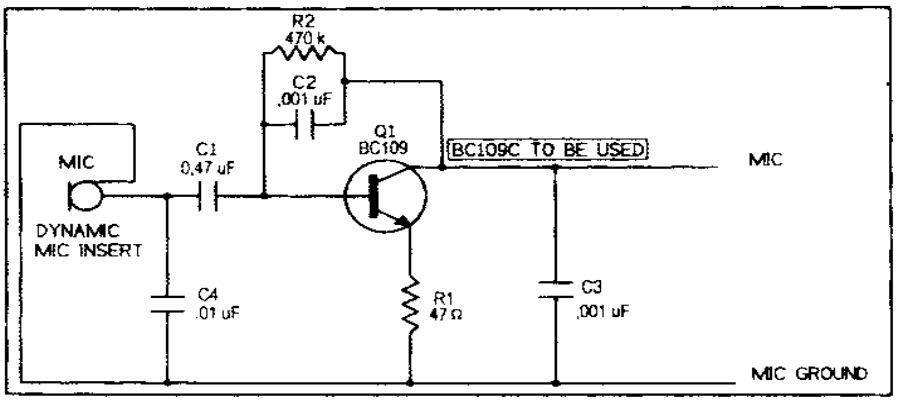
Adapting dynamic microphones to electret microphone inputs (and vice-versa)

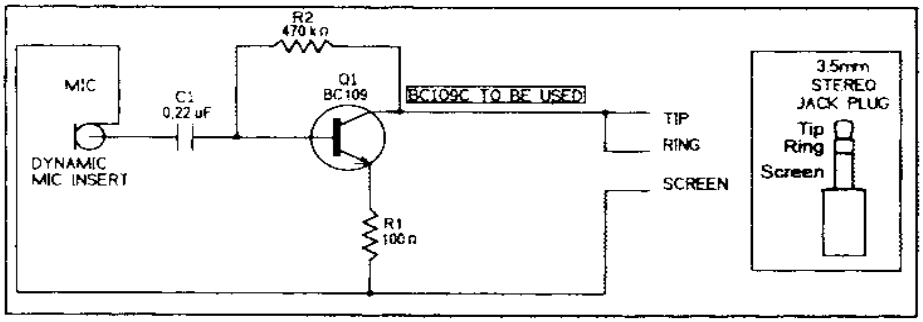
(table and diagrams from Radio ZS Sept/Oct 2002) **Introduction and table update by ZS6KR**

We should all know by now that one cannot plug a dynamic microphone into a socket meant for an electret microphone without even possible damage to the radio or the microphone coil. The reason being that for electret elements a bias voltage is required and that voltage, if connected to a dynamic microphone coil of say 500 ohms, will cause a DC current to flow in its coil and render it useless as a transducer at least temporarily.

What is needed is a simple interface that makes use of the DC voltage from the microphone socket and introduces audio into the radio in the proper way. The same goes for he input to a sound card on a PC. Circuits 2 and 3 are reproduced here to illustrate how it can be done.
In both cases the dynamic microphone is DC isolated and AC coupled into the buffer transistor. Note however that the transistor gets its DC current from the radio and the audio is AC coupled from that line inside the radio (or PC)
The opposite is done in Circuit 4 as would be required for Kenwood radios. The DC output available at the socket is used to bias the electret element via pin 3 and R1.

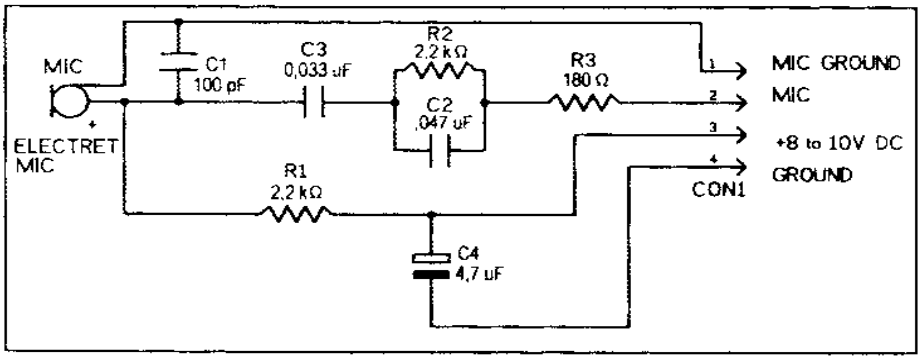
***Circuit 2**– Dynamic mic preamplifier for Icom transceivers*





