

GBPPR 'Zine



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"Fortunately, man's best friend came into the play: by claiming an anti-drug policy some discotheques now place a 'sniffer-dog' at the door. Poodles, bulldogs – whatever. It doesn't matter: Muslims are afraid of being touched by dogs, so they leave the place without further ado."

--- Translation from Denmark TV2 story "Discotheque: Muslims Make Trouble."

Original: <http://nyhederne.tv2.dk/article.php/id-7648742.html>

Translated: <http://gatesofvienna.blogspot.com/2007/07/strangers-in-night.html>

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any of the DOC loops or if a manual TTY request has been initiated. If a change in state is detected, the subroutine stores the RI pointer associated with the DOC loop in the client register. Subroutine NMHPOB is then entered to hunt and seize a POB and load orders to operate the SD points. Upon execution of the orders, the POB is idled by subroutine NMIPPOB. Program control is then returned to the client program.

DOC Signal Acknowledgement

5.87 Whenever translations identify a unit type member number 56, a transfer is made from the NMGT program to subroutine NMDCAR. This subroutine sets an acknowledgement bit for each DOC loop and returns program control to the ECMP program.

Audit

5.88 During a phase 3 system operation, an entry is made at subroutine NMTDTT which performs an audit on the T1 and T2 scan points. The audit sets the T1 and T2 bits to the accept and unsaturated conditions.

NETWORK MANAGEMENT SELECTIVE INCOMING OVERLOAD CONTROL (NMSC) PROGRAM

A. Function

5.89 The NMSC program provides the capability of applying SILC to limit traffic when an ESS switch is in a MC1 or MC2 state. When a connecting ESS switch does not have DOC, SILC controls can be used.

B. Program Description

Assignment

5.90 Two SILC blocking percentages (P1 and P2) must be specified and stored in the carrier interconnect office options auxiliary block. These percentages determine how much of the incoming traffic is to be blocked. The recent change message, RC:PSWD, is used to enter and change the SILC blocking percentages (P1 and P2). Now, the trunk group(s) can be assigned SILC via TTY input message NMG-SILC-A (specifying the TGN). Any 1-way incoming MF or 2-way MF trunk can be assigned SILC.

One of the following responses can be outputted when assigning SILC:

- (a) ACPT (activation completed)
- (b) INVD (TGN invalid, request denied)
- (c) NOBP (no blocking percentage for MC1 or MC2, request denied)
- (d) NTFD (TGN not found, request denied)
- (e) OVFL (call store table is full, request denied)
- (f) DENY (SILC is not in office, cannot request)
- (g) DUPL (request accepted but is a duplicate).

Two levels of congestion (MC1 and MC2) are used to identify the shortage of real time and the shortage of receivers. Blocking percentage P1 is used when the ESS switch is in MC1 state, P2 is used when the ESS switch is in MC2 state.

Activation

5.91 When the ESS switch is in MC1 or MC2 state, SILC is automatically activated.

Deactivation

5.92 When the ESS switch returns to normal processing of calls, SILC is automatically deactivated.

Removal

5.93 The TTY input message, NMG-SILC-R, is used to remove SILC control(s) from the trunk group(s). The network administrator can specify to remove SILC from one trunk group or remove SILC from all trunk groups in the ESS switch. The responses for assigning SILC also apply to the removal of SILC.

Status

5.94 The TTY input message, NMG-SILC-S, is used to obtain a list of active SILC controlled trunk groups. Also, the list includes the number of blocked calls per associated trunk group, blocking percentages, and current MC0, MC1, or MC2 state.

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NETWORK MANAGEMENT (NMTG) PROGRAM

A. Function

5.95 The NMTG program provides the capabilities to apply controls which limit the amount of traffic leaving an office based on the trunk group over which a call is to be routed.

5.96 Four types of TGCs are provided:

(a) **Cancel-to** controls the number of call attempts offered to a trunk group. Upon encountering this control, a call which is to be affected is inhibited from searching any trunk group for an idle trunk and is routed to no-circuit announcement. Control variables are: (1) trunk group on which the control is to be activated, (2) percentage of direct-routed traffic to be affected, and (3) percentage of alternate-routed traffic to be affected.

(b) **Cancel-from** controls the number of call attempts overflowing a trunk group. Upon encountering this control, a call to be affected is inhibited from hunting for an idle trunk after overflowing this trunk group. Control variables include the trunk group on which the control is to be active and the percentage of overflow traffic to be affected.

(c) **Skip** controls the number of call attempts offered to a trunk group. Upon encountering this control, a call to be affected is inhibited from searching this trunk group for an idle trunk but is allowed to be alternately routed to the next trunk group. Control variables are: (1) trunk group on which the control is to be active, (2) percentage of direct-routed traffic to be affected, and (3) percentages of alternate-routed traffic to be affected.

(d) **Trunk reservation** allows the selection of a specified number of trunks in a trunk group. It limits the number of attempts offered to a trunk group when fewer than the specified number of trunks remain available. The purpose of the control is to dynamically limit the attempt when less than a specified number of trunks are idle in the trunk group at the time the control is activated. Two thresholds are provided per trunk group: protectional reservation of equipment (PRE) threshold and directional reservation of equipment (DRE) threshold.

5.97 Effective with the 1AE8 generic program only, four additional TGCs are provided NMRs:

(a) **Immediate single reroute** controls offer traffic to only one specified TTG before it has attempted rerouting on the FTG.

(b) **Immediate spray reroute** controls offer traffic to a maximum of seven TTGs before it has attempted rerouting on the FTG.

(c) **Regular single reroute** controls offer traffic to only one specified TTG only after traffic has overflowed the FTG.

(d) **Regular spray reroute** controls offer traffic to a maximum of seven TTGs only after traffic has overflowed the FTG.

B. Program Description

Direct and/or Alternate Routed Traffic

5.98 During the basic trunk translations performed by the TRBT program, the outgoing load control indicator in the trunk group head cell is checked to determine if TGCs are activated. If one is activated, a transfer is made to the NMTG program at subroutine NMBEF. Upon entry, this subroutine determines if the call is to be rerouted. If the call is a reroute attempt, a transfer is made to NMRR at subroutine NMRRIT. If this is the case and the TGC indicates control, no connection is made to the no circuit announcement (NCA).

5.99 The item FLXPTR in the trunk group head cell annex (Fig. 13) is checked to determine if flexible control is active. If control is active, another check is made to determine the type of control, cancel-to, cancel-from, skip, or trunk reservation. Effective with the 1AE8 generic program only, a check is also made of the following to determine the type of control active: immediate single reroute, immediate spray reroute, regular single reroute, or regular spray reroute.

5.100 If the control is cancel-from (not cancel-to, skip, or trunk reservation), a transfer is made to NMRR at subroutine NMRRFX to check for and process the flexible reroute actions. If the controlling factor is trunk reservation, if the number of idle trunks in the trunk group is greater than the

DRE threshold value, if the number of idle trunks in the trunk group is less than the PRE threshold value, and if the call is not alternately routed, a check is made by the subroutine PP CHK to see if the preprogram control is active. If the preprogram control is found to be inactive, with both cancel-to and skip controls activated, the call is routed via the NCA. If the call is not affected, the call is completed if all the trunks are not busy. However, if all trunks are busy and neither preprogrammed controls nor flexible controls have been cancelled, the call is routed normally. If the call is percentage effective, the call is routed to the NCA.

Preprogram Trunk Controls

Automatic Activate

5.101 Automatic activation occurs upon receipt of the DOC signal at the scan point associated with a preprogrammed trunk group (unit type 56, NTPI 57). Entry is made from the supervisory signal change director (SSCD) program to NMGT at subroutine NMPPAA when the DOC signal is received. This subroutine transfers to subroutine NMPAA1 which performs the activation routines. If the preprogram is in a manual state, this subroutine returns the control to NMGT; otherwise, the preprogram number is checked for validity, the network management lamp is lighted, and the preprogram number is stored in the trunk group activity word of the trunk group control and activity block (Fig. 14). If the trunk group is not under manual control, a check is made of the control word in the block to determine if the preprogram is in control. If the preprogram is in control, a priority test is performed. Priorities are assigned as 1, 2, or 3 correlating to machine congestion levels. If the test proves to be a higher priority, program control is returned; otherwise, an automatic preprogram search is made by subroutine PPACT2.

Manual Activate

5.102 When preprogram control is manually activated by the TTY input message PP-ACT, immediate control is taken on the associated trunk group replacing any manual control currently on that trunk group and overriding any activation requests received automatically via the DOC signals. If the TTY request contains a valid preprogram number, a TTY output message NM07 is printed. If the preprogram control is already manually active, a

TTY output message NM01 REQ OVERRIDES is printed. If the preprogram control is not active, the network management lamp is turned on. Program control is then returned to the TTIA program.

5.103 If the preprogram control is in the manual exclude or out-of-service state, the out-of-service condition is removed. The T2 bit for the supervisory scan point associated with the preprogram is set to zero, and its activity slot in the trunk group activity word is zeroed. If the trunk is already manually controlled, the preprogram control is removed.

Automatic Reset

5.104 Upon the loss of the DOC signal associated with the preprogram control, a transfer is made from subroutine NMPPAR in NMGTA00 to subroutine NMPAR1. This subroutine deactivates the preprogram control corresponding to the DOC signal. If the preprogram control is valid and not in the manual state, subroutine PPDACT is requested to perform the deactivation procedures. If the preprogrammed flexible control is not active, the network management lamp is turned off. If a higher priority preprogram is in control of the trunk group, program control is returned; otherwise, a search is made for the correct preprogram to control the trunk group by subroutine PPFIND.

Manual Reset of Preprogrammed Controls

5.105 When the TTY input message PP-REM is received, subroutine NMPPMR is entered. The purpose of this subroutine is to either deactivate a preprogram control or restore a preprogram which is excluded from activation via the DOC signals. If the preprogram control is not in the manual state, a TTY output message NM07 is printed and the program transfers to the TTIA program. If the preprogram is manually active, the TTY output message NM07 is printed with the OK option and the preprogram is removed from the active state. Program control is then passed to the TTIA program. When the preprogram control is removed from the active state, the preprogram counter is decremented, and if no network management controls are left active, the network management lamp is turned off and the preprogram is taken out of the manual state. If there is a master scanner number associated with the preprogram, the T2 bit is set to the accept condition and the T1 bit is set to unsaturated. If the trunk group is manually controlled, program control is re-

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turned; otherwise, a search is made for the high priority preprogram to control the trunk group by subroutine PPFNDA.

Manual Exclude

5.106 Upon receipt of the TTY input message PP-EXC, an entry is made to subroutine NMPPME. The purpose of this subroutine is to exclude the preprogram control from activation by the DOC signal. If the preprogram identity is valid, a TTY output message NM07 is printed with the OK option. If the preprogram is not in the manual or out-of-service state, the active preprogram counter is incremented, the network management lamp is turned on, and the T2 bit is set to the ignore condition. However, if the preprogram was in the reset state, program control is returned to the TTIA program. If the preprogram was not in the reset state, the preprogram is deactivated by subroutine PPDACT before the return is made to the TTIA program.

High Priority Automatic Preprogram Search

5.107 The purpose of subroutine PPFNDA is to determine which preprogram controls the trunk group that has been automatically activated. The subroutine selects the highest priority of three possible preprograms. If the trunk group activity word is zeroed, a transfer is made to subroutine UNLINK. When the preprogram of the highest priority is found, a unit type member number translation is made and checked for validity. An indirect transfer is then made to subroutine NMRRPA located in the NMRR program to check for reroute and to initialize the reroute slot. Upon return, the outgoing load control bit is set in the trunk group head cell and the network management lamp is turned on. Program control is then returned to the client program.

Remove Specific Preprogram

5.108 The subroutine UNLINK removes the linkage in the trunk group head cell and the trunk group head cell annex for a preprogrammed TGC. If a preprogram is in control, the TGC word is zeroed, the pointer in the trunk group head cell annex TGNANX is removed, and the outgoing load control bit is reset according to the status of the preprogram control.

