

GBPPR 'Zine



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"What a difference a year makes. Occupy Bilderberg? I love it. The Occupy movement seems finally to have realised that the problem isn't the 1%, it's the 0.001%. It's the guys and gals and whatever David Rockefeller is who are meeting in Chantilly, Virginia, at the end of the week."

---- May 30, 2012 quote from Charlie Skelton in his *Guardian* article "Bilderberg 2012: The technocrats are rising at this year's annual conference."

(www.guardian.co.uk/world/2012/may/30/bilderberg-2012-technocrats-are-rising)

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**LIMITED ACCESS FOR ROAMERS
FEATURE DOCUMENT
1A ESS™ SWITCH
AUTOPLEX™ SYSTEM 100**

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Limited Access for Roamers – AUTOPLEX System 100

AT&T 231-290-631

ECONOMIC WORTH

1.02 The LAR feature is used to deny service to non-CN Roamer 1 mobiles that are outside their specified SSAs within an MTSO. The MTSO can have a maximum of three SSAs in which to regulate non-CN Roamer 1 mobiles.

1.03 A practical application for identifying (on an NPA [numbering plan area] or NPA/NXX basis) particular roamers on any (or all) cells may be to redirect the service for those roamers (via the RABO [Roamer Access to Business Office] feature) to a marketing service bureau, or block it altogether. Other carriers' mobiles, or roamers from certain areas, may be typical of the roamer categories whose service may be modified via the LAR feature.

AVAILABILITY

1.04 The LAR feature is generally available in the 1AE9.06 and later generic programs.

FEATURE GROUPS

1.05 The LAR feature is optional. It is contained in the AMPSCP (System 100 call processing) feature package.

FEATURE ASSIGNMENT

1.06 The LAR feature is provided on a per MTSO basis via set card FF036.

2. USER PERSPECTIVE

USER PROFILE

2.01 The LAR feature allows cellular service providers to classify (from a non-CN Roamer 1 perspective) some or all of the immediate area served by an MTSO into a maximum of three disjointed, contiguous, and/or overlapping SSAs. The minimum service area for SSA classification can be defined by the cell which serves that area.

Note: All antennas assigned to a cell, regardless of server group, are associated with the same SSA as that of the cell.

FEATURE DESCRIPTION

2.02 Non-CN Roamer 1 mobiles are determined by the RSL (roamer service list). These may, on a per RSL entry (NPA or NPA/NXX) basis, be denied service (originations, terminations, and handoffs) from any combination of none, one, two, or all SSAs. Refer to paragraph 2.07.

A. Roamer Originations

2.03 During the initial processing of a non-CN Roamer 1 service request(s) (initial originating call processing), the correlation between the roamer's NPA/NXX and the serving cell is checked. This is done to determine whether that particular NPA/NXX may be served by the responding cell. If an applicable restriction exists, the roamer is denied service. Otherwise, the origination is processed normally.

B. Roamer Termination

2.04 During the initial processing of non-CN Roamer 1 page responses (initial terminating call processing), the correlation between the roamer's NPA/NXX and the cell responding to the page is checked. This is done to determine whether that particular NPA/NXX may be served by the responding cell. If an applicable restriction exists, the roamer's mobile is force released and the calling party receives unavailable facilities treatment. Otherwise, the termination is processed normally.

C. Roamer Handoffs

2.05 When a non-CN Roamer 1 mobile on an existing call requires a handoff, the correlation between the roamer's NPA/NXX and the serving cell(s) on the handoff candidate's list is checked. This is done to determine whether that particular NPA/NXX may be served by one of the candidate cells. If no cell can be identified that can provide service, handoff actions are not initiated and the call may eventually fade. Otherwise, the handoff is processed normally.

Note: This check applies only to intra-MTSO cells. For roamers whose associated RSL entry has at least one SSA restriction, all inter-MTSO (CN) handoffs are restricted. Inter-MTSO handoffs are valid only when no RSL SSA restrictions exist.

INTERACTION

2.06 A PLEN (pseudo line equipment number) is used for processing roamer calls for System 100 applications. The introduction of three optional custom features has necessitated the reservation of not one, but six, PLENs for roamer call processing. These three related features follow:

- LAR feature (see Fig 1).
- DRSA (Dual Roamer Service Areas) feature (set card FF047).
- RABO feature (set card FF019).

2.07 The associations of PLEN to roamer are a function of the following rules:

- (a) All associations are based upon the value of set card PLEN which defines the basic PLEN for the switch.
- (b) Non-DRSA roamer calls and DRSA roamer terminations are processed with PLAN + 0 as the base roamer PLEN.

(c) DRSA roamer originations are processed with PLEN -2 as the base roamer PLEN.

(d) Non-LAR restricted roamer calls receive RABO treatment, if applicable, via their base PLEN +1.

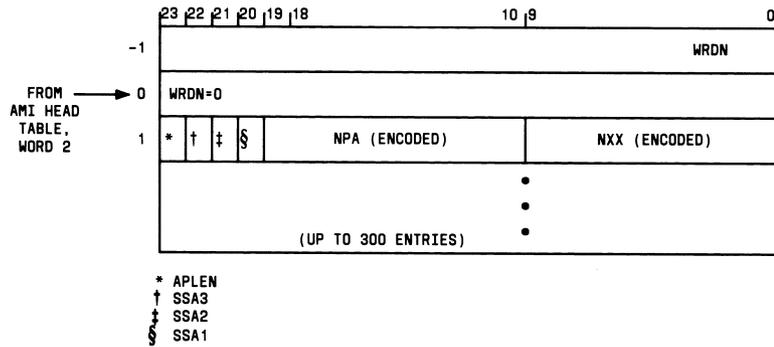
(e) LAR restricted roamer calls receive blockage treatment as a function of their base PLEN +2 if RABO is on; otherwise, they are given intercept treatment via the setup channel.

2.08 To summarize, there is now a total of six consecutive PLENs, ranging from PLEN -3 to PLEN +2. The PLENs are based upon the initial value defined by the PLEN set card. PLENs +0 through +2 are used for non-DRSA roamers as the standard base PLEN, the standard RABO PLEN, and the standard LAR restricted PLEN, respectively. PLENs -3 through -1 are used for DRSA roamers as the alternate base PLEN, the alternate RABO PLEN, and the alternate LAR restricted PLEN, respectively.

3. ENGINEERING

HARDWARE

3.01 Not applicable.



LEGEND:
 AMI - SYSTEM 100 MISCELLANEOUS INFORMATION
 APLEN - ALTERNATE PSEUDO LINE EQUIPMENT NUMBER
 SSA - SUB SERVICE AREA
 WRDN - WORD NUMBER

Fig. 1—Roamer Service List Auxiliary Block

Limited Access for Roamers – AUTOPLEX System 100

AT&T 231-290-631

SOFTWARE

A. Base Generic Program

3.02 The generic code required for the LAR feature is initially available with the 1AE9.06 generic program.

B. Optionally Loaded Feature Groups

3.03 Not applicable. The LAR feature is a custom feature that is associated with the AMPSCP feature package.

C. Parameters/Call Store Areas

3.04 Fast feature set card FF036 must be set to provide LAR.

D. Translations

3.05 Two translation fields are modified to effect LAR restriction screening. One field (associated with the RSL) is used to associate non-CN Roamer 1 NPA and NPA/NXX entries with up to three restricted SSAs. The other field (associated with the cell equipage relation) is used to associate the cells with their applicable SSA(s).

3.06 Three items (1-bit flags) apply per RSL NPA or NPA/NXX entry (Fig. 1). Each flag represents a particular SSA for the associated RSL NPA or NXX entry. Non-CN Roamer 1 mobiles associated with the RSL entry may be denied service depending upon the state of the equivalent flag associated with the serving cell site (next paragraph). These flags are assigned to bits 20 through 22 of each RSL entry. Unused flags are set to zero.

3.07 Three items (1-bit flags) in word 1 of the cell master status auxiliary block apply (Fig. 2). Each flag represents a particular SSA that is associated with that cell. Any non-CN Roamer 1 mobile may be denied service depending upon the state of the equivalent flag associated with the RSL entry mentioned in the preceding paragraph. These flags are assigned to bits 20 through 22 of word 1 (i.e., the second word) of each cell's master status auxiliary block. Unused flags are set to zero.

4. IMPLEMENTATION

SET CARDS

4.01 The fast feature set card FF036 is used to activate the LAR feature.

TRANSLATION FORMS

4.02 The following translation forms are applicable to the LAR feature. Refer to Part 6 B(5) for details.

- ESS Form 1902—Cell Site Location and Status Record (columns 51-53)
- ESS Form 1905—Roamer Service Record (columns 25-27).

RECENT CHANGE MESSAGES

4.03 Refer to Part 6 A(2).

4.04 The RSL entries are assigned SSAs via RC (recent change) message RC:RSL. Three yes/no keywords apply. Each keyword controls a flag that represents the SSA for the associated NPA or NPA-NXX entry. From this entry, any associated non-CN Roamer may be denied service depending

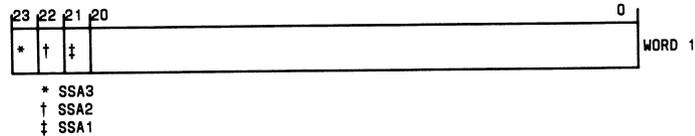


Fig. 2—Cell Master Status Auxiliary Block, Word 1

upon the state of the equivalent flag associated with the serving cell site(s) (next paragraph).

4.05 Cell sites are assigned to SSAs via RC message RC:MSTAT. Three yes/no keywords apply. Each keyword controls a flag that represents the SSA(s) for the cell. Any non-CN Roamer may be denied service depending upon the state of the equivalent flag associated with the RSL entry that applies to the roamer.

VERIFICATION

4.06 Refer to Part 6 B(1) and B(3) for System 100 input and output messages.

4.07 Verification of the SSAs assigned to a particular cell site can be done using the VF:AMPS:CSN(x) input message (where x is the cell site number). The response should be a TR127 output message with the requested information.

4.08 The RSL entry (NPA-NXX) can be verified by using the VF:AMPS:NPANXX input message. The response should be a TR125 output message with the requested information.