***Circuit 3**– Dynamic mic preamplifier for PC sound cards*

***Circuit 4**– Electret mic preamplifier for Kenwood transceivers*



Last but not least, know your mic socket connections. NB: Consult handbook to *verify* functions *not in bold type* for your model

Pin #	Kenwood		Icom		Yaesu	
	Round	RJ45	Round	RJ45	Round	RJ45
1	**mic**	up	**mic**	**+8V**	up	fast
2	**PTT**	**+8V**	**+8V**	up/dwn	**+5V**	**PTT gnd**
3	down	**PTT gnd**	up/dwn	RX audio	down	**PTT**
4	up	**PTT**	sq sw out	**PTT**	fast	**mic**
5	**+8V**	**mic gnd**	**PTT**	**mic gnd**	**PTT gnd**	**mic gnd**
6	RX audio	**mic**	**PTT gnd**	**mic**	**PTT**	**+5V**
7	**mic gnd**	RX audio	**mic gnd**	**PTT gnd**	**mic gnd**	up
8	**PTT gnd**	Down	AF out	sq sw out	**mic**	down

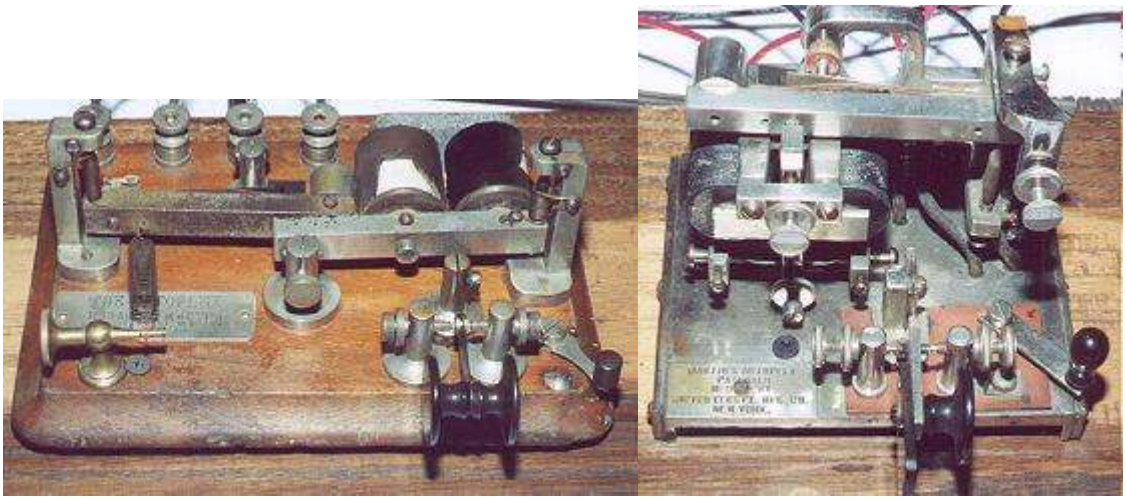
Autoplex and Vibroplex (gleaned from www.telegraph-history.org/horace-g-martin/index.html by W2NI)

Horace C Martin, a former telegrapher at the NY stock exchange in 1899, then shop owner, then representative for the Phillips Morse Automatic Telegraph and part-time inventor, put his train of thought regarding automatic telegraphy design to paper after having experienced many operators, operating conditions and a Telegrapher's Tournament:

"Having experimented for some time on automatic transmitters and having the occasion to observe achievements of other workers in the automatic field. I decided that there was a demand for a small, simple and portable sending machine which, while being automatic or nearly so, would,as nearly as possible, retain the merits but not the demerits of the old Morse key."