Clear-Manual Preprogram

5.109 As a result of the TTY input message PP-CLEAR, subroutine NMPPRA is entered to deactivate all manual preprograms currently active and to restore all preprograms currently inactive via the DOC signals. After all preprograms are checked and cleared, program control is returned to the TTIA program.

Flexible Trunk Group Controls and NMERs (1AEB Only)

Cancel-to-Activate

5.110 When the TTY input message CT-ACT is received, the subroutine NMCTAT is entered. The purpose of this routine is to activate a cancel-to control on a flexible trunk group. The TGN is placed in the flexible TGC block N2NMFLEX (Fig. 15) and both direct and alternate percentages are validated. Transfer is then made to subroutine TGN SETUP for activation.

Skip Activate

5.111 When the TTY input message SK-ACT is received, the subroutine NMSKAT is entered. Its purpose is to activate a skip control on a flexible trunk group. The control code 5 is loaded, TGN is placed in the flexible TGC block N2NMFLEX, and both direct and alternate percentages are validated. Transfer is then made to subroutine TGN SETUP for activation.

Cancel-From Activate

5.112 When the TTY input message CF-ACT is entered, a transfer is made to subroutine NMCFAT. The TTY message activates a cancel-from control on a flexible trunk group. The TGN is stored in the flexible TGC block N2NMFLEX. The overflow percentage is validated and transfer is made to subroutine TGN SETUP for activation.

Reservation Activate

5.113 As a result of TTY input message TR-ACT, the subroutine NMTRAT is entered. The purpose of this routine is to activate a trunk reservation control on a flexible trunk group. The PRE and DRE are compared with the number of equipped trunks in the specified trunk group. If the PRE threshold value is greater, all traffic alternate-routed to the trunk

group is inhibited from searching for an idle trunk in any trunk group and is routed to the NCA. If the DRE threshold value is greater, all traffic to that trunk group is inhibited from searching for an idle trunk in any trunk group and is routed to the NCA.

5.114 The following are four NMERs that are reserve active as a result of the associated TTY input messages:

(a) **Immediate Single Reroute:** When the TTY input message IR-ACT is entered, a transfer is made to subroutine NMIRAC. This activates an immediate single reroute on a flexible trunk group. Subroutine SINGLE-SLOTS is entered to search for a vacant 6-word slot in the single reroute table. The control code for a flexible reroute (3) is then placed in the flexible TGC block (N2NMFLEX).

(b) **Immediate Spray Reroute:** When the TTY input message IR-SPRAY is received, the subroutine ISPRAY is entered. The TTY message activates an immediate spray reroute on a trunk group. Subroutine SPRAY-SLOTS is entered to search for a vacant 24-word slot in the spray reroute table. The control code for a flexible reroute (3) is then placed in the flexible TGC block (N2NMFLEX). Program control is transferred to TGN-SETUP for activation.

(c) **Regular Single Reroute:** When the TTY input message RR-ACT is entered, a transfer is made to the subroutine NMRRAC. This activates a regular single reroute on a flexible trunk group. Subroutine SINGLE-SLOTS is entered to search for a vacant 6-word slot in the single reroute table. The control code for a flexible reroute (3) is then placed in the flexible TGC block (N2NMFLEX).

(d) **Regular Spray Reroute:** When the TTY input message RR-SPRAY is received, the subroutine RSPRAY is entered. The TTY message activates a regular spray reroute on a trunk group. Subroutine SPRAY-SLOTS is entered to search for a vacant 24-word slot in the spray reroute table. The control code for a flexible reroute (3) is then placed in the flexible TGC block (N2NMFLEX). Program control is transferred to TGN-SETUP for activation.

Slot Activation

5.115 The TGN slot in the flexible TGC block is activated by subroutine TGN SETUP. If the TGN is valid, the network management lamp is turned on and a TTY output message NM14 is printed. If a flexible reroute (NMER) is valid, the network management lamp is turned on and a TTY output message is printed. This TTY output message can be either NM33 for spray reroutes or NM34 for single reroutes. If there is another control on the trunk group, an override TTY output message NM21 is printed, and the old flexible control is removed. If a preprogrammed control is automatically activated, it is removed and a TTY output message NM01 is printed. The NM21 message indicates that a flexible control on a trunk group is being replaced by another manual control.

Deactivate Specific Flexible Control

5.116 If the TTY input message FLEX-DEACT is entered, transfer is made to subroutine NMFXTD. This subroutine deactivates the flexible TGC, flexible trunk group peg and overflow counter, or flexible reroute (NMER) control on a specific trunk group. If no other control is active, the network management lamp is turned off. A TTY output message NM18 is printed indicating that the flexible control, flexible trunk group peg and overflow counter, or flexible reroute (NMER) control has been deactivated.

Identification

5.117 The subroutine MESSAGE is utilized by the deactivation and activation routines via the TTY output message NM21. The TTY message identifies the type of control in the flexible TGC block slot and to load information in the scratch area.

Clear Flexible Controls

5.118 Subroutine NMFXTA is entered when the TTY input message FX-CLEAR is typed. The function of the TTY message is to remove all active flexible TGCs, flexible trunk group peg and overflow counters, and flexible reroute (NMER) controls. A TTY output message NM08 is printed indicating the requested controls were cleared.

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Flexible Trunk Group Peg and Overflow Counter

Activate

5.119 As a result of the TTY input message TG-ACT, subroutine NMTGCT is entered to activate a flexible trunk group peg and overflow counter on a trunk group. A TTY output message NM14 is returned indicating the counter is activated.

Deactivate and Clear

5.120 If a counter is found active during an activate or deactivate function, a transfer is made to subroutine PEG CNTR DEACT to deactivate the counters on a specific trunk group.

Administration

Non-Reset Trunk Group Control Preprograms

5.121 As a result of the TTY input message PP-STATUS, subroutine NMPPST is entered to list all preprograms that are currently:

- (a) Active automatically or manually
- (b) Excluded from DOC activation
- (c) Out-of-service.

The TTY output message NM02 is printed indicating each preprogrammed control state.

Trunk Group Control Preprogram Translation Data

5.122 As a result of the TTY input message PP-DATA, subroutine NMPPDT is entered to list the translation information associated with each preprogram. Each preprogram control translation block is accessed and the information is printed by NM04 TTY output message. The translation information includes the preprogram number, affected trunk group, priority, type of control, and percentage of control.

Active Flexible Trunk Group Controls and Counters

5.123 As a result of the TTY input message FX-STATUS, subroutine NMFXT is entered to

list all active flexible TGCs, flexible reroute (NMER) controls, and flexible trunk group peg and overflow counters. The TTY output message NM19 is returned indicating the active flexible TGCs flexible reroute (NMER) controls, peg, and overflow counters.

Audits

Outgoing Load Control Pointer Relationship

5.124 An audit of the outgoing load control bit in the trunk group head cell and the linkage between the trunk group head cell annex and the preprogram control with activity couplets is performed by subroutine NMAUT1. Upon finding a non-zero pointer in the head cell annex, the routine checks to see that the outgoing load control bit is set, and that the translation auxiliary block pointer and the head cell annex pointer indicate the same trunk group. If they do not, a TTY output message SA03 is printed. The audit is performed in segments and if, at the end of a segment, trunk groups still remain to be audited, program control is transferred to MACR.

Preprogram Status Indicators

5.125 The preprogram control status indicators for trunk group controls are audited by subroutine NMAUD2. The preprogram control is validated and its state is determined. If it is automatically active, the TTY output message SA03 is printed providing either of the following occurs:

- (a) Priority is zero.
- (b) Trunk group activity word is zero.
- (c) Wrong preprogram is in control of trunk group.
- (d) Master scanner number is zero.

5.126 If the preprogram control is not automatically active, directed scans are performed on the master scanner numbers, and either a possible incorrect out-of-service condition is corrected or a false cross or ground condition is verified.

5.127 If the preprogram control is manually active, the TTY output message SA03 is printed providing one of the following occurs:

- (a) Manual bit is not set.

- (b) Control words do not match.
- (c) Out-of-service bit is improperly set.

5.128 If the preprogram control is not active and is incorrectly in the ignore condition, the subroutine removes the ignore state and causes printout of the SA03 TTY output message. If an out-of-service condition is detected, the false cross or ground condition is verified. If it is not present, the preprogram control is removed and a TTY output message NM13 is printed.

5.129 If the preprogram control is in the reset state and not in control, a check is made to see which preprogram should be in control. If it is automatically controllable, the subroutine determines whether or not it should be active or whether or not there is a false cross or ground condition.

5.130 After all preprogram controls have been checked, the active preprogram control counter is compared to the actual number of preprogram controls active. If they are not in agreement, the TTY output message SA03 is printed and program control is transferred to MACR.

Control and Activity Words

5.131 The TGC and activity couplets are audited by subroutine NMAUD3. If there is a preprogram in control of the trunk group associated with the control couplet, the state of the preprogram is audited. If the preprogram is invalid, a TTY output message SA03 is printed. If the status bits of the preprogram are correct, all pointers are compared. If the pointers match, the correct preprogram remains or is put in control. If the pointers do not match, the control couplet bit is reset which causes the TTY output message SA03 to be printed. A search is then made for an automatic preprogram to control the trunk group. If there is not a preprogram control and the couplet is not equal to zero, the same message is printed.

5.132 If there is an error in the status bits and the control couplet does not indicate manual control, the activity word of the preprogram is reset. If the status bits are in error and the couplet indicates manual control, the control couplet bit is reset. The SA03 TTY output message is printed and a search is made for an automatic preprogram to control the trunk group.

5.133 If DOC signals are active on a trunk group associated with the control couplet that indicates no control, the appropriate preprogram control is automatically activated and a TTY output message SA03 is printed. The subroutine then transfers to MACR.

Flexible Trunk Group Control Block Slots

5.134 The flexible TGC block slots are audited by subroutine NMAUD5. This subroutine zeroes the TGN word when the control word is zero and the associated peg count for the previous quarter-hour is zero. If an error is detected for the PRE and DRE threshold values, the TTY output message SA03 is printed. The NMTG program then transfers to MACR.

Flexible Trunk Group Control Block Slots (1AE8 Generic Program Only)

5.135 Subroutine NMAUD5 in NMTG program is entered from MACR to audit the flexible TGC's block slots located at the N2NMFLEX address. The flexible controls consist of TGCs (cancel-to, cancel-from, skip, and trunk reservation) and NMERs (immediate reroutes and regular reroutes). Immediate and regular reroutes can be single (located at N2NMRRSG address) or spray (located at N2NMRRMG address) reroutes. Immediate and regular reroute data structures are used to handle data associated with the FTG and the TTG of a reroute. These two data structures are independent of each other. The following is a list of audit explanations and the numbers that are printed:

- (a) If there is an error in the message code identifying the flexible control, the message slot is zeroed and SA03 error 43 is printed.
- (b) If an error is detected for the trunk reservation PRE and/or DRE threshold values, the message slot is zeroed and SA03 error 43 and/or 44 is printed.
- (c) If the message slot bits that indicate a reroute are set, a check of parameter (N2NMRRMG and N2NMRRSG) will determine if the appropriate data structure exists. If it does not exist, then SA03 error 85 is printed.
- (d) If the data structure(s) exist, then the sum of reroute slots for both data structures

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(N2NMRRMG and N2NMRRSG) cannot be greater than 127, otherwise SA03 error 86 is printed.

(e) The reroute slot index in the N2NMFLEX message slot should not be out of range with respect to the number of reroute data structure slots built for that office (maximum 16 for spray reroutes and 127 for single reroutes), otherwise SA03 error 79 is printed and the slot zeroed.

(f) A check for the linkage between N2NMFLEX slot and the reroute data structure is made. In the reroute data structure (N2NMRRMG/N2NMRRSG) exists the actual slot number of the N2NMFLEX message slot. This slot number (backward pointer) should match the slot index, otherwise SA03 error 80 is printed.

(g) Reroute types (immediate and regular) from the N2NMFLEX message slot and N2NMRRMG/N2NMRRSG reroute data structure must match, otherwise SA03 error 81 is printed and the message slot is zeroed.