5. ADMINISTRATION

MEASUREMENTS

5.01 For detailed information concerning traffic measurements unique to the MTSO feature, refer to Part 6 A(4).

AUTOMATIC MESSAGE ACCOUNTING

5.02 Refer to Part 6 A(5) for System 100 AMA (automatic message accounting) information.

6. SUPPLEMENTARY INFORMATION

REFERENCES

6.01 The following documentation contains information related to or affected by the LAR feature.

A. AT&T Practices

- (1) 231-200-005 Mobile Telephone Switching Office, Cell Site, and Subscriber Unit System Description—AUTOPLEX System 100
- (2) 231-218-301 Recent Change Formats and Implementation Description Procedures
- (3) 231-290-600 Mobile Telephone Switching Office Feature
- (4) 231-290-604 Traffic Measurements Feature—AUTOPLEX System 100
- (5) 231-290-620—Automatic Message Accounting Feature—AUTOPLEX System 100
- (6) 231-318-319 GENT, PSBLK, PSWD, SUBTRAN Recent Change Formats.

B. Other Documentation

- (1) Input Message Manual IM-6A001
- (2) Office Parameter Specification PA-6A001
- (3) Output Message Manual OM-6A001
- (4) Parameter Guide PG-1A
- (5) Translation Guide TG-1A
- (6) Translation Output Configuration PA-6A002.

7. COMMENT FORM

7.01 A comment form is located at the back of this practice to provide a communications channel from the user to the writer.

8. ISSUING ORGANIZATION

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**LIMITED SERVICE AREA
FEATURE DOCUMENT
1A ESS™ SWITCH
AUTOPLEX™ SYSTEM 100**

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1. INTRODUCTION

Note: The AMPS System has been officially named the AUTOPLEX System 100. This name, or the shorter version System 100, has been used in this practice. However, where the AMPS name appears due to translations, set cards, parameters, etc., it will continue to be used.

DEFINITION

1.01 The LSA (Limited Service Area) feature allows the customer to pay a reduced rate for calls placed within a defined local service area. The local service area is only a part of the CGSA (cellular geographical service area) to which the system normally provides service. When the customer uses cell

sites outside the defined local service area, a higher rate is charged for the calls.

1.02 The customer is provided standard service throughout the CGSA. However, if a call is originated or terminated via a cell site that is outside the defined local service area, the customer receives a warning tone. Also, the warning tone is received when a hand-off occurs to a cell site that is outside the defined service area. The customer has 3 seconds to terminate the connection (i.e., after warning tone) before being charged a higher rate.

ECONOMIC WORTH

1.03 The LSA enables the telephone company to offer the subscribers a way to reduce the cost of calls placed in a defined local service area.

AVAILABILITY

1.04 The LSA feature is available with 1AESA.01 and later generic programs.

FEATURE PACKAGE

1.05 The LSA feature is provided via the AMPSCP feature package.

2. USER PERSPECTIVE

MOBILE EQUIPMENT

2.01 No other mobile equipment, other than the telephone, is required to utilize the LSA feature.

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FEATURE DESCRIPTION

2.02 The LSA feature is provided on a per DN (directory number) basis and is applicable to both originating and terminating calls.

Originations

2.03 When an origination request is received from a cell site, the customer's LEN (line equipment number) translator is checked to determine if he is subscribing to the LSA feature. If not, the call continues normal processing. If the customer's LSA option bit is set, the system checks the cell site (where the call was originated) to determine whether or not this cell site is marked as being within the customer's defined LSA. If the system finds the CSN (cell site number), the call is within the customer's defined LSA; otherwise, it is outside the LSA.

Originations Outside the Customer's LSA

2.04 If a customer originates a call outside the defined LSA, the customer receives a warning tone indicating this is a higher rate call. If the customer does not terminate connection within 3 seconds after receiving the warning tone, outpulsing occurs and normal call processing continues.

Originations Within the Customer's LSA

2.05 When a customer originates a call within the defined LSA, outpulsing occurs immediately with no tones or timing.

Hand-off

2.06 If a customer initializes a call within the LSA and then "hands off" to another cell site, the system checks to determine whether or not this cell site is marked as being within the customer's defined LSA. If the cell site is within the LSA, the call is processed normally. If the cell site is not in the LSA, the customer receives a warning tone and is given 3 seconds to terminate the conversation. The conversation is not interrupted or disconnected during these 3 seconds.

2.07 After a hand-off or origination outside the LSA, no more checks are made on hand-offs. At this point, the call is marked as outside the LSA, even if the customer should hand off back into the LSA.

Terminations

2.08 When a mobile unit terminating call enters the system after responding to page, the cell site is checked to determine if this cell site is marked as being within the customer's LSA. Then, a voice channel is assigned and alerting is provided.

Termination Outside the Customer's LSA

2.09 If the initial cell site is outside the LSA, upon answering the page, before connecting the mobile unit to the incoming trunk, the mobile unit is connected to a warning tone and 3-second timing begins. At this point, the customer has 3 seconds to abandon the call or to allow the incoming party to be connected. If the customer abandons the call, the AMA (automatic message accounting) record for the mobile termination is marked as abandoned for LSA. If the customer decides not to abandon the call, the call is marked outside LSA.

Termination Inside the LSA

2.10 An incoming call terminating to a LSA customer within the LSA is processed normally with no tone and no delay.

2.11 When a hand-off occurs, the system checks to determine if the customer is leaving the LSA. If the new cell site is within the customer's LSA, the hand-off is processed normally. If the new cell site is outside the customer's LSA, the customer is given a warning tone and then 3 seconds to terminate the conversation. The conversation is not interrupted or disconnected during the 3 seconds.

CELLULAR SERVICE PROVIDER

2.12 For the LSA feature to be operational within the AUTOPLEX System 100, the set card FF012 must be loaded with a value of 1.

Defining the Cellular Geographical Service Area

2.13 The CGSA can be divided into a maximum of 21 defined service areas. Each defined service area contains a list of cell sites. The list of cell sites can overlap but will most likely be disjointed. The customer with the LSA feature has an option word in the DN (directory number) and LEN translators containing 24 bits that correspond to the 24 defined service areas. The service provider can assign each

customer any combination of one or more of the 24 defined service areas.

3. ENGINEERING

SOFTWARE

A. Base Generic Program

3.01 The LSA feature requires approximately 4000 base program store words.

B. Parameters

3.02 The set card FF012 is assigned to the LSA feature. For set card engineering refer to the AUTOPLEX System 100 Parameter Guide.

C. Translations

3.03 The LSA feature requires the following translators:

- (a) DN
- (b) LEN
- (c) LSA to CSN (cell site number).

Directory Number and Line Equipment Number Translators

3.04 To indicate that a customer has the LSA feature and to identify the LSA assigned to the customer, an option word must be defined in the DN and LEN auxiliary blocks because LSA is an originating and terminating feature.

3.05 In the DN auxiliary block, bit 16 of DNCL2 (directory number class 2) indicates the mobile feature word is to be built. This word serves as the feature indicator for AUTOPLEX System 100. The first bit in this word indicates the LSA feature is provided and that a corresponding LSA option word is built.

In the LSA option word, each bit represents a specific LSA and identifies the LSAs assigned to the mobile unit DN. For example, if bits 4, 7, 11, and 19 are equal to one, the mobile unit DN is assigned to LSAs 4, 7, 11, and 19.

3.06 In the LEN auxiliary block, bit 22 of LENCL2 (line equipment number class 2) word can be set to indicate the mobile feature word is built. The first bit in this word indicates the mobile unit has the LSA feature, and a corresponding LSA option word is built. This option word is identical to the option word in the DN auxiliary block.

Limited Service Area to Cell Site Number Translator

3.07 Bits 0 through 20 of the AMI (AMPS miscellaneous information) translator head table contains the address that points to the LSA to CSN head table. This table can contain up to 24 entries. Indexing into this table is performed by LSA (0 through 23), and each entry points to a list of cell sites assigned to each LSA. The LSA to CSN auxiliary block can contain up to 255 cell site numbers. For easy access, the cell site numbers are stored in ascending order. Refer to Fig. 1 for the detailed layout of the LSA to CSN translator.

4. IMPLEMENTATION

4.01 The LSA fast feature is implemented by performing the following procedures:

- (a) Load LSA set card FF012 to equal one.
- (b) Build LSA to CSN translation data via recent change message RC:LSA:.
- (c) Build DN and LEN translation data via RC message RC:MOBL.

SET CARDS

4.02 Set card FF012 must be loaded for LSA to be functional. The LSA is provided via the AMPSCP feature package.

TRANSLATION FORMS

4.03 The following translation forms are applicable to this feature (refer to TG-1A for details).

- ESS 1101—Directory Number Record
- ESS 1102—Line Equipment Record.

For details concerning these forms, refer to the Translation Guide TG-1A.

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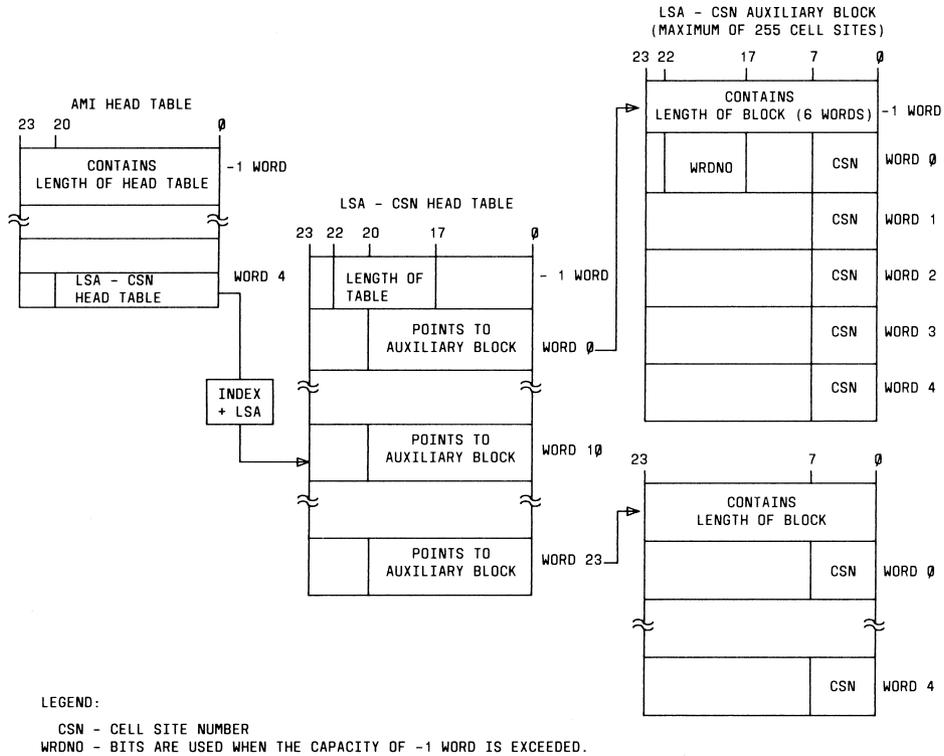


Fig. 1—Limited Service Area to Cell Site Number Translator

RC MESSAGES

4.04 The following RC messages are applicable to the LSA feature:

MESSAGE	FUNCTION
RC:MOBL:	Used to build, change or delete entries in the DN and LEN translators. The keyword LSA (b ...,b) is the only keyword available with the LSA feature. Each "b" can

MESSAGE

RC:LSA:

FUNCTION

have a unique value of 0 through 23, and 1 through 24 "b's" can be specified. To delete entries in the DN and LEN translators, use keyword LSA NO. For details of the RC:MOBL: message, refer to AT&T Practice 231-218-301.