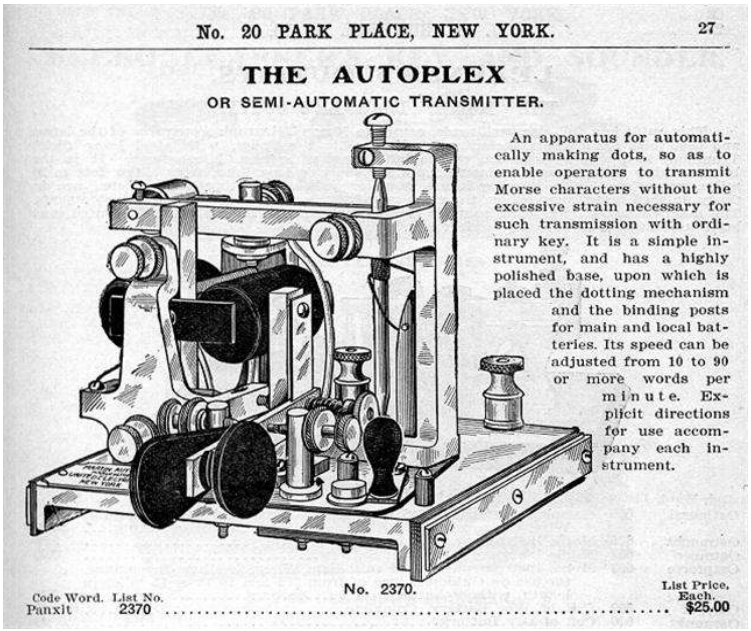
The demerits Martin was referring to in this historic quote were the thousands of vertical key strokes a telegrapher was subject to that frequently caused symptoms of telegraphers' paralysis. (Martin was personally suffering from telegrapher's paralysis. He felt after years of sending nearly 20,000 words of press copy per shift that he was losing his grip since 1898).The "merits" became the essence of Martin's key design philosophy and the template for all semi automatic keys built in the future. His desire was to simply retain the traditional control that a telegrapher had when using a standard Morse key.

"In practice good Morse senders emphasize their sending as a person does his words in talking. This emphasis is accomplished almost entirely by the lengthening or shortening the dashes and spaces, the speed of the dots remaining constant. It is an important feature of my present invention that this perfect control of the instrument and power to emphasize his sending is retained by the operator, while at the same time any number of dots may be produced by a single nerve exertion. These and kindred features have been the stronghold of the Morse key and the cause of the practical failure of all automatic transmitters heretofore devised."
These basic principles of Morse operation, stated by Martin, were incorporated into his 1902 invention of the Autoplex. He considered his invention "auto" or "nearly so" because it produced dots automatically but he kept the duration of the dashes and spaces up to the operator. The required number of keystrokes were now considerably reduced and all horizontal.



Two examples of the Autoplex built by Martin. Left, an early wood-based version. Right, a later version.

The Martin Autoplex was a small, portable instrument that required 1 to 2 dry cells. The design was simple and its operation can be best understood by referring to the early wood-based Autoplex shown above on the left.
Looking at the two horizontal levers across the instrument. The one on the right is an armature, which makes an electrical connection to the weighted pendulum on the left, where they both meet at the center. When the operator moves the key lever to the right, current flows through the electromagnets attracting the armature. The armature kicks the pendulum, breaking its center connection and causing it to swing over to the back stationary contact to produce a dot. With the center connection now broken, the electro-magnet releases the armature and it quickly returns to its stop. The pendulum is returned by two springs, and reconnects the two levers. This whole sequence starts over again and will continue to produce dots until the operator releases the key. To produce a dash the operator holds the key lever to the left for the desired length of time. The armature/pendulum circuit path is shunted this time allowing the electro-magnet to attract the armature and hold pendulum for the duration of the dash.



No. 20 PARK PLACE, NEW YORK. 27

THE AUTOPLEX

OR SEMI-AUTOMATIC TRANSMITTER.

An apparatus for automatically making dots, so as to enable operators to transmit Morse characters without the excessive strain necessary for such transmission with ordinary key. It is a simple instrument, and has a highly polished base, upon which is placed the dotting mechanism and the binding posts for main and local batteries. Its speed can be adjusted from 10 to 90 or more words per minute. Explicit directions for use accompany each instrument.

No. 2370.