(h) The FTGs from the N2NMFLEX message slot and N2NMRRMG/N2NMRRSG reroute data structure must match, otherwise SA03 error 82 is printed and the slot is zeroed.

(i) If the TGN is not within the range or is unequipped, then SA03 error 40 and/or 41 is printed and the TGN slot is zeroed.

(j) When the validation of all flexible control slots (N2NMFLEX) has been completed, a match on message type counts produced by the audit is made against the count of messages activated. If the counts match, the audit is complete, SA03 error 83 and/or 84 are printed and the counts are corrected.

(k) When all message slots have been validated another match on counts is made. If the counts do not match, a problem exists and the entire reroute table(s) along with the corresponding N2NMFLEX slots will be zeroed and SA03 message 84 printed. Also, the appropriate flexible pointer in N4TGNANX will be zeroed and the outgoing load control bit reset. This is done for all flexible controls (containing error) only if a link exists between N4TGNANX and N2NMFLEX data structures. Linkage exists if the flexible pointer is

equal to the N2NMFLEX slot number. Program control is returned to MACR.

EADAS/NM INTERFACE (NMEA) PROGRAM

A. Function

5.136 The purpose of NMEA is to provide the means by which network management data (traffic, status, and event discretets, and control status) are accumulated and transmitted to EADAS/network management centers. The EADAS/network management center analyzes the network management data displayed via printers, cathode ray tube terminals, and display boards to obtain real-time surveillances of the various ESS switches and their traffic activity.

B. Program Description

5.137 All information transmitted between the ESS switch and the EADAS centers is coded into 8-bit characters prior to transmission over the EADAS data link. Each character is preceded by one start bit and terminated with two stop bits.

Traffic Data

5.138 Traffic data is accumulated in holding registers during traffic update routines. Traffic measurements are stored in one of four blocks of memory numbered 60, 61, 62, and 63. Blocks 60, 61, and 62 contain the H and C scheduled traffic counts and are polled every 5 minutes by the program. Block 63 is polled when flexible trunk group measurements are requested. Each block contains 250 measurements; each measurement is coded into two 8-bit characters. When a poll request has been accepted by the ESS switch and properly echoed to the EADAS center, the data block is transmitted to the EADAS center. The last character in each block of data is a checksum.

Status and Event Discretets

5.139 The program updates the status discretets via three methods:

- (a) Scans machine status indicators every 2 seconds.
- (b) Updates when event occurs in machine.

(c) Scans indicators when 20-second status discrete poll is received.

5.140 The machine status indicators are sent to the network management centers in response to a poll received every 20 seconds. These indicators are independent single-bit indicators representing certain network conditions. The program translates the status discretetes into 8-bit words; each word represents an on or off state of a status discrete.

5.141 The function of the event discrete data is to alert the network management center to events occurring within an ESS switch concerning network traffic. After transmission of an on state discrete, the discrete is reset to the off state providing the ESS switch received a response or a request for resetting the event discretetes to the off state.

Administration

5.142 Special polls are transmitted simulating TTY input requests to the ESS switch. When the ESS switch receives the poll, the poll is loaded with the associated TTY characters into a buffer and control is passed to the TTY input program. The NMEA program processes the request message and formats the requested data for transmission to the EADAS center. Refer to Table H for summarization of global subroutines which processes the EADAS data requests and various administrative functions.

ENGINEERING AND ADMINISTRATIVE DATA ACQUISITION SYSTEM (EDAS) PROGRAM

A. Function

5.143 The purpose of EDAS is to process the polls sent by the EADAS center, format the output data, and initialize the transmitter circuit which transmits the data to the EADAS center.

B. Program Description

Poll Analysis

5.144 The group of characters (polls) are received at the ESS switch from the EADAS center one character at a time. The EDAS program is entered at subroutine EDCHAR when the transmitter and receiver input scan routines load the character in the EADAS input hopper and set a main program class C job flag. When all the characters for a poll are

received, the appropriate routine is entered which formats the data into the EADAS output buffer and initializes the EADAS output transmit routine. Three types of polls are processed: (1) traffic, (2) interface, and (3) network management.

5.145 Subroutine EDCHAR, upon entry from ECMP, determines if a TTY diagnostic is currently in progress on the EADAS channel (member number 23 of unit type 10). If this is the condition, the system is reinitialized to wait for a poll and control is returned to the main program.

5.146 As each character is received from the EADAS center, it is returned and checked to determine if it is the same character that was sent. If the returned character does not match, 1s are sent to the ESS switch to indicate a restart. On the other hand, if an unrecognizable poll is received at the ESS switch, 1s are returned to the EADAS center.

5.147 Every 15 minutes under normal EADAS conditions, subroutine EADAS5 is entered from the TFCT1A00 program to administer the last 15-minute poll time data. A check is also made to see if a given time period has elapsed since a poll has been received. If so, the non-EADAS mode is activated and TTY output message EAD01 is printed. If a network management control state exists, this subroutine is entered every 5 minutes. The data is formatted by subroutine EDAPLT.

EADAS TRANSLATION VERIFICATION ROUTINES (EDVF) PROGRAM

A. Function

5.148 The purpose of EDVF is to verify translation data retrieval and transmission buffer loading. The program is entered only by the EDAS program at base level class E. Each verification message has its own entry point.

B. Program Description

5.149 Upon initial entry, the EDVF program initializes call store words EASCR3 and EASCR4. Word EASCR3 is set to 1 so that TGN searching will begin at TGN 1. Word EASCR4 is initialized to the address of the first data word. The EADAS control blocking, located in the call store, is pointed to by the parameter word N2EADAC.

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5.150 The program performs the translation data retrieval and transmission buffer loading functions until one of the following events occurs.

- (a) Real time segments end.
- (b) Transmission buffer is full.
- (c) All desired translation data has been sent.

Verification of 5-Minute Schedule

5.151 The verify message for 5-minute measurements results in translation data sent for 5-minute H and C measurements, starting with the H schedule and ending with the C schedule. The 5-minute measurements are identified in the H and C traffic register translations as requested by interface poll type 2.

Verification of Active Trunk Groups

5.152 The list of all active trunk groups, beginning with TGN 1 is requested by interface poll type 7. The number of maintenance busy trunk circuits, the number of equipped trunk circuits from the trunk group auxiliary block, and the type of trunk are retrieved.

5.153 When trunk group detail information is requested for a single TGN, only one TGN record is transmitted. When trunk group detail information is requested for all TGNs in the ESS switch, the complete 500-word data buffer is transmitted.

6. ABBREVIATIONS AND ACRONYMS

CIN	Change-in-Network
CLID	Calling Line Identification
CPD	Central Pulse Distributor
CRT	Cathode Ray Tube
CU	Control Unit
DN	Directory Number
DOC	Dynamic Overload Control

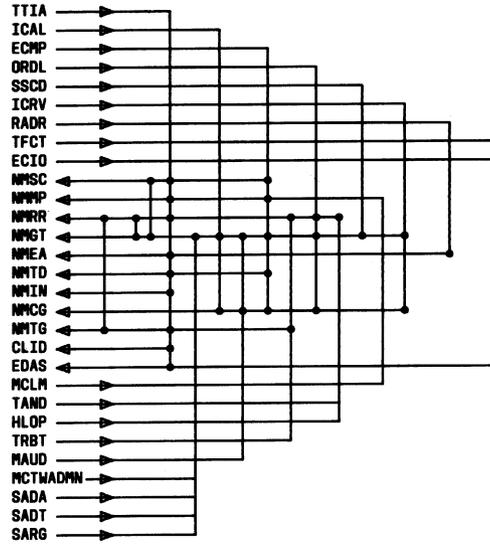
DRE	Directional Reservation of Equipment
EA	Emergency Action
EADAS	Engineering and Administrative Data Acquisition System
ECIO	Executive Control Input/Output Program
ECMP	Executive Control Main Program
EDAS	Engineering and Administrative Data Acquisition Interface Program
FTG	From Trunk Group
ICAL	Digit Analysis Trunk Program
ICRV	Digit Analysis Trunks - Revertive Program
MAUD	Maintenance Audit Program
MCC	Master Control Center
NCA	No Circuit Announcement
NMEA	EADAS/NM Interface Program
NMER	Network Management Enhanced Reroute Control
NMGT	Network Management Program
NMIN	Network Management Indicator Program
NMMP	Network Management Maintenance Program
NMTC	Network Management Toll Code Blocking
NMTD	Transmit Dynamic Overload Control Signal Program
NMTG	Network Management Program
NMRR	Network Management Reroute Control

Network Management – Software Subsystem / #1A ESS (Part 2)

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<p>NMSC</p> <p>NMCG</p> <p>NPA</p> <p>NTPI</p> <p>ORDL</p> <p>POB</p> <p>PRE</p> <p>RI</p> <p>RIT</p> <p>SD</p> <p>SILC</p> <p>TDC</p> <p>TGN</p> <p>TTG</p> <p>TTIA</p>	<p>Network Management Selective Incoming Overload Control Program</p> <p>Network Management Call Gapping Program</p> <p>Numbering Plan Area</p> <p>Nontrunk Program Index</p> <p>Digit Analysis Lines Program</p> <p>Peripheral Order Buffer</p> <p>Protectional Reservation of Equipment</p> <p>Route Index</p> <p>Route Index Tag</p> <p>Signal Distributor</p> <p>Selective Incoming Overload Control</p> <p>Traffic Data Converter</p> <p>Trunk Group Number</p> <p>To Trunk Group</p> <p>Teletypewriter Program</p>	<p>TTY</p> <p>7. REFERENCES</p> <p>231-045-100</p> <p>231-045-105</p> <p>231-045-145</p> <p>231-045-160</p> <p>231-045-165</p> <p>231-045-215</p> <p>231-045-245</p> <p>OTHER</p> <p>IM-6A001—Input Message Manual</p> <p>OM-6A001—Output Message Manual.</p>	<p>Teletypewriter.</p> <p>Operational Software Control Structure—Software Subsystem Description</p> <p>Call Processing—POTS—Software Subsystem Document—Description</p> <p>Translations—Software Subsystem Description (SSD)</p> <p>Toll/Tandem Switching—Software Subsystem Description</p> <p>Measurement—Software Subsystem Description</p> <p>Audit—Software Subsystem Description</p> <p>System Performance—Software Subsystem Description.</p>
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- LEGEND:**
- CLID - CALLING LINE IDENTIFICATION LIST PROGRAM
 - ECIO - REFER TO 231-045-100
 - ECMP - REFER TO 231-045-100
 - EDAS - ENGINEERING AND ADMINISTRATIVE DATA ACQUISITION INTERFACE PROGRAM
 - HLOP - REFER TO 231-045-115
 - ICAL - REFER TO 231-045-105
 - ICRV - REFER TO 231-045-105
 - MAUD - REFER TO 231-310-250
 - MCLM - REFER TO 231-310-250
 - MCTWADMN - REFER TO 231-310-250
 - NPMG - NETWORK MANAGEMENT CALL GAPPING PROGRAM
 - NMEA - EADAS/NM INTERFACE PROGRAM
 - NPMG - NETWORK MANAGEMENT PROGRAM
 - NMIN - NETWORK MANAGEMENT INDICATOR PROGRAM
 - NPWP - NETWORK MANAGEMENT MAINTENANCE PROGRAM
 - NPRR - NETWORK MANAGEMENT REROUTE CONTROL PROGRAM
 - NPSC - TRANSMIT SILC SIGNALS
 - NMTD - TRANSMIT DOC SIGNALS
 - NMTG - NETWORK MANAGEMENT PROGRAM
 - ORDL - REFER TO 231-045-105
 - RADR - REFER TO 231-045-245
 - SADA - REFER TO 231-045-215
 - SADT - REFER TO 231-045-215
 - SARG - REFER TO 231-045-215
 - SSCD - REFER TO 231-045-105
 - TAND - REFER TO 231-045-160
 - TFCT - REFER TO 231-045-165
 - TRBT - REFER TO 231-045-145
 - TTIA - REFER TO 231-045-165.