Used to build, change, or delete LSA data in the LSA-CSN trans-

AT&T 231-290-624

in the mobile feature word of the DN auxiliary block is checked. If this bit is set, LSA is assigned to the DN.

- 4.09** Use the following input message to verify the LEN to LSA:

```
VF:OESVY:  
S/F/N/O aaaaaaaa (see input message manual for explanation of  
these keywords)  
LSA [aa,aa]
```

Keyword LSA initiates a survey of all LENs within the LSA(s) that is specified by the numbers that range from 0 through 23.

- 4.10** The TR121 output message is printed in response to the VF:OESVY message. A survey is made to determine if the LEN has LSA and if so, which areas are assigned. Bit 22 of the LENCL2 word is checked to determine if the LSA bit is set. If set the system checks bit 0 in the mobile feature word of the LEN auxiliary block. If this bit is set the LEN is assigned LSA. After the assignment check is completed, the LSA option word is inspected. For each bit that is set, a LSA is assigned to the mobile unit and is listed in the TR121 output message (where the LSA's number is equal to the bit position). For example, if bits 1 and 10 are set in the LSA option word, then, the mobile unit is assigned to LSAs 1 and 10.

5. ADMINISTRATION

AUTOMATIC MESSAGE ACCOUNTING

5.01 When a LSA customer originates a call or a call terminates to the customer, either one or two AMA (automatic message accounting) records can occur as explained below.

- A call that is initialized within the LSA and ends without handing off to a cell site outside the LSA results in one AMA record with the data group W2 marked as the LSA customer—inside LSA.
- A call that is initialized outside the LSA results in one AMA record with the data group W2 marked as the LSA customer—outside LSA.

- A call that is initialized outside the LSA but the customer decides not to continue the call after receiving the warning tone results in one AMA record with the data group marked as the LSA customer—outside LSA and call abandoned during warning timing.

- A call that is initialized inside the LSA but hands off to a cell site outside the LSA results in two AMA records. The first record is for the portion of the call that was inside the LSA. Included in the voice channel time and the connect time is the 3 seconds after the hand-off warning tone during which the customer can decide not to continue the call. This record is marked as the LSA customer—inside LSA. The second record is used for the remainder of the call that occurs outside the customer's LSA. This record is marked as the LSA customer—outside LSA.

- 5.02** If upon hand-off to a cell site outside the LSA an AMA record cannot be written but must be queued, then a record cannot be written. Therefore, the whole call is billed as inside the LSA.

6. SUPPLEMENTARY INFORMATION

REFERENCES

A. AT&T Practices

- (1) 231-290-620 Automatic Message Accounting.

B. Other Documentation

- (1) 1A ESS Switch Input Message Manual
(2) 1A ESS Switch Output Message Manual
(3) Translation Guide TG-1A.

7. COMMENT FORM

- 7.01** A comment form is located at the back of this practice to provide a communications channel from the user to the writer.

GBPPR Piezo Contact Microphone

Overview

A contact microphone is a type of instrument which is used to convert and amplify slight mechanical vibrations into sound. This useful for all sorts of situations you may find yourself in... From inspecting suspicious packages by "listening" for a ticking bomb timer, to safe cracking, listening through walls, and even detecting earthquakes. Contact microphones are a handy addition to the amateur espionage or Explosive Ordnance Disposal (EOD) enthusiast's toolkit.

The piezo contact microphone system described in this article will be fairly easy to construct. The main gain stage will be an Analog Devices/Texas Instruments/Burr-Brown OP37 or a Maxim MAX437 low-noise precision op-amp. The standard OP27 op-amp will also work, but with a slight decrease in overall gain.

The reason for using an *uncompensated* op-amp, like the OP37 or MAX437, is for the fact that they are capable of very high gain (80+ dB), while producing very low noise over the entire "audio band" (300 – 3000 Hz) and even into the low ultrasonics. Using a single low-noise gain stage will help to reduce the overall noise generated by the entire contact microphone circuit.

The output from the MAX437 will feed a JRC NJM2113 (or Motorola MC34119) low-noise audio power amplifier which is capable of driving standard low-impedance (8/16/32 ohm) headphones or a small speaker. A Mouser 42TL004 100 ohm to 8 ohm isolation transformer will isolate the 1/8-inch headphone jack from the metal case of the project box.

The actual contact microphone element used here to will be based around the piezo elements from surplus piezoelectric buzzers and a common piezoelectric horn tweeter used in hobby audio systems. By their nature, the piezoelectric elements in piezo buzzers tend to resonant at around 3000 Hz (+/- 500 Hz or so). While this is a little high, it's still just about perfect for using them "in reverse" for speech detection applications.

The Wikipedia entry for "Piezoelectric Sensor" has a very in-depth technical description of how the piezoelectric material actually works, so that won't be discussed here. All you really need to know is that the piezoelectric element converts mechanical vibrations into voltage. An extreme example of this conversion takes place in those "push to start" automatic grill lighters. These use a small piece of piezoelectric material to generate a very high voltage spark.

Mounting the element from a piezoelectric-based buzzer against a wall will also produce this same effect, except the voltage produced will be several orders of magnitude smaller than from an automatic grill lighter.

The frequency response of piezoelectric-based buzzers isn't ideal for audio intercepts and the audio will tend to be a bit "tinny," but for something that can cost less than \$1, they'll work fine.

Actually mounting the piezoelectric element is the only really challenging aspect of using the contact microphone. This is where you should spend some trial-and-error time producing a workable device suited for your target environment. Need to crack a safe? Mount the piezoelectric element to a magnet. Need to hear through a window? Mount the piezoelectric element using removable putty adhesive. Need to hear through walls? Mount a piezoelectric tweeter to the wall using rubber cement. Those are just a few ideas to get you started...

Pictures & Construction Notes



Piezo contact probe.

A common piezo horn tweeter is shown on the left and a 2-inch ABS plastic cap is shown on the right.

The piezo horn tweeter will be mounted inside the 2-inch cap to act as a handle. This is optional, but recommended.

Piezo horn tweeters can be used as a "poor man's contact microphone" by placing them against the target wall or item to be monitored.

They can then be "fixed" in place using common rubber cement, rope caulk, or removable putty adhesive like Elmer's Poster Tack.



Rear view of the piezo horn tweeter showing the contacts.

The tweeters are polarized, so the "+" terminal will go to the input of the amplifier circuit and the "-" terminal will be a common ground.



Add a RCA phono jack to the back of the 2-inch cap.

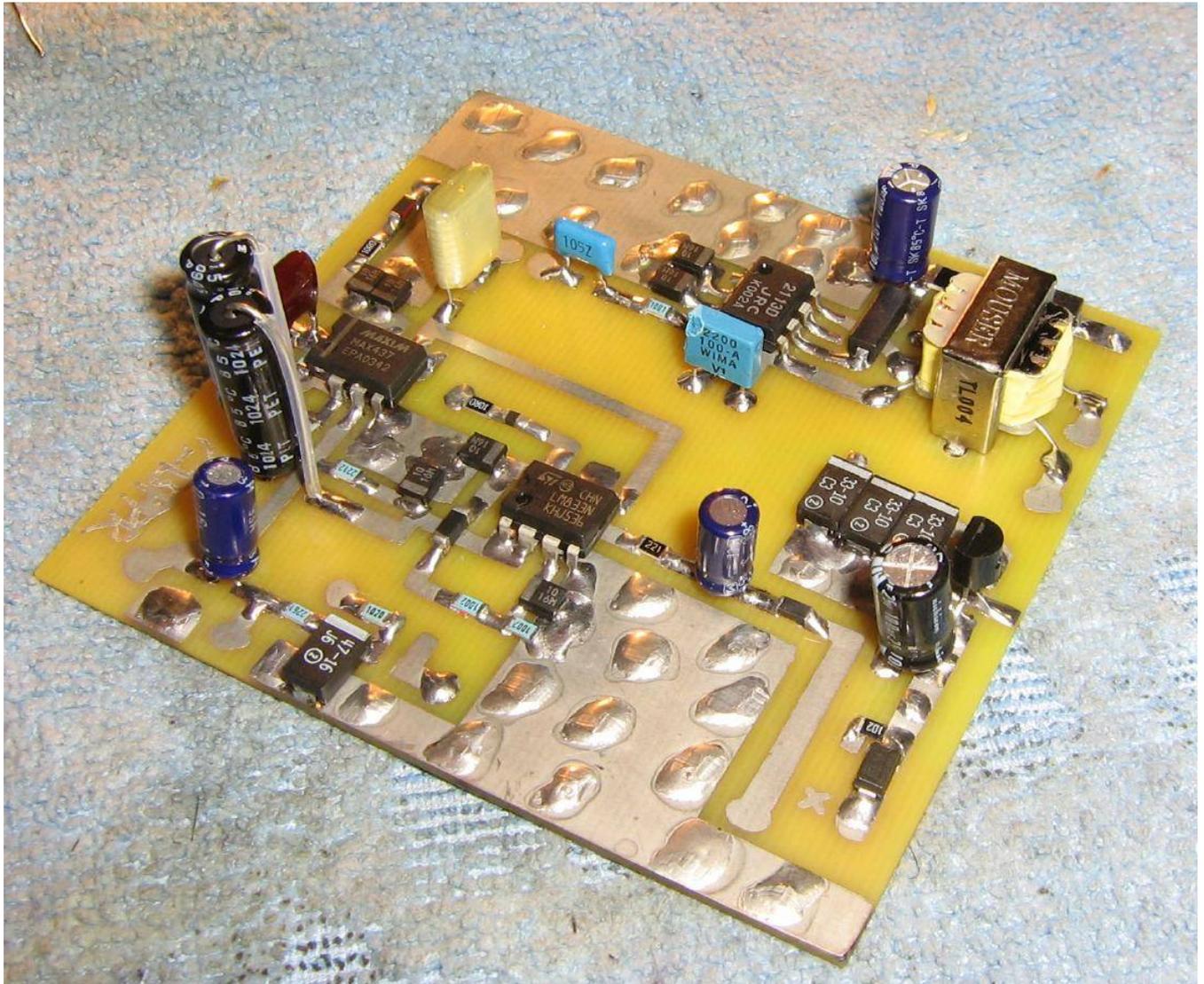
Use shielded wire to connect the RCA jack to the piezo horn tweeter.