Code Word.	List No.	List Price, Each.
Panxit	2370	$25.00

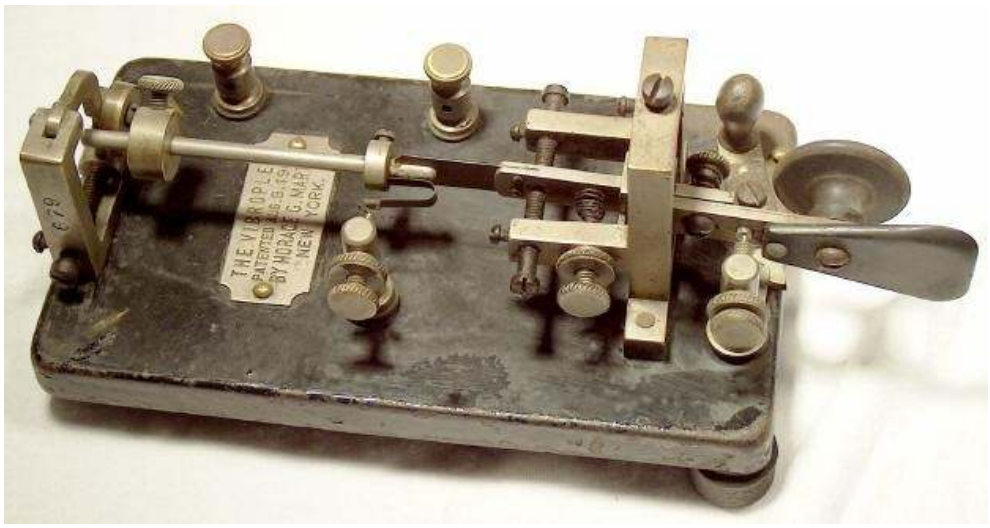
A Vibroplex in Every Telegraph Office


United Electrical Manufacturing Company
HORACE G. MARTIN, Vice-President and General Manager
53 Vesey Street, New York

Some of the first telegraphers to use Horace Martin's Autoplex in the U.S. were called "Bonus Men". Both Western Union and Postal Telegraph companies had contracts with certain telegraphers who were capable of sending large numbers of messages in the shortest period of time. Bonus Men were paid a premium for each message sent over an agreed upon quota. In turn, the companies provided the telegrapher with the best possible circuit between two cities and kept routine company traffic interruptions to a minimum. This circuit was called the "Bonus Wire".
The Autoplex was very attractive to the Bonus Man. He could maintain a high speed for an entire shift and not be subject to the fatigue and strain of using a standard Morse key. The problems were that the companies did not buy the Autoplex; they were owned by the telegraphers.
This meant it was necessary for a telegrapher to transport his Autoplex and the required dry cells to each shift. Telegraphers complained to their companies about having to supply their own batteries. They argued that the companies should provide a permanent bonus desk with the ability to connect to a "suitable local arrangement" of the station's batteries.
Companies were generally agreeable to comply with this, but they could not agree upon establishing a standard coil resistance for the electro-magnets to be used by Martin and other emerging makers of "magnetic" type keys. Martin's and other inventor's motivation to design a totally mechanical transmitter evolved from these problems.

In 1904 the United Electrical Manufacturing Company was formed as a organized effort to market the Autoplex and Martin filed for his second transmitter patent that included his first attempt at a totally mechanical design by utilizing a vibrating pendulum to produce dots.
In this design, a key lever runs parallel to a spring mounted horizontal pendulum, holding it in a position that puts tension on its spring. When the operator moves the key lever to the right, the lever withdraws away from the pendulum allowing it to vibrate. This vibrating pendulum became the basis for the name, "Vibro"- plex.
This patent did not go into production, probably for two reasons. Martin appeared to have problems with the vibrating efficiency of this pendulum right from the start. Two of the three design options in this patent still relied upon electro-magnets to help amplify the swing of the pendulum.
Also, four months earlier, another telegrapher, William Coffe, filed for a patent that used a similar lever design with an unassisted vertical pendulum.

In Martin's second attempt, he distanced himself from any similarities with the Coffe patent, and greatly improved the efficiency of the vibrating pendulum with a design that incorporated the lever, main spring, and pendulum all in one piece.
In this design, when the operator moves the key lever to the right, it immediately strikes a stop, causing the spring mounted pendulum to go into vibration. After the desired number of dots are produced via the contact spring on the pendulum, the operator releases the key, the lever returns to its stop, and the pendulum is arrested by a damper. The dashes are produced by moving an independent (split) lever to the left.
This design resulted in Martin's third transmitter patent, filed on April 16,1906 and today is referred to as the "original" design.