Fig. 1—Network Management Subsystem Interface

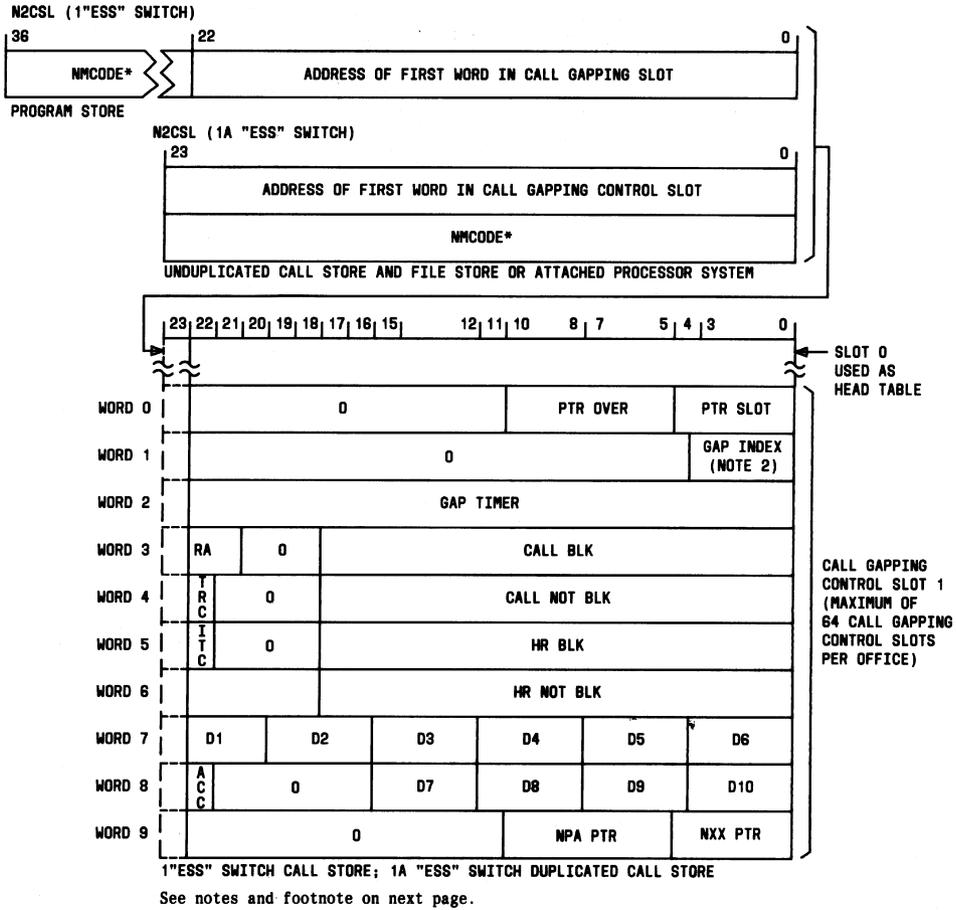


Fig. 2—Call Gapping Control Slot Layout (Sheet 1 of 2) (Note 1)

Network Management – Software Subsystem / #1A ESS (Part 2)

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Notes:

1. Bit 23 exists in the 1A ESS switch only.
2. See matrix below for gap indexes and their respective gap intervals.
(Word 1 bits 0 through 3 is where this information is stored).

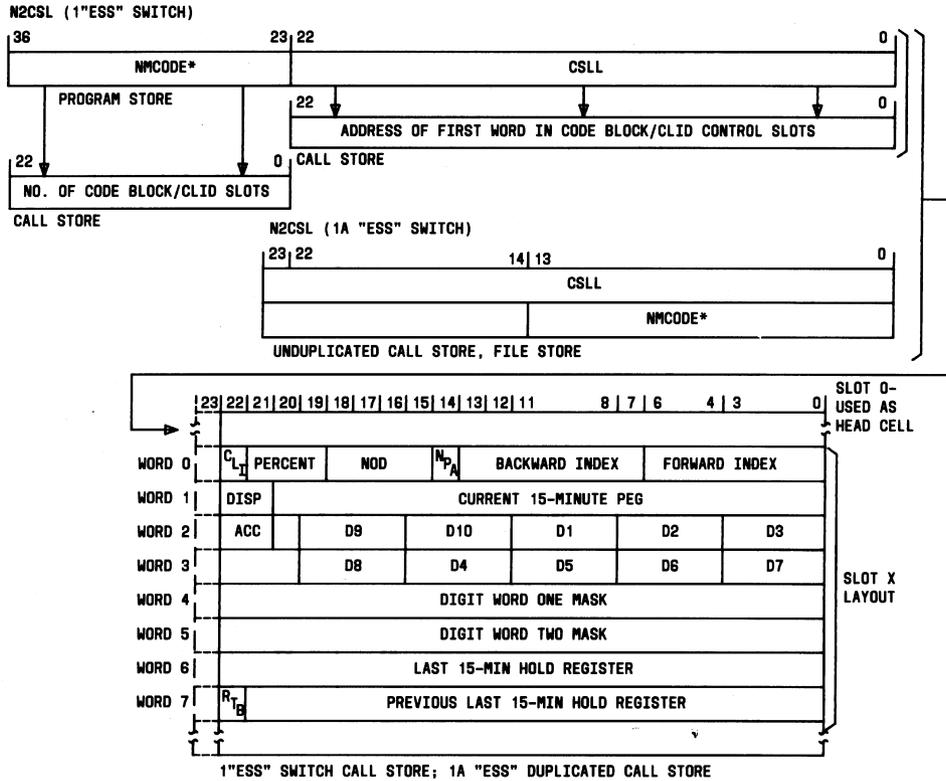
OCTAL EQUIVALENT	GAP INDEX	GAP INTERVAL (IN SECONDS)	MAXIMUM CALLS PER HOUR
0000	0	-	IN = OUT
0001	1	0	IN = OUT
0002	2	.1	36000
0003	3	.3	14400
0004	4	.5	7200
0005	5	1	3600
0006	6	2	1800
0007	7	5	720
0010	8	10	360
0011	9	15	240
0012	10	30	120
0013	11	60	60
0014	12	120	30
0015	13	300	12
0016	14	600	6
0017	15	STOPS ALL CALLS	0

* $10 \times (\text{NMCODE} + 1)$, THIS FORMULA BUILDS THE NUMBER OF SUBBLOCKS FOR THIS TABLE

LEGEND:

- NMCODE - NUMBER OF CALL GAPPING CONTROL SLOTS
- PTR OVER - POINTS TO OVERLAPPING CONTROL FOR 10-DIGIT CONTROLS
- PTR SLOT - POINTS TO NEXT CONTROL SLOT OF UNIQUE CONTROL ON SAME LEVEL (I.E., 10-DIGIT LEVEL, 7-DIGIT LEVEL, OR 10XXX LEVEL)
- GAP INDEX - INDEXES A GAP INTERVAL
- GAP TIMER - TIME AFTER WHICH NEXT SUBSEQUENT ATTEMPT TO A CONTROLLED CODE DOES PROCEED UNBLOCKED
 - RA - DISPOSITION CODE FOR BLOCKED CALLS SENT TO RECORDED ANNOUNCEMENT (I.E., 1 = NCA, 2 = EA1, 3 = EA2)
- CALL BLK - ACCUMULATED COUNT OF CALL ATTEMPTS SUBJECTED TO THIS CONTROL
- TRC - INDICATES CONTROL SLOT IS POINTED TO BY TEMPORARY RECENT CHANGES
- CALL NOT BLK - COUNT OF CALL ATTEMPTS SUBJECTED TO CALL GAPPING CONTROL WHICH WERE NOT BLOCKED
- ITC - INDICATES TYPE OF CONTROL (00 = INVALID, 01 = 10XXX-CARRIER INTERCONNECT, 10 = SEVEN DIGITS, 11 = TEN DIGITS)
- HR BLK - 15-MINUTE HOLDING REGISTER FOR COUNT OF CALL ATTEMPTS SUBJECTED TO CALL GAPPING CONTROL
- HR NOT BLK - 15-MINUTE HOLDING REGISTER FOR COUNT OF CALL ATTEMPTS SUBJECTED TO CALL GAPPING CONTROL WHICH ARE NOT BLOCKED
- D1 - D6 - DIGITS 1 THROUGH 6 OF CALL GAPPING CONTROLLED CODE (NPA-XXX)
 - ACC - ACCESS PREFIX DIGIT (00 = NO PREFIX, 01 = PREFIX OF 1, 10 = PREFIX OF 1, 11 = NO PREFIX CONFLICTING DIALING PATTERN EXISTS)
- D7 - D10 - DIGITS 7 THROUGH 10 OF CALL GAPPING CONTROLLED CODE (I.E., DIRECTORY NUMBER)
 - NPA PTR - POINTS TO CONTROL SLOT WITH CONFLICTING NPA
 - NXX PTR - POINTS TO CONTROL SLOT WITH CONFLICTING NXX.

Fig. 2—Call Gapping Control Slot Layout (Sheet 2 of 2) (Note 1)



Note:

1. Bit 23 exists in the 1A ESS switch only.

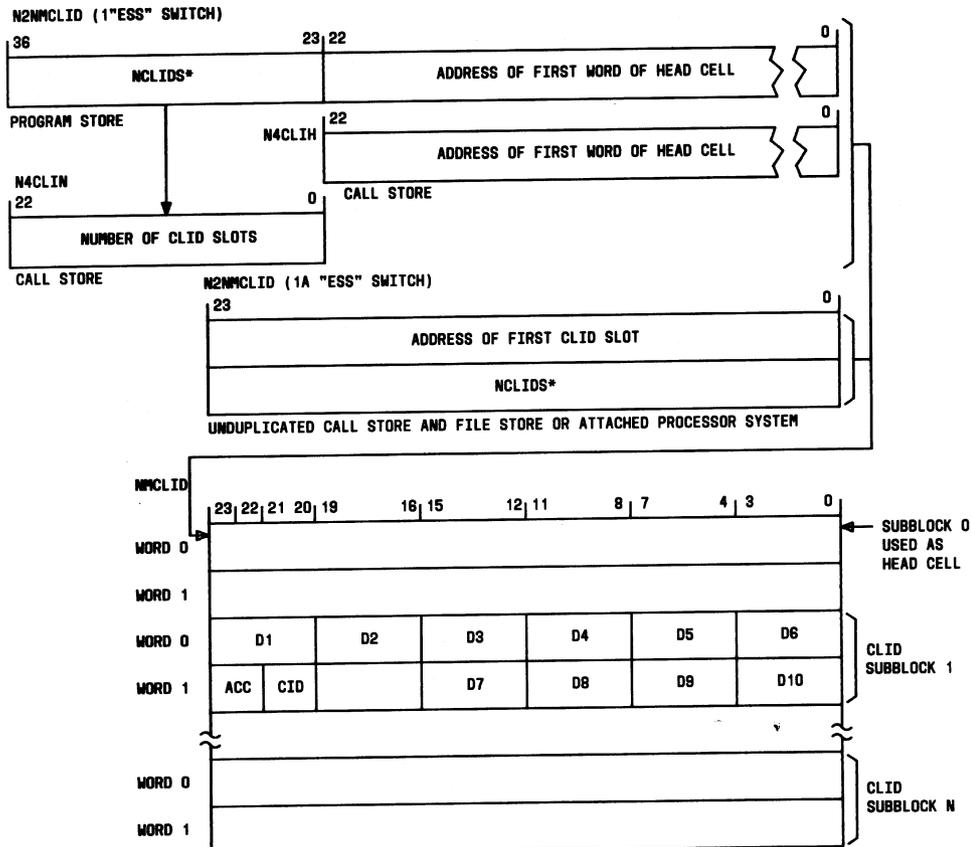
* $8 \times (\text{NMCODE} + 1)$, THIS FORMULA BUILDS THE NUMBER OF SLOTS FOR THIS TABLE.