A few dabs of liquid electrical tape on the terminals will secure the connection.



Slide the piezo horn tweeter into the 2-inch cap and secure using PVC cement.

This will then connect to the **J2 Input** on the piezo contact microphone amplifier circuit.



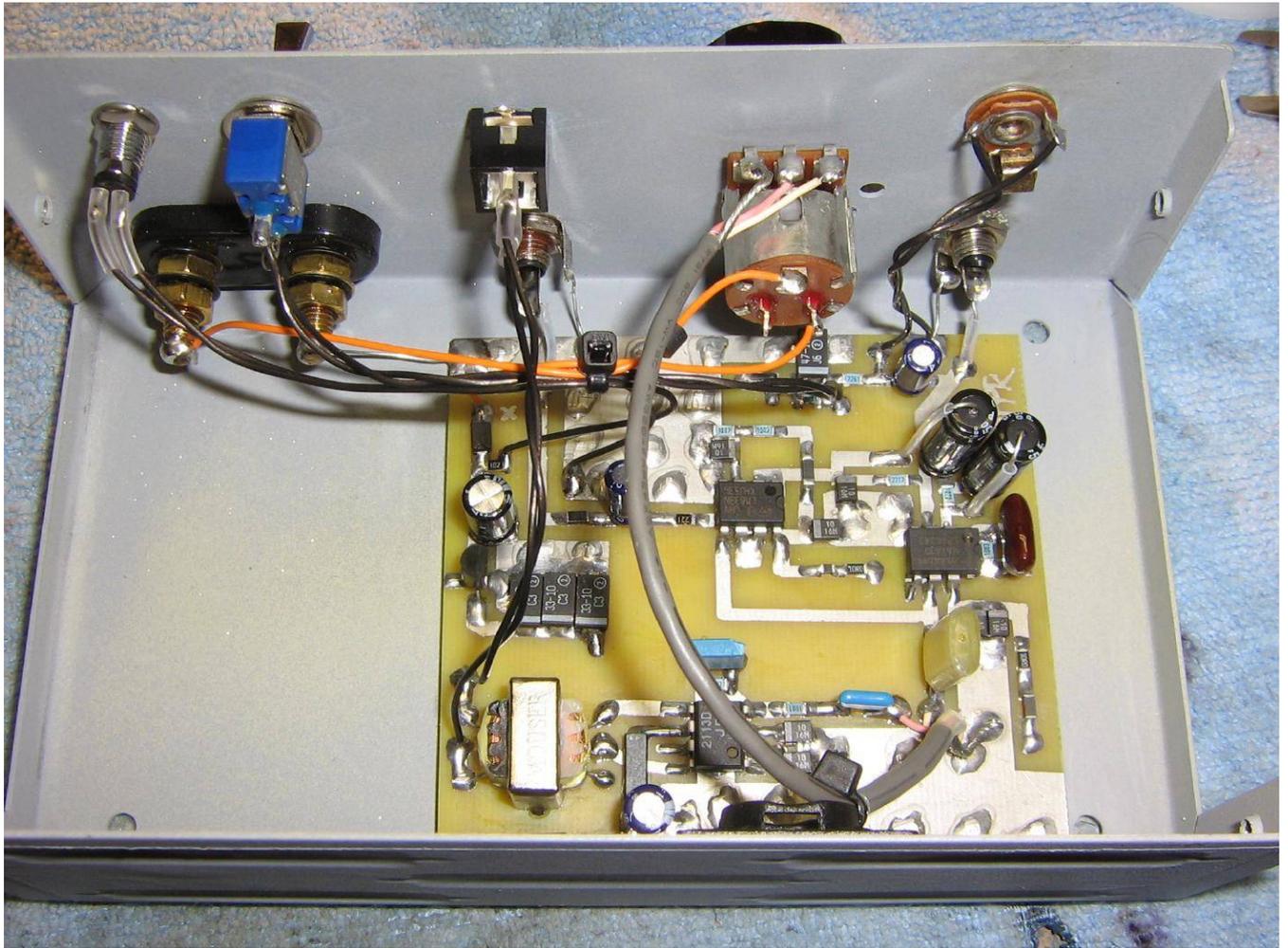
Overview of the GBPPR Piezo Contact Microphone circuit.

The Maxim MAX437 op-amp is on the middle-left. The MAX437's feedback network is configured to roll-off anything below 160 Hz and above 4800 Hz.

One of the op-amps in the LM833 is used as an active split-rail bias for added stability, the other is used as a buffer for the **Line Level** output.

The JRC NJM2113 low-noise audio power amplifier and Mouser 42TL004 isolation transformer are on the upper-right.

Maxim doesn't make the MAX437 op-amp anymore, but you can find them from time-to-time on eBay. The OP37 is still being manufactured by several sources and is a drop-in replacement.



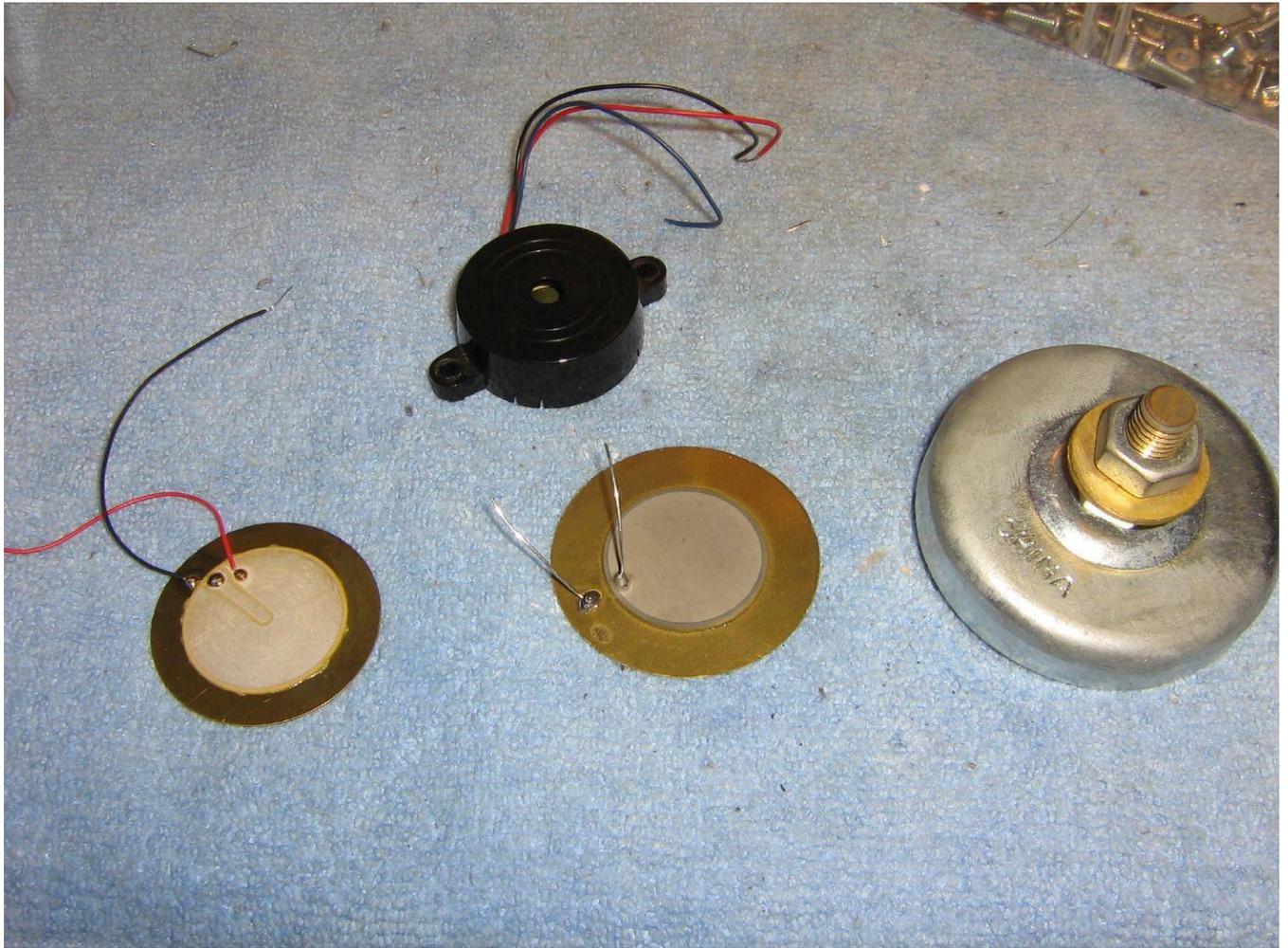
Mounting the circuit board inside an old printer switch case.

+12 VDC power input is via the banana jacks on the left.

The **Lo-Z Output** (headphone) and **Line Level** output jacks are next to the banana jacks.

The 10 kohm volume potentiometer with an integrated power switch is next to that.