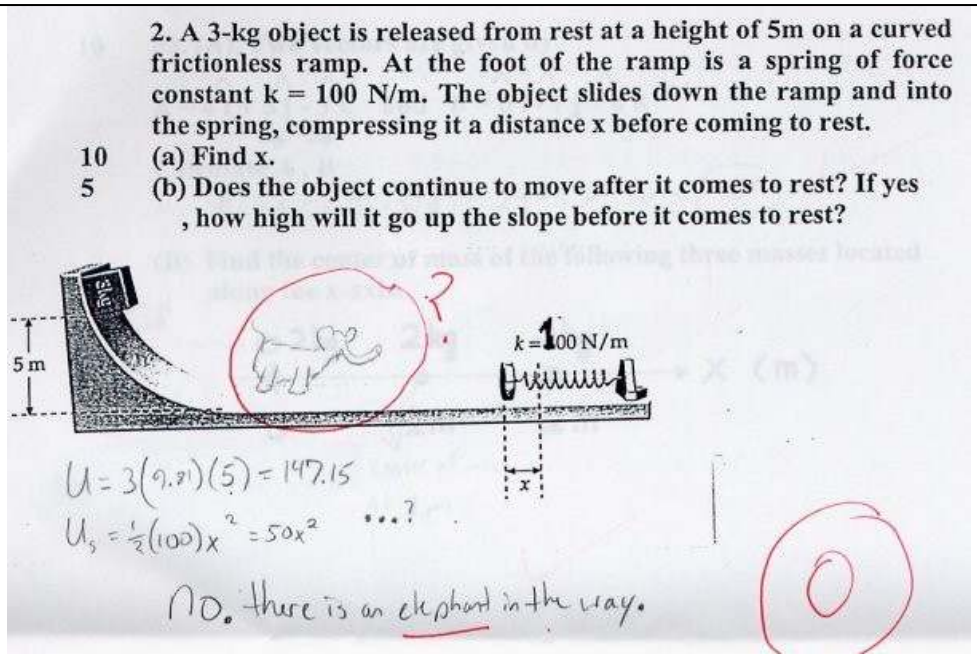
An early production Martin Vibroplex, serial # 679.

Martin furthered his efforts to make his Vibroplex the first transmitter owned by the average Telegrapher by entering into a price war with his two major competitors: Mecograph and Auto-Dot.

In the spring of 1906, the Martin Vibroplex was being sold for $12.00, the Auto-Dot for $10.75, and the Mecograph model # 3 for $10.00.

By mid-summer, Martin lowered his price to $7.50, but Mecograph countered this by lowering the price of all their models to $7.50 including their newest model #4. Around the time of the Postal Telegraph evaluations, Martin was most likely tired of dealing with the Mecograph Co., and lowered the price of his Vibroplex even further to $5.00. It is hard to imagine he was operating in the black at this price!

Space here does not permit to elaborate on further developments (read more on the W2NI website) but Martin's Vibroplex eventually won out and affected the careers of thousands of telegraphers and radio operators for decades and is still used, admired and available today.



Comments made by teachers on students' Reports (all teachers were reprimanded)

- Since my last report, your child has hit rock bottom and started to dig..
- Your child has delusions of adequacy..
- Your child is depriving this village of an idiot..
- Your son sets low personal standards and consistently fails to achieve them..
- The student has a full "six pack" but lacks the plastic thing to hold it together..
- This child has been working with glue too much..
- When your daughter's IQ reaches 50, she should sell..
- The gates are down, the lights are flashing, but the train isn't there..
- If this student were any more stupid, he'd have to be watered every week..
- It's impossible to believe that that the spem that created this child beat 1m others..
- The wheel is turning but the hamster is gone..

Row over Italian toilet artwork

A toilet which flushes to the sound of Italy's national anthem has been impounded by police in northern Italy, sparking great patriotic debate.

The offending loo was the creation of two artists and was on display at the Bolzano Museum of Modern Art.

Prosecutors say the Fratelli d'Italia anthem is a national emblem which should be protected and should never be open to ridicule.

A judgement is expected to be made later this week.

Who owns the national anthem? And is it unpatriotic to play it in a context in which it could be ridiculed?

Those are the questions for the court in Bolzano.