LEGEND:

- ACC - ACCESS CODE
- CLI - 1 IF CLID ENTRY
- 0 IF CODE BLOCK ENTRY
- CSLL - ADDRESS OF FIRST WORD IN CODE BLOCK/CLID CONTROL SLOTS
- DISP - DISPOSITION INDEX TO NO-CIRCUIT ANNOUNCEMENT, EMERGENCY ANNOUNCEMENTS 1 OR 2
- D1-D10 - BLOCKED DIGITS
- INDEX - SLOT NUMBER
- NMCODE - SET CARD EQUAL TO THE NUMBER OF CODE BLOCK/CLID CONTROL SLOTS
- NOD - NUMBER OF DIGITS
- NPA - 1 IF DIGITS D1, D2 AND D3 ARE NPA
- 0 IF DIGITS D1, D2 AND D3 ARE NNX
- PERCENT - PERCENT OF CONTROL
- RTB - REAL TIME BREAK INDICATOR FOR ACTIVATION

Fig. 3—Code Blocking/CLID Control Slot Layout

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1'ESS' SWITCH CALL STORE; 1A 'ESS' SWITCH DUPLICATED CALL STORE

Note:

1. Bit 23 exists in the 1A ESS switch only.

* NCLIDS + 1, THIS FORMULA BUILDS THE NUMBER OF SUBBLOCKS FOR THIS TABLE

LEGEND:

- NCLIDS - INDICATES NUMBER OF AVAILABLE CLID ENTRIES
- D1 - D6 - NPA (D1-D3); NXX (D4-D6) ALL DIGITS ARE STORED AS BINARY CODED DECIMAL (BCD). ALL ZEROS ARE STORED AS BCD 10.
- D7 - D10 - DIRECTORY NUMBER STORED AS BCD
- ACC - ACCESS PREFIX (00 - NO PREFIX REQUIRED TO RESOLVE CONFLICTING DIALING PATTERN; 01 - PREFIX + 1; 10 - PREFIX + 0; 11 - NO PREFIX REQUIRED BUT CONFLICT EXISTS)
- CID - CALL INDICATOR (11 - TEN DIGITS, TEMPORARY RECENT CHANGE AGAINST NPA; 10 - SEVEN DIGITS, TEMPORARY RECENT CHANGE AGAINST NXX)

Fig. 4—CLID Control Slot Layout for 1E8/1A E8 (Note 1)

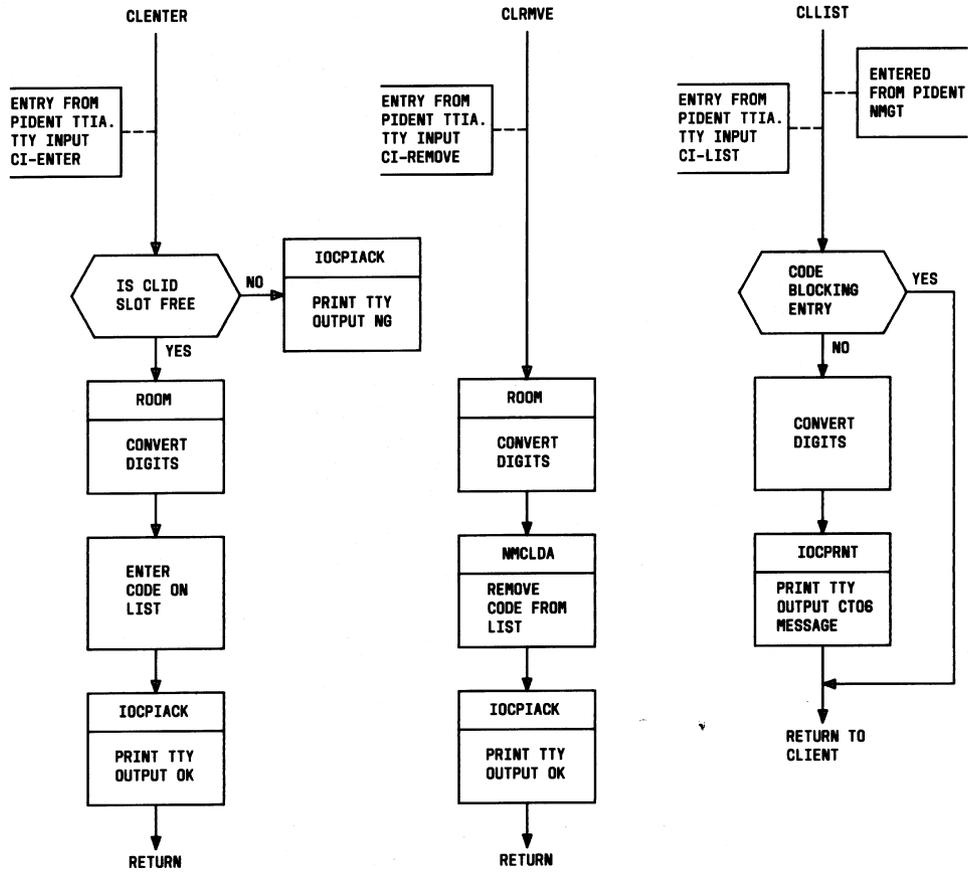


Fig. 5—CLID Flow Diagram (1E7/1AE7 and Earlier Generic Programs)

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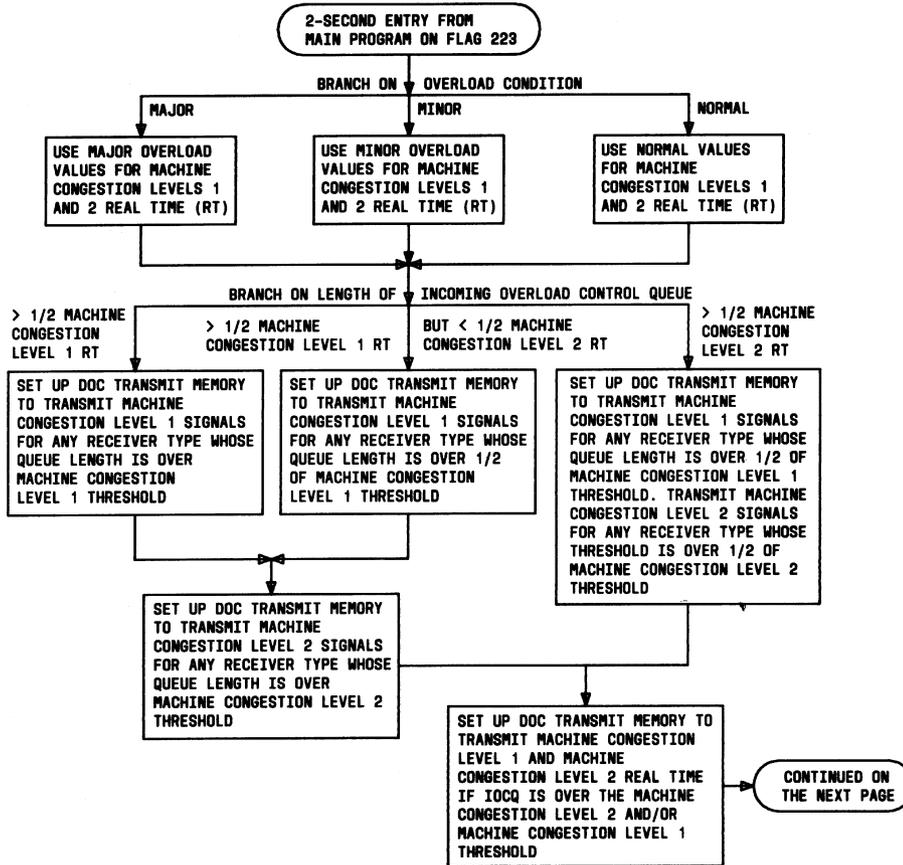


Fig. 6—Calculation of DOC Transmit Thresholds for MC1 and MC2 (Sheet 1 of 2)

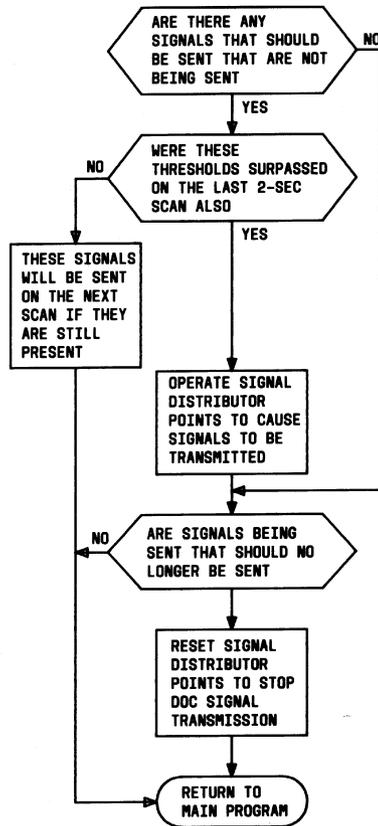


Fig. 6—Calculation of DOC Transmit Thresholds for MC1 and MC2 (Sheet 2 of 2)

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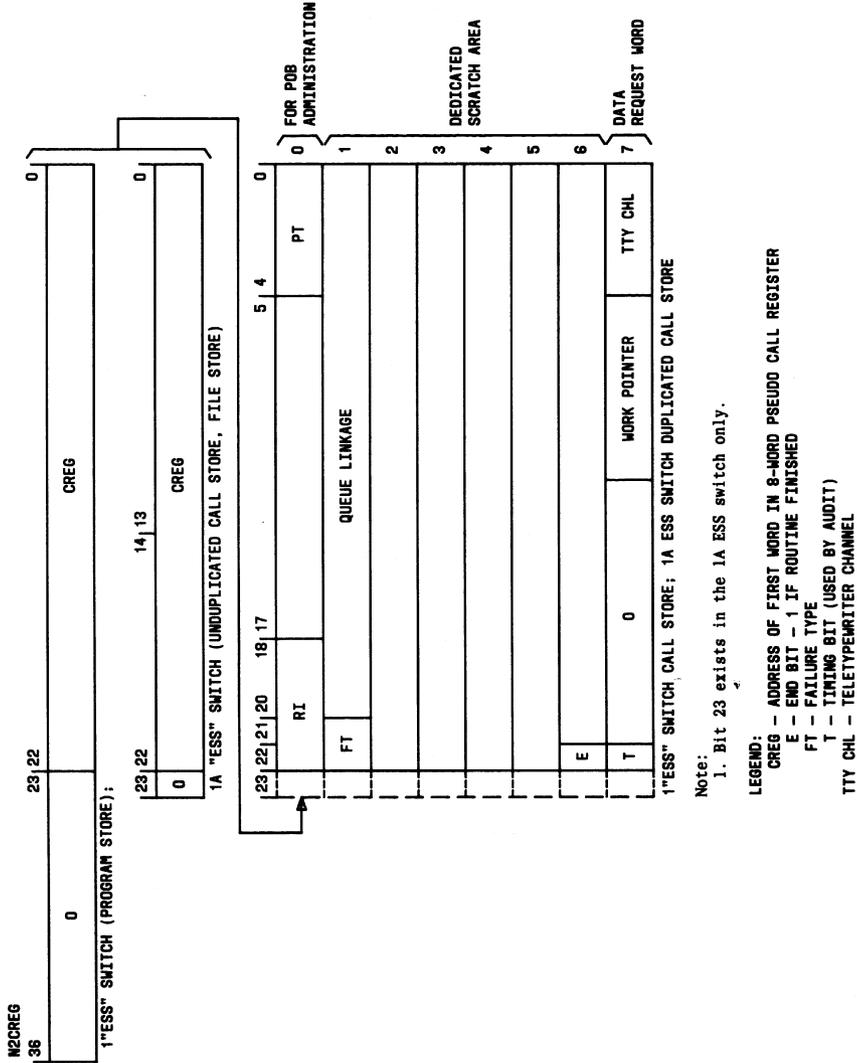


Fig. 7—Pseudo Call Register for Network Management Indicator Circuit (Note 1)

Simple High-Voltage Capacitor Construction

Overview

High-voltage capacitors are very handy for the experimenter. Unfortunately, they can be very difficult to find. Then, if you can find them, they will be quite expensive or even made using potentially dangerous chemicals. For this project, we'll be using several easy-to-find "computer grade" 450 volt electrolytic capacitors wired in series to form a single fairly high-capacity, high-voltage capacitor.