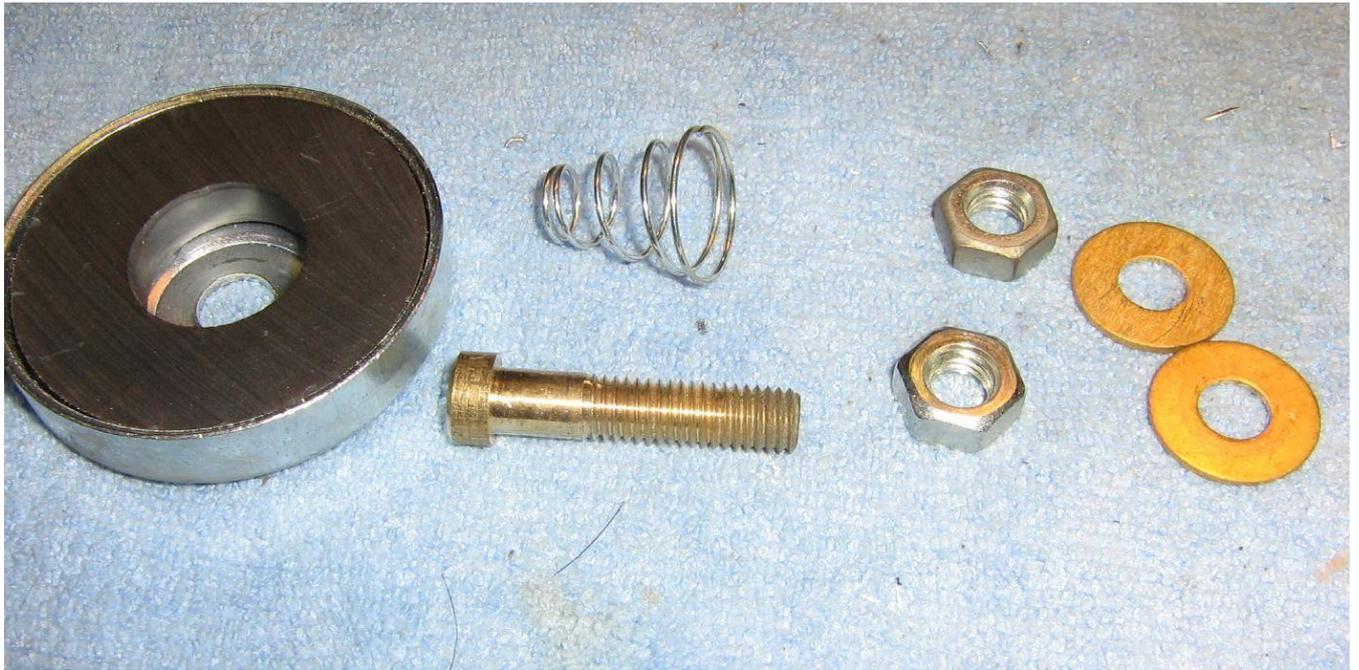
The contact microphone input jacks are on the right. The top jack is a standard 1/8-inch jack and the bottom one is a RCA phono jack.



Example of some piezoelectric elements from old buzzers.

These will be adapted into makeshift contact microphones.

A mini-magnetic ground block will be used to mount one of the piezoelectric elements to make a handy magnetic-mount contact microphone for safe cracking.



Overview showing the pieces of the magnetic ground block including the main spring–assisted brass stud.

You should polish the "head" of the brass stud using some 1000 grit sandpaper.

You may want to purchase several magnetic ground block so you have spare components to experiment with.

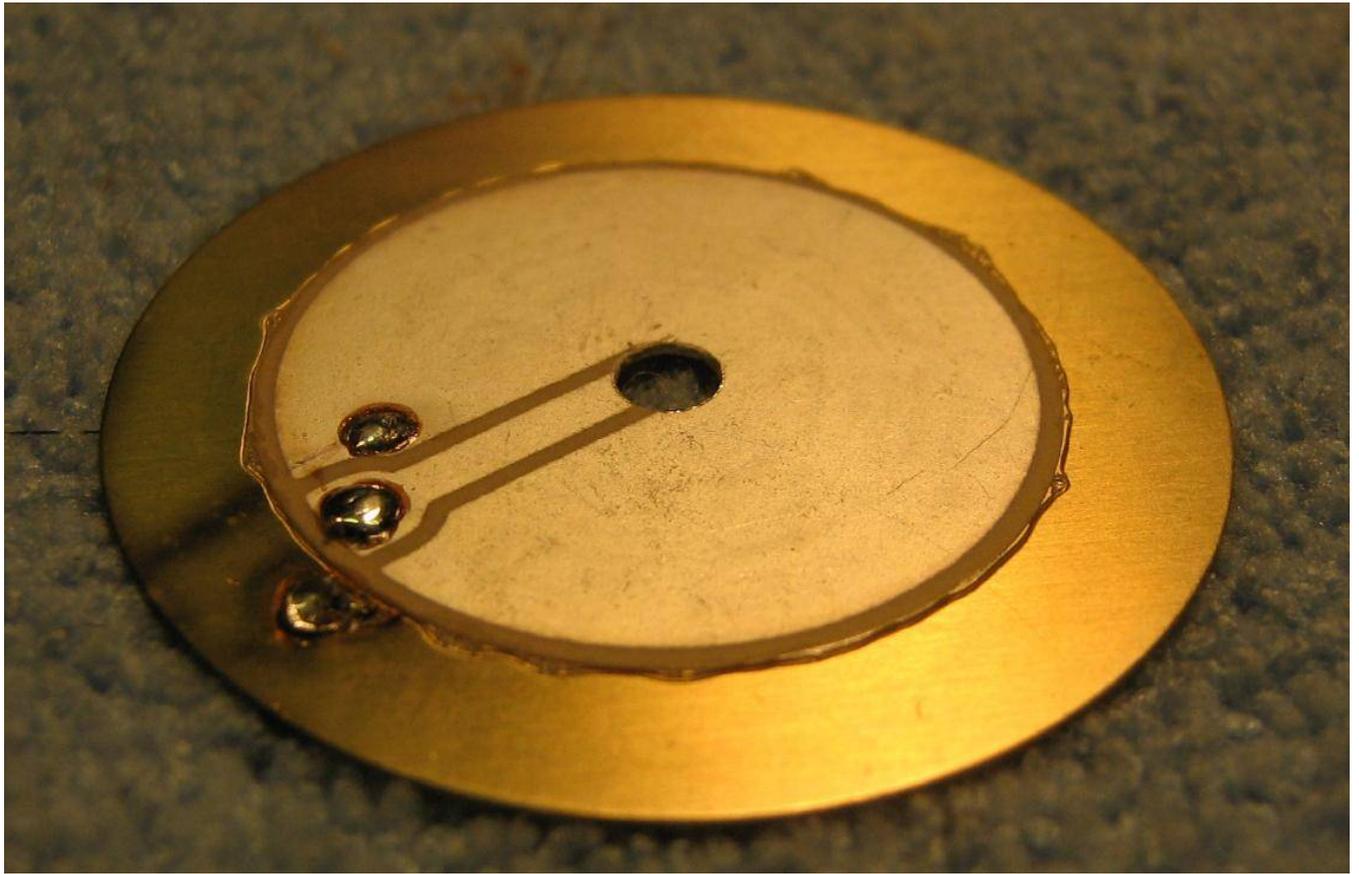


Very carefully drill and tap a #4–40 screw hole in the center of the "threaded end" of the magnetic ground block's brass stud.



Mount a small L-bracket to the threaded brass stud of the magnetic ground block, as shown above.

This will be used to hold a RCA phono jack for the output of the contact microphone.



Drill or punch a 1/8-inch hole in the center of a piezoelectric buzzer element.



Completed magnetic-mount contact microphone.

Mount the piezoelectric buzzer element to the top of the magnetic ground block's brass stud using two #4 nylon isolation washers (on the top and bottom of the element) and a #4 nylon bolt.

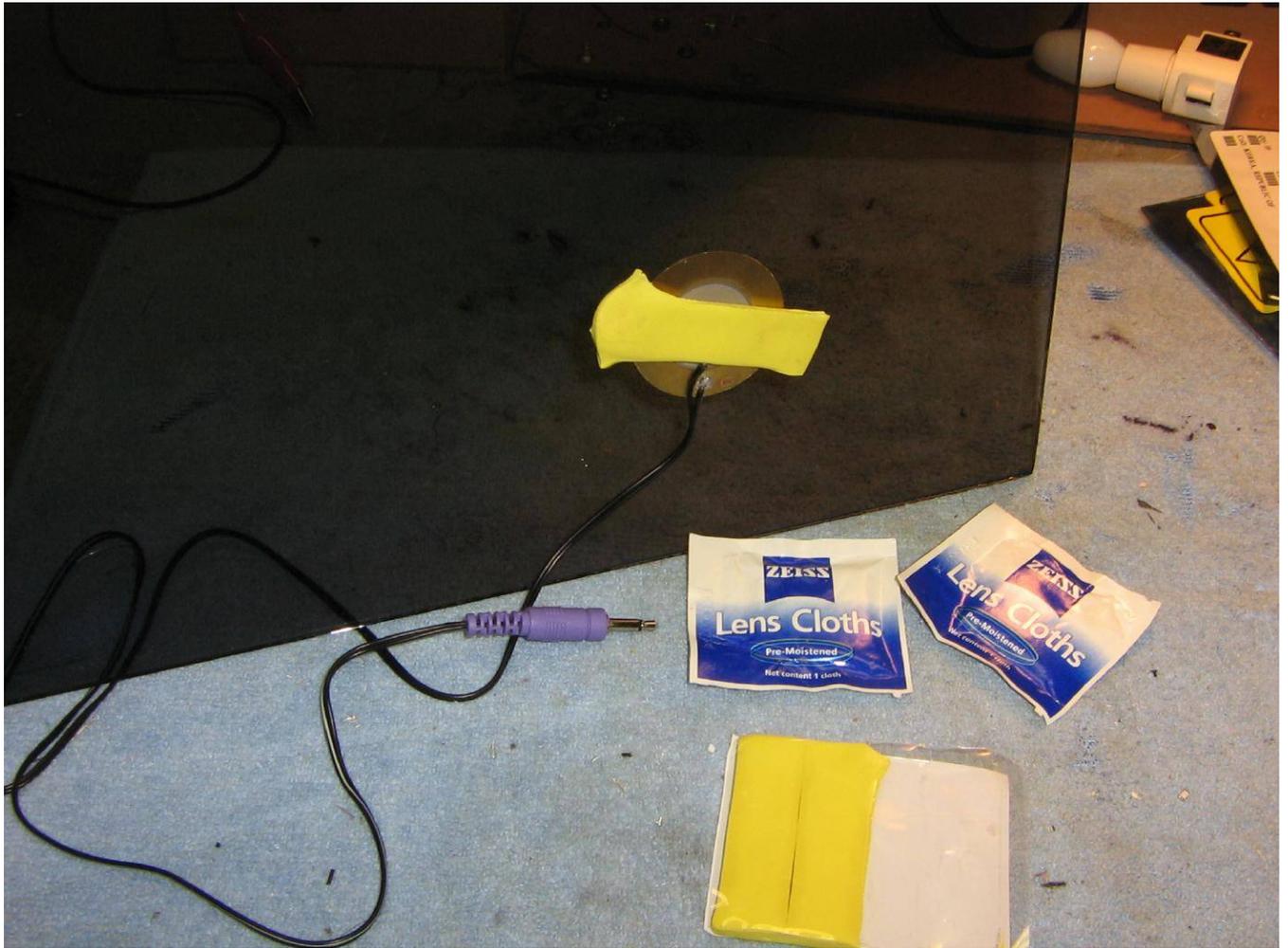
The #4 nylon hardware will electrically isolate the piezoelectric element from the brass stud.

Mount a RCA phono jack in the hole in the L-bracket.

The ground tab on the RCA jack goes to the exposed brass outer-ring on the piezoelectric element.

The center tab on the RCA jack goes to little solder blob on the piezoelectric element material itself.

Any vibrations are now passed via the brass stud directly to the piezoelectric element.



For "through a window" applications, attach the piezoelectric element directly to the target window using Elmer's Poster Tack reusable putty adhesive.

Prepare the window surface with a lens cloth.

GBPPR 58 kHz EAS Jammer

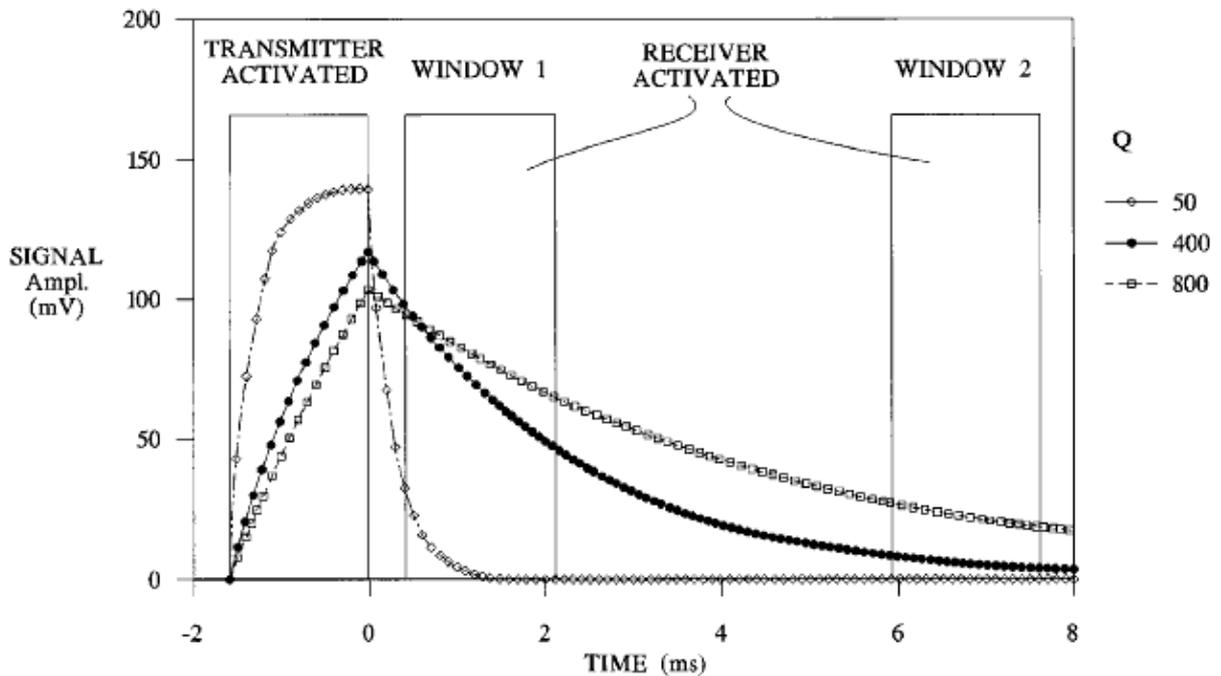
Overview

Electronic Article Surveillance (EAS) is a technique certain stores use to prevent people from shoplifting. One common method used by Sensormatic Retail Solutions involves a high-Q 58 kHz resonant tank circuit made using an amorphous-magnetic alloy inside a little sticker tag which is discretely attached to the item being monitored.

When the resonant tank circuit inside the sticker tag is remotely energized by a high-power pulsed 58 kHz illumination signal, the tank circuit will resonant (at 58 kHz) for a few milliseconds even when the illumination signal is removed.

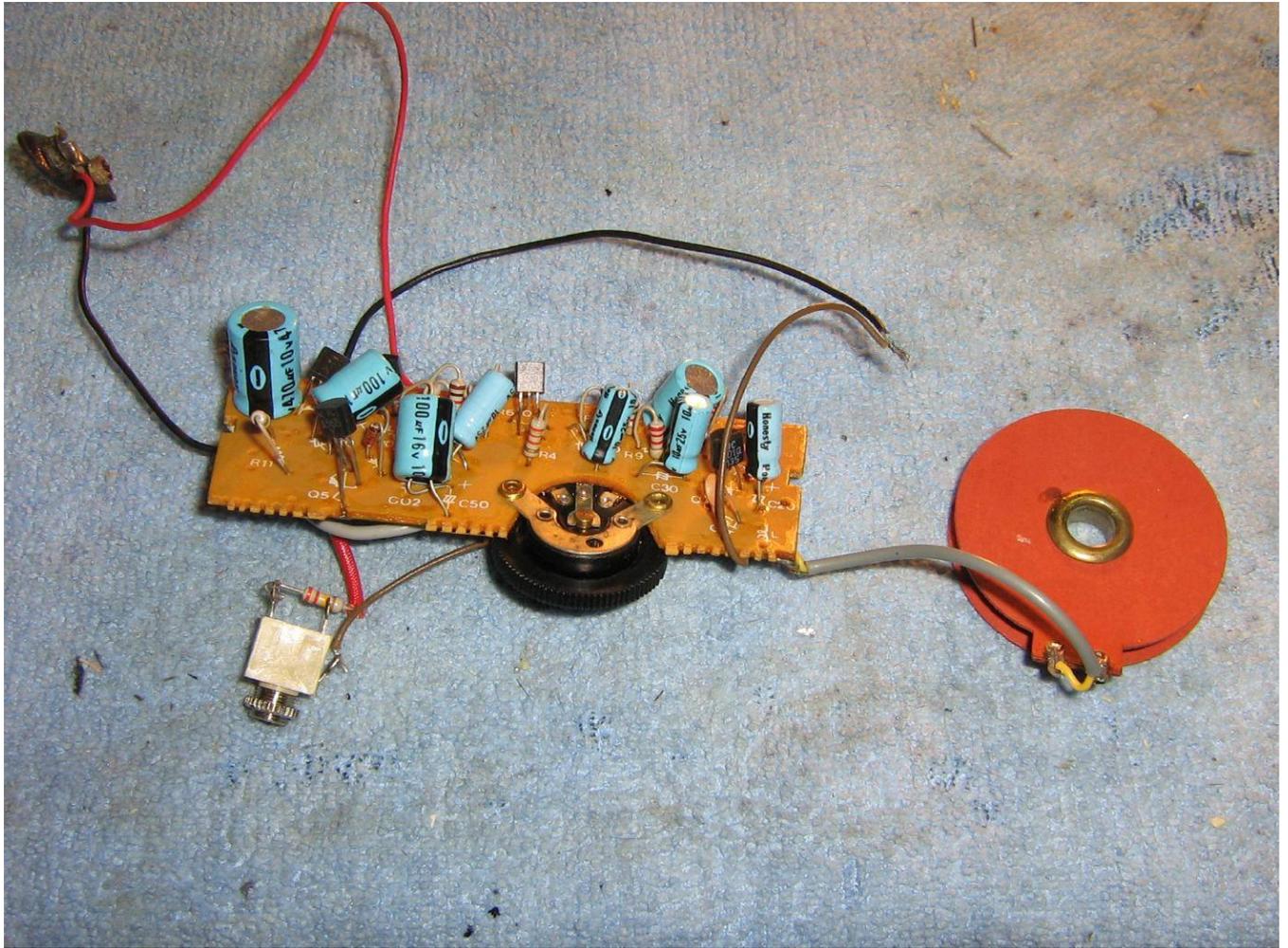
This decaying resonance signal is fairly specific and easy to detect during the "receive cycle" of the EAS monitoring system. If a decaying 58 kHz signal is detected, it's safe to assume an unauthorized item is leaving the store and the the anti-shoplifting system will signal an alarm.

Now, that's just a quick overview... U.S. Patent 5,841,348 "Amorphous Magnetostrictive Alloy and an Electronic Article Surveillance" goes into much more technical detail on the actual construction and operation of the EAS tags themselves. Also in that patent is the below diagram. The diagram visually explains how the 58 kHz illumination signal is pulsed for about 200 milliseconds and then there is a series of 200 milliseconds receive windows where the system is listening for the decaying 58 kHz resonance "echo" caused by an anti-shoplifting tag.



As you can see, if one were to use a simple 58 kHz Continuous Wave (CW) jammer during the receive cycles, the system wouldn't be able to "listen" for a decaying resonance signal from a passing EAS tag. Unfortunately, newer EAS systems have a "jammer detector" mode which will sound an alarm when remotely jammed or will silently notify security personal. A remotely operated high-power "stand off" jammer may be used to trick the store personal into thinking something is wrong with their fancy EAS system...

Pictures & Construction Notes



Overview of an old induction telephone amplifier circuit.

The large coil of red enameled magnet wire will be used for the transmitting antenna in the 58 kHz EAS jammer.