When wired in series, the voltage rating on the capacitors can be added together. The final microfarad value of the capacitor will be equal to their initial values, divided by the number of them in series (try to keep them all equal). For example, using eight series 250 μF , 450 VDC capacitors will lead to a final 32 μF capacitor with a voltage rating of 3,600 VDC. There is one major caveat when constructing such a device, though. When in series, each of the capacitors essentially acts as a voltage divider. Since no two capacitors are *truly* identical (capacity and leakage current wise), you'll need to add an external resistive voltage divider across each of the capacitors to "even" out the voltage divided across them. For this project, we'll be using 100 kohm, 5 watt metal-oxide resistors for the voltage divider. The series resistor string must also be capable of handling the fairly high heat dissipation, around 20 watts in this case.

Peak Voltage : 4,000 VDC
Total Series Resistance : 800,000 Ohms
Resistor String Current : 0.005 Amps [4,000 Volts / 800,000 Ohms]
Power Dissipation : 20 Watts [(0.005 Amps ^ 2) * 800,000 Ohms]

Construction Notes & Pictures



Case overview. The capacitors will be installed in an old ammo box to help protect them and to contain any explosion if the capacitors happen to be overcharged. Heh.

The 9-inch long aluminum bar in the middle will hold the electrolytic capacitors using plastic zip ties. It will then be isolated inside the middle of the case using a piece of 1/4-inch allthread rod and rubber grommets. Two banana jacks will act as the new output terminals.



Electrolytic capacitors used. They are 250 μ F / 450 VDC Mallory capacitors. Their maximum "surge" voltage is 525 VDC. They should work up to 500 VDC with no problems. They'll be connected in series using solid #14 copper wire and ring terminals. The zip ties are on the left.



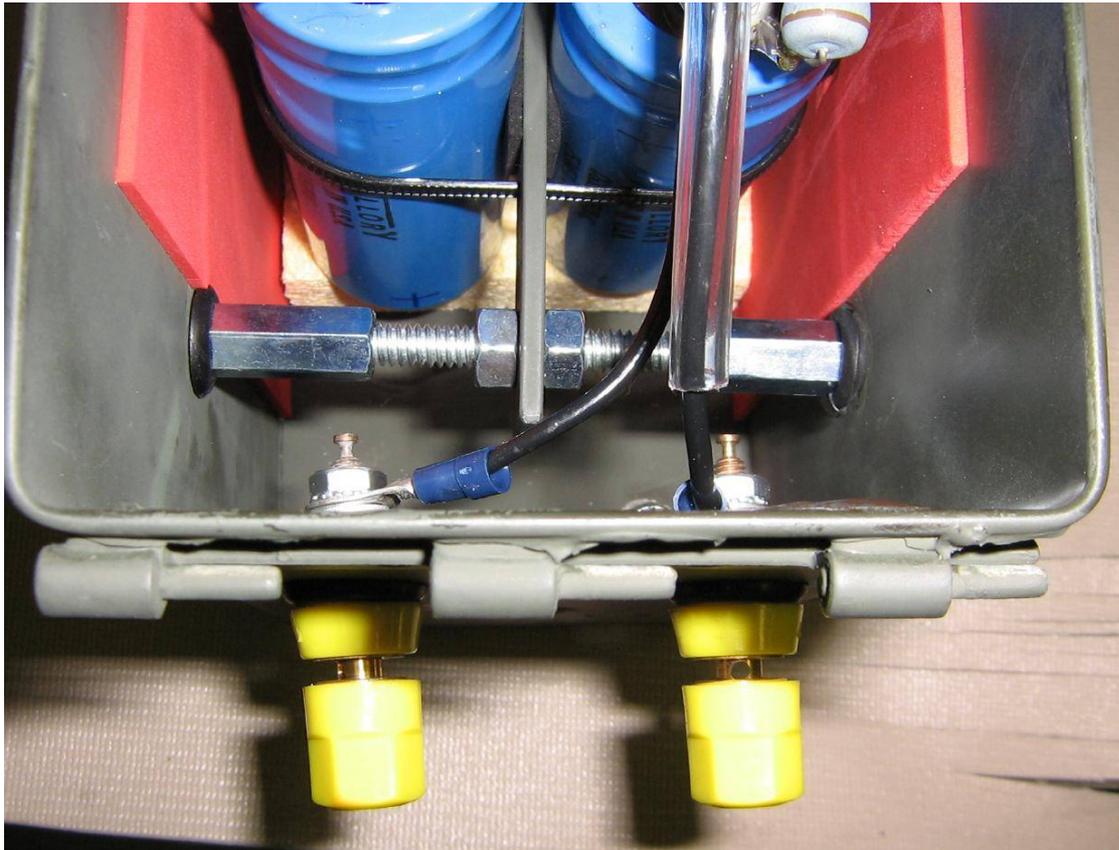
Zip-tying the electrolytic capacitors to the mounting bar. This is a total hack, but it seemed to work out quite well.



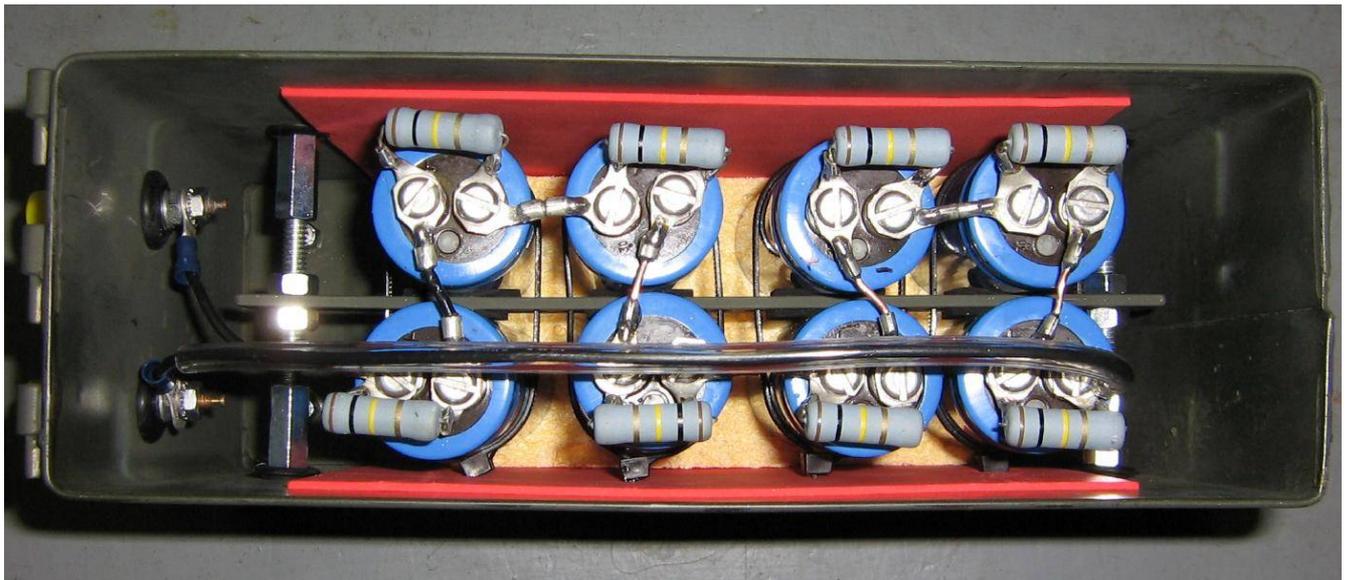
All the capacitors wired in series (positive to negative). The output **POSITIVE** terminal is on the left, the output **NEGATIVE** terminal is on the right. The series 100 kohm resistors are mounted using separate ring terminals on the capacitor's connecting posts.



Mounting bar hardware. 1/4-inch allthread and coupling nuts.



Final installation inside the case. The threaded rod is secured to the sides of the case (through the rubber grommets) using the couplers and short 1/4-inch bolts. There is a sponge underneath the capacitors to help hold them in place. Art foam lines the sides to prevent any shorting. The wires connecting the output terminals have vinyl tubing to protect them from high-voltage arcing.



Overhead view. Output banana jack terminals are on the left. They are also mounted through rubber grommets to add extra high-voltage protection.



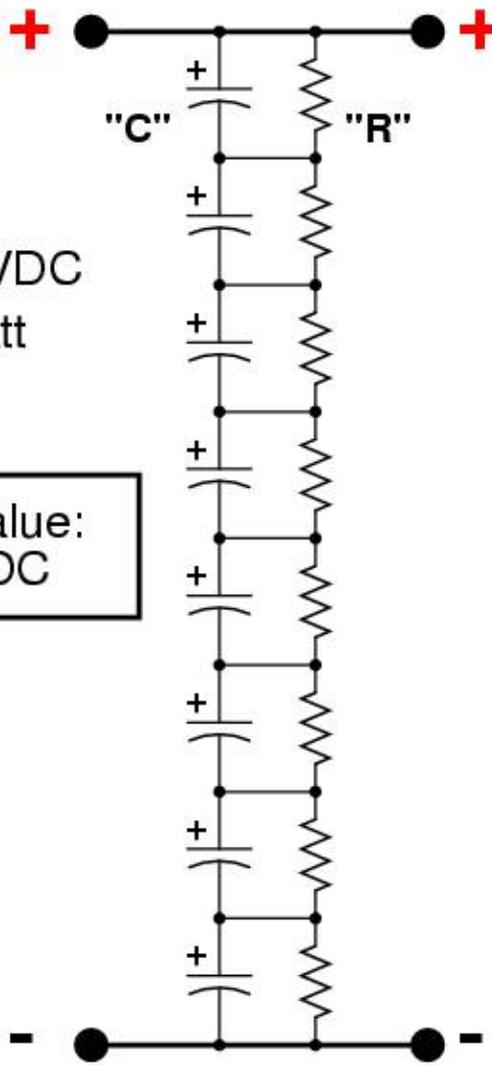
Completed front panel overview. This capacitor bank can now be used for high-voltage power supply filtering. It should **NOT** be used for high-current pulse discharge applications.

Schematic

High-Voltage Capacitor

C = 250 μ F / 450 VDC
R = 100 k Ω / 5 Watt

Total Capacitor Value:
32 μ F at 3,600 VDC



GBPPR Electromagnetic Pulse Experiments – Part 3



Overview

For the third article in this series, we'll be focusing on Electromagnetic Pulse (EMP) devices which have the capability to disable a moving or stationary vehicle. The idea revolves around first charging a high-voltage pulse capacitor up to a fairly high voltage. Then, when a vehicle passes over it – completing the circuit – the capacitor discharges via two spark gaps and two long, metal contact probes. The metal probes help to directly couple the high-voltage, high-current pulse onto the frame or engine block of the vehicle. Since electronic fuel, ignition, and other engine controls are all connected to the vehicle's frame (ground), raising the frame to a high-voltage potential will hopefully destroy any solid-state electronic devices connected to it. The use of two spark gaps helps to maintain the high-voltage on the vehicle's frame for just a few more microseconds. The only problem using this device is that you'll need *very high* voltages for it to work properly. At least 30,000 VDC should be used to help the discharge "arc" cut through any rust, dirt, or grim on the vehicle's frame. If you use over 100,000 VDC, you might even be able to get the return arc to use a path to Earth ground, and that will almost guarantee a disabled vehicle. Also, the capacitor's value doesn't have to be very large, but you'll want it to have at least 50 joules of energy. The device shown here was only operated at 4,000 VDC – and I couldn't get anyone to let me test it on their vehicle! So, as it is, this method is still very experimental, but it should work. It'll also zap regular electronic devices as well. Just rub the contact probes against it...

How does this vary from the static spark you get when you slide across the driver's seat? Simple, while static sparks are very high in voltage, their source current is *extremely* low. All automobiles include protection circuits to help "trap" these static spark discharges. The EMP method shown here develops *very high* currents, which are harder to contain, and this will help to "burn out" any circuit protection components. That being said, remember that playing with high-voltage capacitors is *very dangerous*, unless you post on Digg or read *\$2600 Magazine*. Then you don't need to worry about anything!