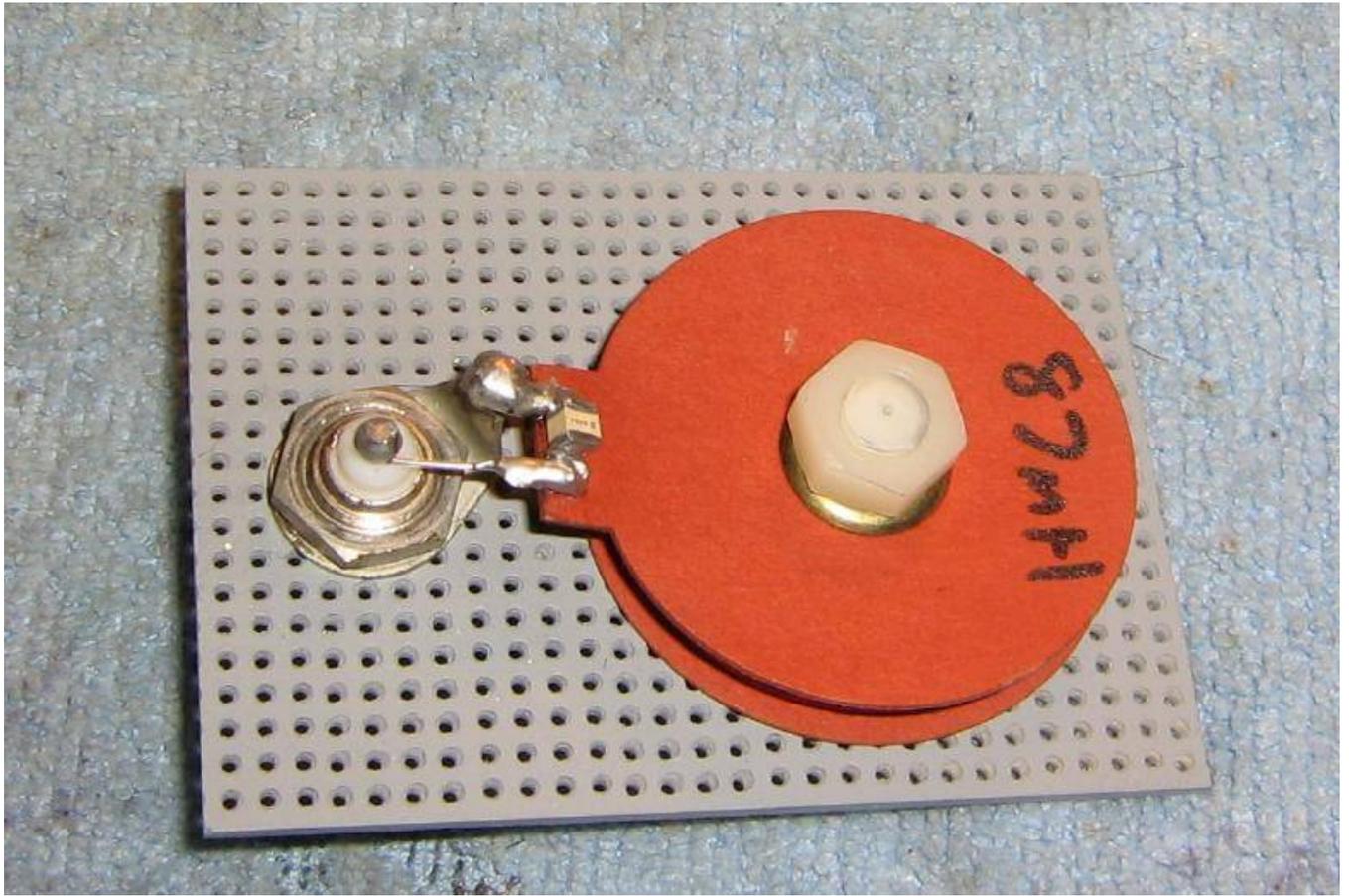


The stock coil measured 87 millihenries.

To make it resonant at 58 kHz, solder a 82 pF capacitor in parallel with the coil.

You can make your own coil by winding a few hundred turns of #30 gauge enameled magnet wire in a similar fashion. Use an inductance meter to check the coil until you get to around 87 mH or so.

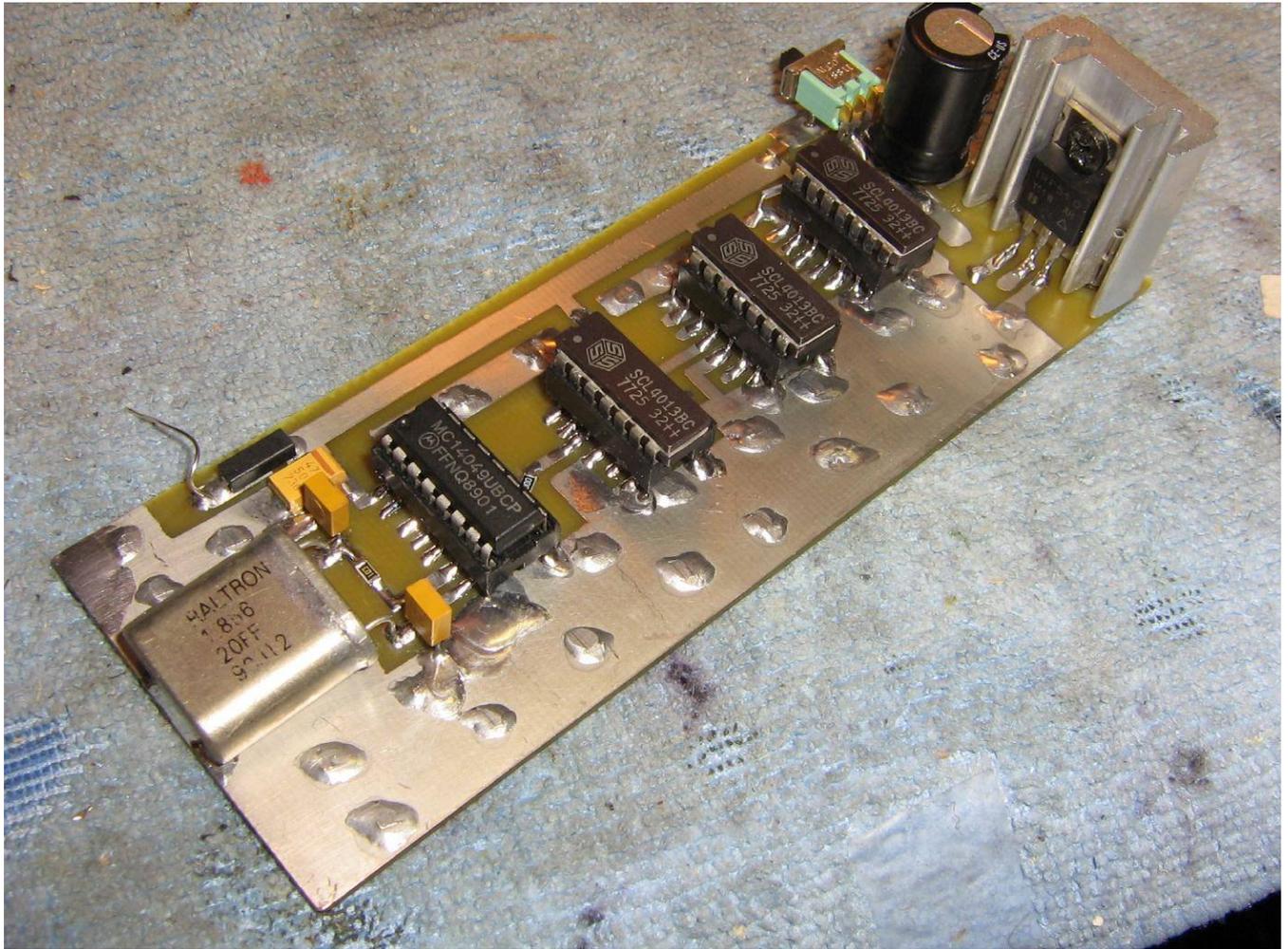
Avoid using a ferrite core for the transmitter antenna coil as these are designed for receive-only applications.



Mounting the 58 kHz EAS jammer antenna.

It's mounted on a small piece of perfboard using 1/4-20 nylon hardware.

A BNC connector is used to connect the antenna to the transmitter circuit.



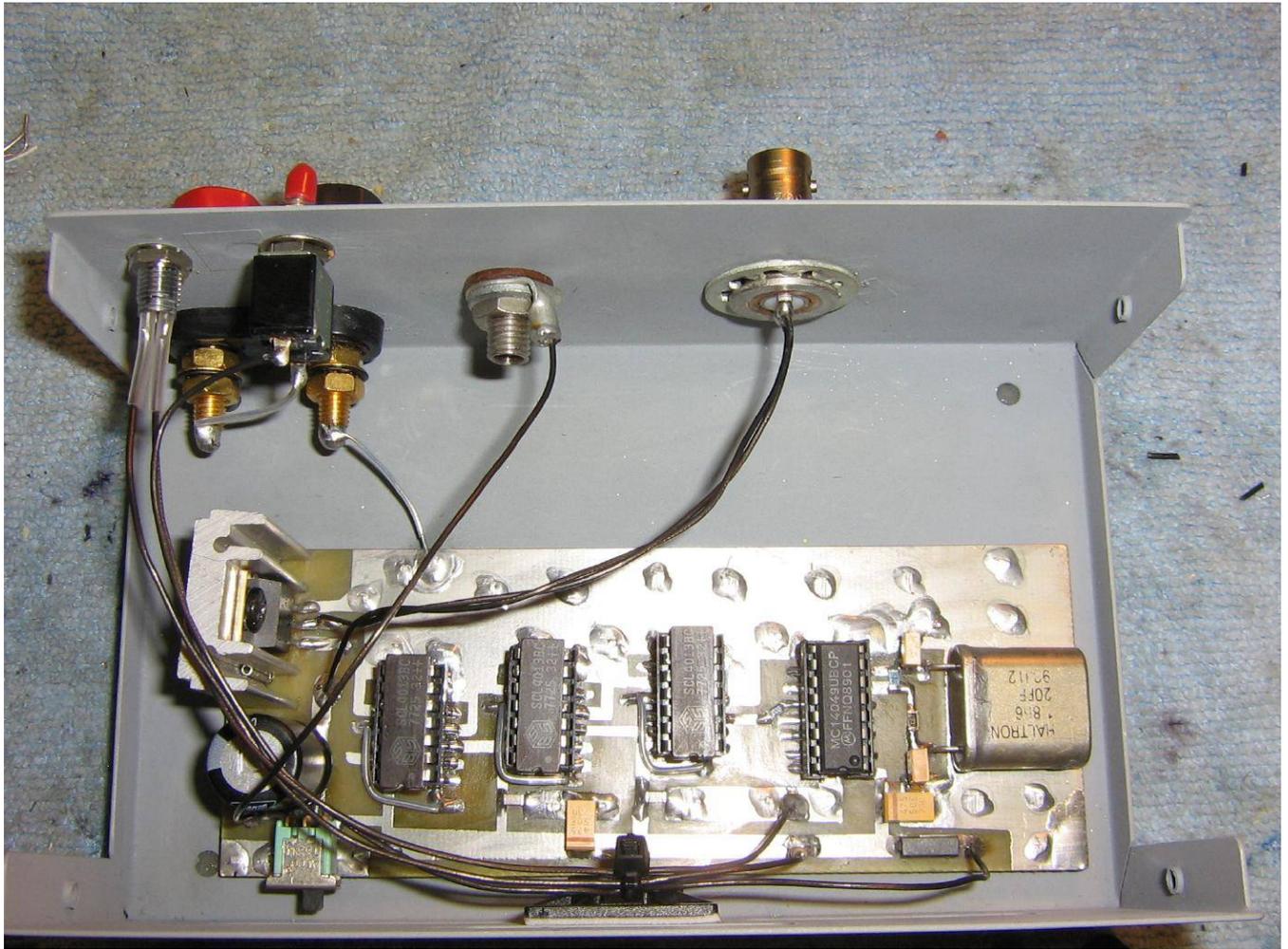
Overview of the 58 kHz clock generator and transmitter circuit.

The clock generator is based around a standard 1.856 MHz crystal and CD4049 hex buffer configured to make an oscillator.

This then feeds a series of CD4013 "divide-by-2" flip-flops. The CD4013s eventually divide the 1.856 MHz signal by 32 to generate a final 58 kHz clock signal.

This 58 kHz clock signal then drives an IRF510 MOSFET with the 58 kHz resonant coil/capacitor antenna in series with the IRF510's drain line.

This isn't technically a real "transmitter," but it is a very simple way to generate and transmit a 58 kHz signal.



Mounting the 58 kHz clock generator and MOSFET driver in an old printer switch case.

The banana jacks on the upper-left are for the +12 VDC power input.

Above the banana jacks are a panel-mounted LED for a power indicator and a SPST power switch.

The panel-mounted isolated BNC jack is on the upper-right. The BNC needs to be isolated to prevent shorting the drain line of the IRF510.

An easy way to generate a "higher power" jamming signal is to run the IRF510 at up to 100 volts. There is an optional voltage select switch and banana jack input on the front-panel to allow applying a higher external voltage to the IRF510 drain.



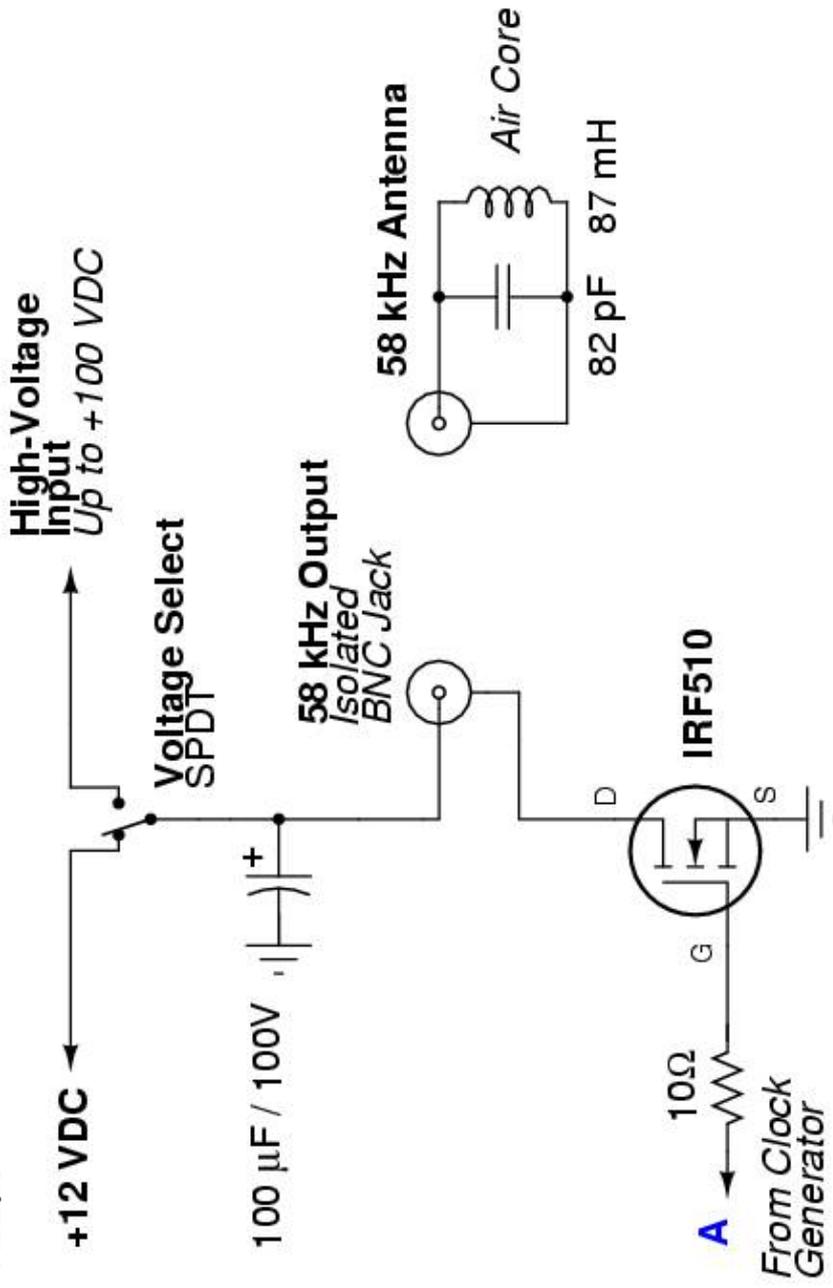
If you don't have the ability to directly monitor 58 kHz, you can use these techniques.

Test the 58 kHz EAS jammer with a shortwave receiver tuned to 232 kHz, the 4th harmonic of 58 kHz.

The 9th harmonic is at 522 kHz which can be monitored on a standard AM radio.

GBPPR 58 KHz EAS Jammer

RF Output



Bonus



Israel's Jewish Essence Is Non-Negotiable: A Response to Mahmoud Abbas

Posted: 10/05/11 09:30 AM ET

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Addressing the United Nations General Assembly last month, Palestinian Authority President Mahmoud Abbas declared that he had come "from the Holy Land, the land of Palestine, the land of divine messages, ascension of the Prophet Muhammad (peace be upon him) and the birthplace of Jesus Christ (peace be upon him)."

No mention of Kings David and Solomon, nor of the prophets Isaiah, Ezekiel, Jeremiah, and Amos, or of the great Jewish sage Rabbi Akiva, or of Hillel



White Nationalism: A Scourge That Won't Go Away

Posted: 03/12/2012 8:35 am

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Reacting to the inclusion of the "white nationalist" anti-immigration activist Peter Brimelow on a panel on "The Failure of Multiculturalism: How the Pursuit of Diversity is Weakening the American Identity" at this year's Conservative Political Action Conference (CPAC), Ed Schultz observed on MSNBC's *The Ed Show* that, "We've come to expect CPAC to bring together the far righties. But even CPAC should draw the line somewhere."

Schultz went on to quote Brimelow as having said at CPAC that, "Democrats have given up on winning the white working class vote, so they use bilingualism to build up a client constituency. It's treason. We hear about racism, but the real

theoccidentalobserver.net/2012/05/jewish-hypocrisy-on-ethnonationalism-in-israel-versus-the-diaspora-a-picture-is-worth-a-thousand-words

Two articles by the same author (Menachem Rosensaft) on The Huffington Post.

One states that it's O.K. for the country of Israel to exist solely for the Jewish race.

The other states that it's *not* O.K. for the White race to have their own country.

Hmm...

See the Jew...

End of Issue #98



Any Questions?

Editorial and Rants

Let me guess... You didn't hear about this? Don't count on the mainstream media covering this one!

As Family Grieves, Hunt Continues for Man Wanted in Schererville Woman's Slaying

June 21, 2012 – From: posttrib.suntimes.com

by Carole Carlson

SCHERERVILLE -- Two weeks after Jacqueline Gardner's murder outside her Schererville apartment, her family is still mourning her death and hoping the Gary man charged in her killing is found.

"You don't know how you're supposed to deal with it from day to day," said Rick Gardner about his 24-year-old daughter's death May 19.

Gardner suffered a fatal shotgun wound just outside the Hidden Lake apartment she shared with boyfriend Tim Sarcia and their 8-month-old daughter, Alessandra. Jacqueline Gardner has another daughter, Bobbie, 4, who lives with her father in Illinois.

Gardner collapsed in the apartment complex hallway in the 8000 block of Alpine Lane after she returned home from work as a waitress at Joe's Crab Shack in Merrillville. Witnesses saw men running from the scene.

Charges have been filed against three men in connection with Gardner's murder and the robbery of \$85 in tip money. Two men are in custody and a third, Stephen Lee Henderson, 25, of Gary, is still at-large.

"We expect that he's hiding," said Schererville Cmdr. Brian Neyhart. "There's a task force in Illinois and the U.S. Marshal both have him on their list. Until someone locates him, it's at a stalemate right now."

Neyhart said Henderson's name has been entered into the FBI's National Crime Information Center database so if he's stopped in any state, police will be alerted of the charges against him.

Rick Gardner, of Oak Lawn, Ill., said his daughter grew up the oldest of three children in Oak Lawn. His daughter and Sarcia lived together in Schererville for about a year. They planned to move to California when their lease expired at the end of May.

Gardner described his daughter as "outgoing and friendly." He said she was hoping to move into management at the restaurant chain.

Sarcia said he met Gardner in eighth grade when he played football and she was a cheerleader.

He said he never heard the gunshot the night Gardner died.

"I was with the baby, it sounded like a rumbling in the hallway. It happened in a 15-second period. I saw the one guy throw her down. I grabbed a knife and hid the baby, called the police and screamed."

Sarcia is convinced Gardner fought for her life.

"She realized they were coming in to kill all of us, I believe she fought. They took what they could -- \$85. I just want him caught."

Henderson and Michael A. Craig, 22, of Merrillville, and William Blasingame III, 30, of Harvey, Ill., are facing a murder charge and a second count of murder in the perpetration of a robbery in Lake Superior Court.

Anyone with information on the killing can contact Schererville police at 322-5000.

**Joe's Crab Shack Waitress
24-year-old
Jacqueline Gardner
MURDERED BY 3 SHITHEADS
for her tip money
Funny this isn't front page
news like the Trayvon
Martin shooting!**

Michael Craig **Stephen Lee Henderson** **William Blasingame**

Detective Shavedlongcock News

CNN Fail!

As Vladimir Putin stands up to the remaining oligarchs in Russia and any Zionist meddling in the Middle East, expect the liberal/Jew media in the United States to go on an all out blitz trying to attack or discredit him...



(www.cnn.com/video/#/video/world/2012/06/12/verjee-intv-kasyanov-russia-protest.cnn)

CNN ran a story on June 12, 2012 discussing the "March of Millions" in Moscow.

See anything funny with their video footage?

I'll give you a hint: It's summer right now in Moscow! Change!



vs.



WANTED



BARACK H. OBAMA

a.k.a.

BARRY SOETORO

Ⓐ Reward: LIBERTY

For the crimes of:

MASS MURDER, WAR CRIMES, TREASON
& BEING A SCUMBAG EXTRAORDINAIRE