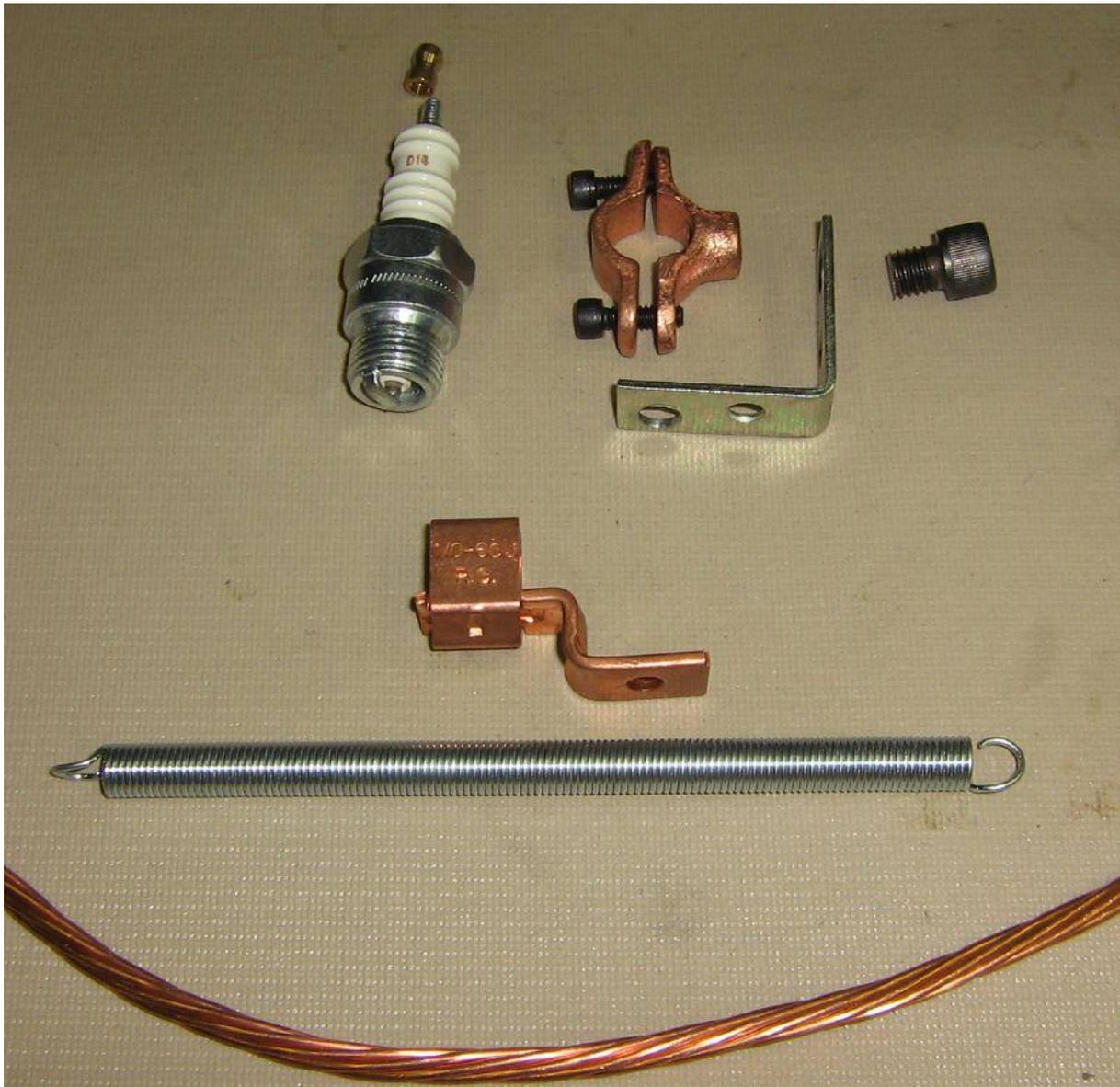
Someone *NEEDS* to make up a few "Boy FU" and "\$" stickers!!!!

Construction Notes & Pictures



Capacitor mounting hardware overview. The high-voltage GE Pyranol capacitor is on the right.

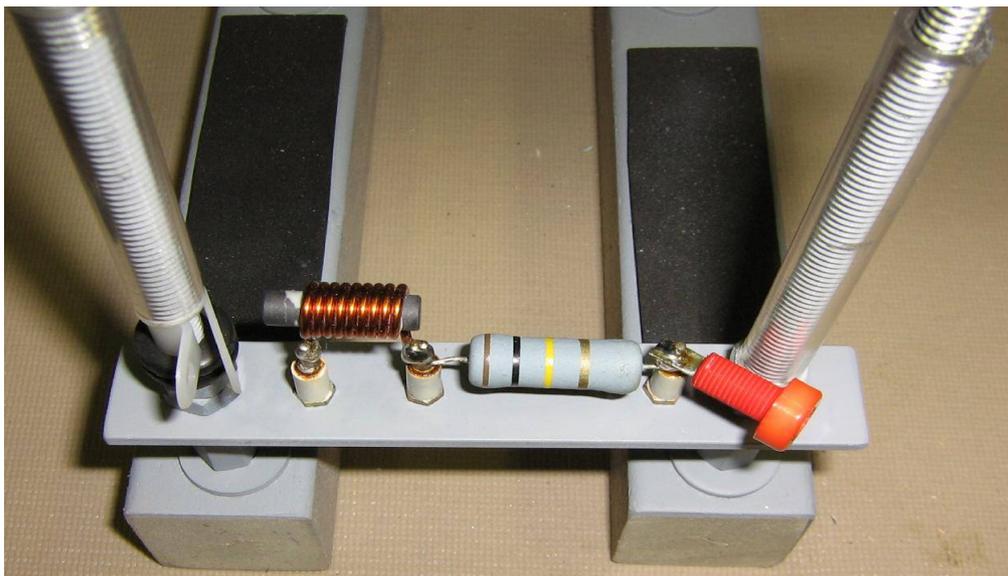
The capacitor mounting hardware is literally a bunch of junk I found. Plastic fence parts will act as the base, and the capacitor will be sandwiched between two pieces of aluminum bar stock and 1/4-inch allthread and coupling nuts. Small aluminum bars will be mounted on the sides of the capacitor to hold standoff mounting terminals for the capacitor's passive charging components.



Spark gap parts. A Champion D14 spark plug is secured using a 1/2-inch copper plated split-ring hanger. This is then attached to a 1-inch by 1-inch L-bracket to the capacitor's terminals. Attached to the screw terminal on the spark plug is a 0-6 AWG copper mechanical lug. This is used to hold a 6-inch long, 3/8-inch diameter utility spring (C-239 on the package). The spring acts as the metal contact probe for when an automobile passes over it. If you can't find a spring, or if they are too short, you can use a piece of #6 or #4 copper ground wire.

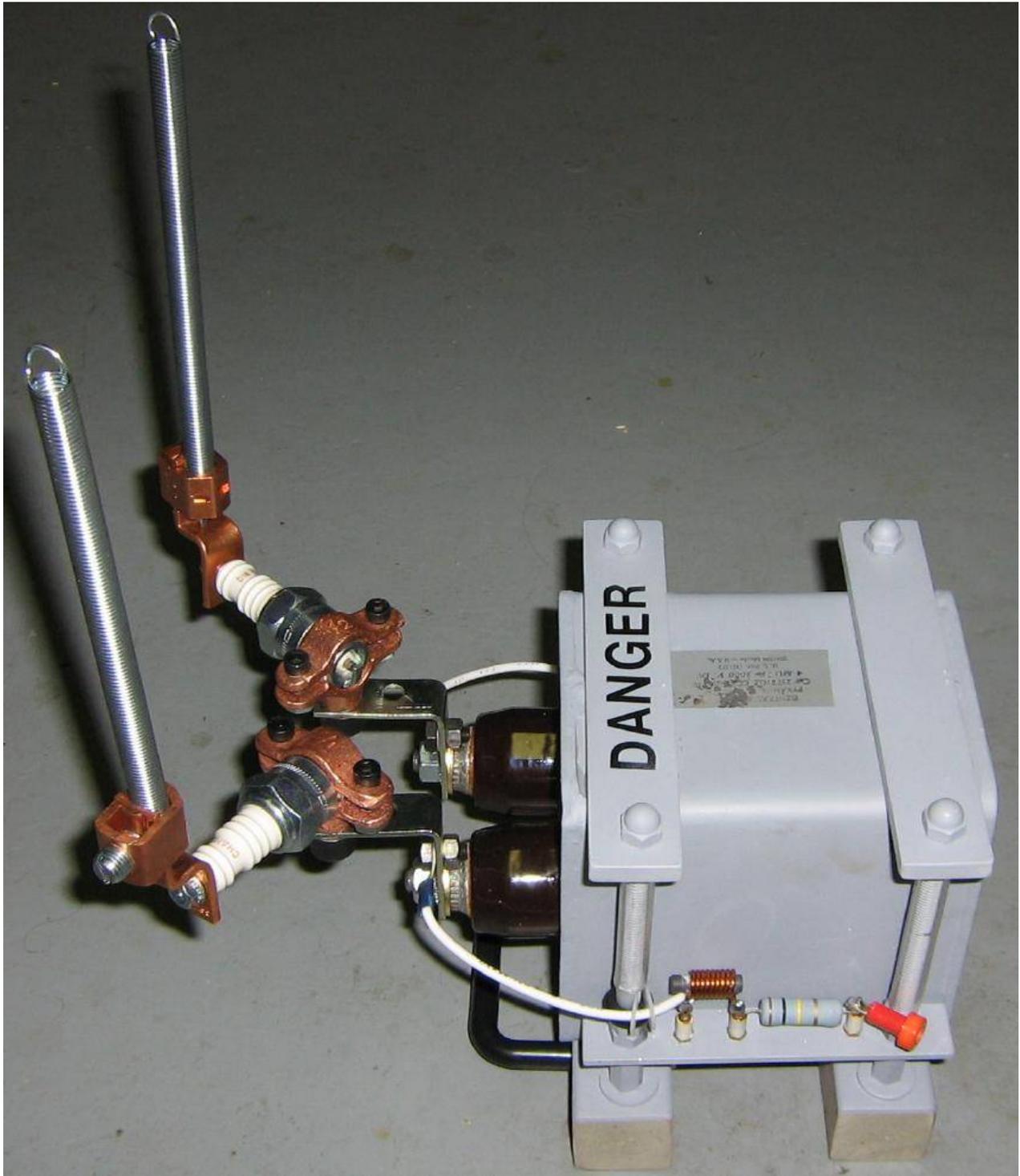


Constructed high-voltage capacitor mounting hardware. The black strips are pieces of art foam to help protect the capacitor. The 1/4-inch bolts are counter-sunk into the plastic block.



Capacitor charge components. The charge voltage comes in from the right via a banana jack. It then passes through a five watt, 100 kohm isolation resistor. This isn't a real high-voltage resistor, but it'll work in a pinch. Next, is a 1.8 μH inductor which was salvaged from an old microwave oven magnetron's filament line. This helps to further isolate the discharge pulse from the charging circuits. The value is probably too low, but oh well. Also note how the components are mounted on isolated standoffs to prevent high-voltage arcing to the metal frame.

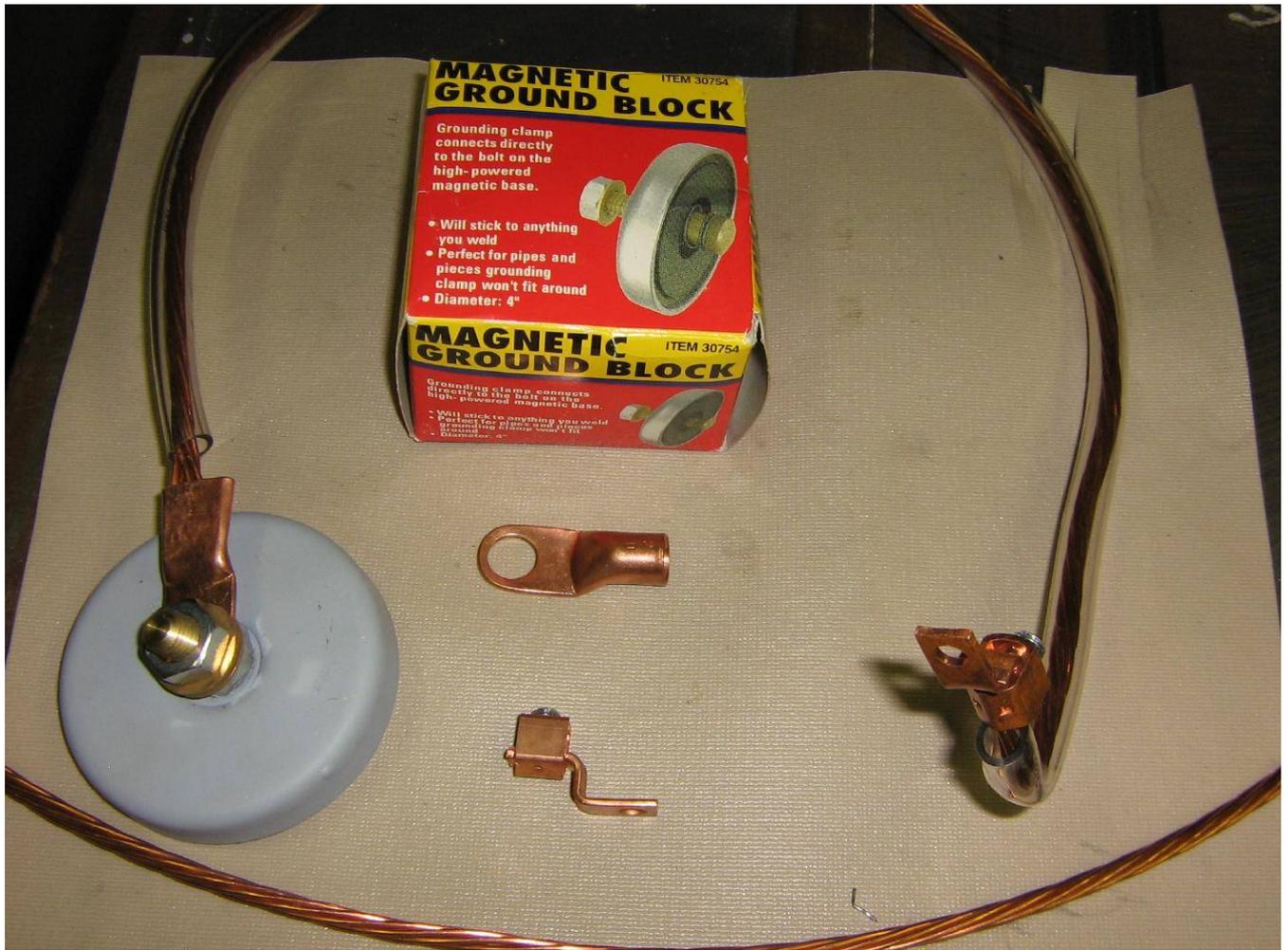
There is vinyl tubing over the threaded connecting rods for added protection. A rubber grommet and a plastic cable clamp help to route the charging line away from the metal frame and mounting hardware.



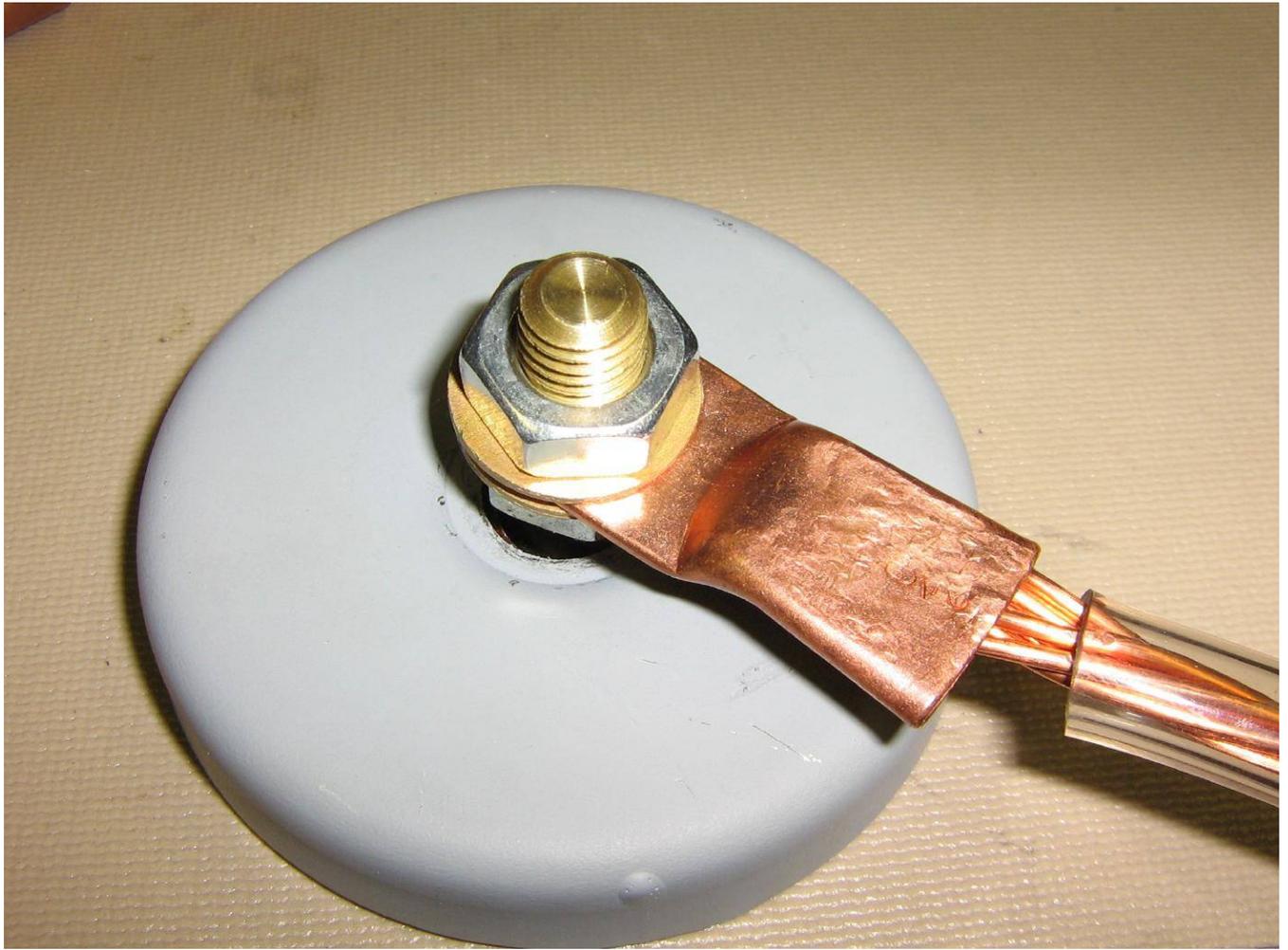
Alternate view with the spark plug hardware mounted to the capacitor. Large brass washers help to secure the L-brackets to the capacitor's terminals. A handle was also added to the plastic capacitor mount so it's easier to carry. You'll want to avoid touching the terminals when handling this device.



Underneath view of the the spark plugs and their associated mounting hardware. The **WHITE** wires are for the capacitor's charging lines. High-voltage oil capacitors like this one are not polarized.



For a sure-fire method of disabling a stationary vehicle, you'll want to make up something like this. Take two Harbor Freight Tools Magnetic Ground Blocks (Item #30754) and attach two long lengths (about three or four feet should do) of #4 or #6 copper ground wire. Then add a copper mechanical lug to one end, and a copper ring terminal to the other end of the wire. Securely attach the ring terminal end to the magnetic ground block. You'll also want to run the copper wire through a piece of vinyl tubing for added high-voltage protection.



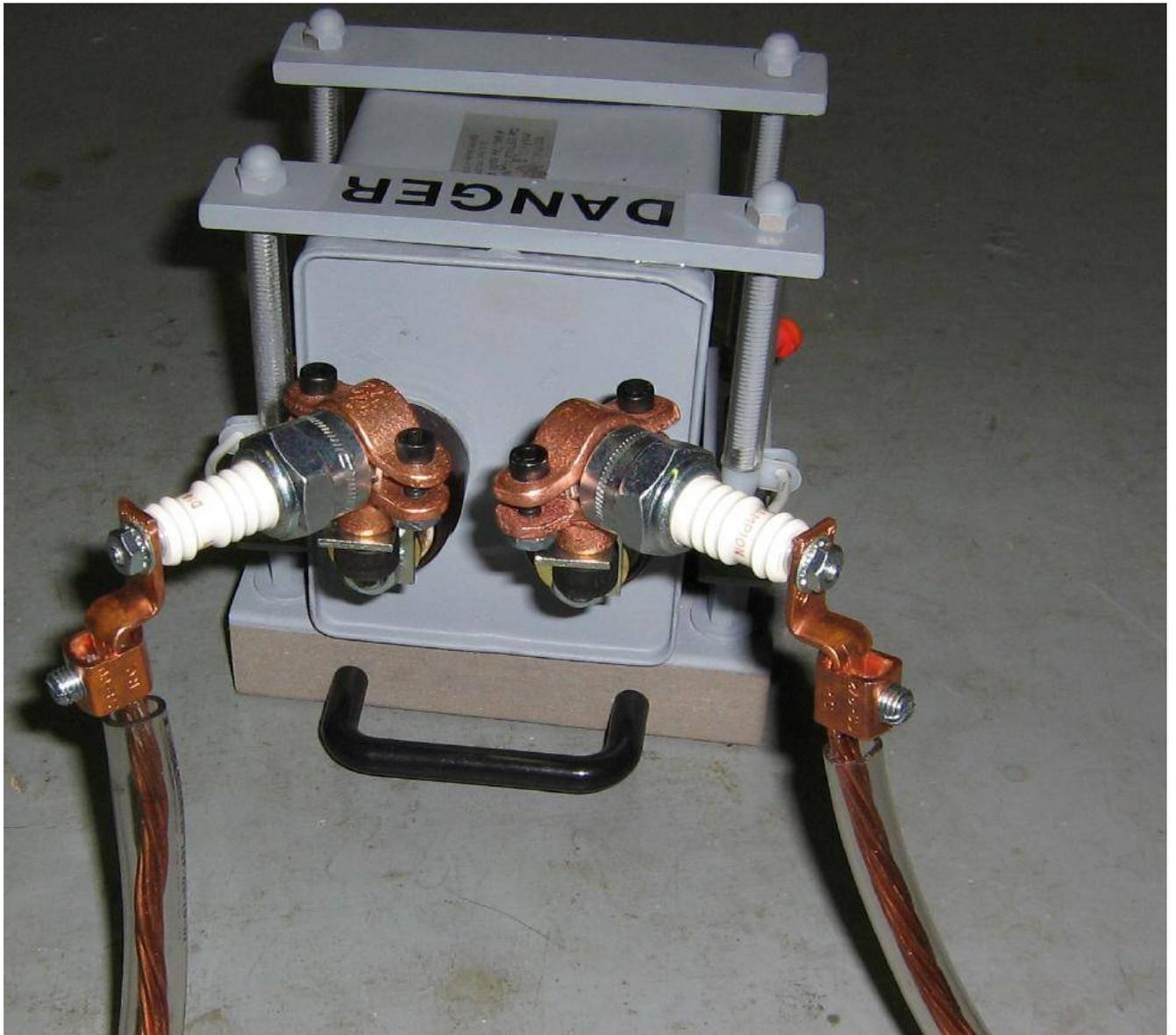
Closeup of the copper ring terminal attached to the magnetic ground block. The copper ring terminal was attached to the ground wire using a vise because I didn't have one for use on smaller diameter wire.



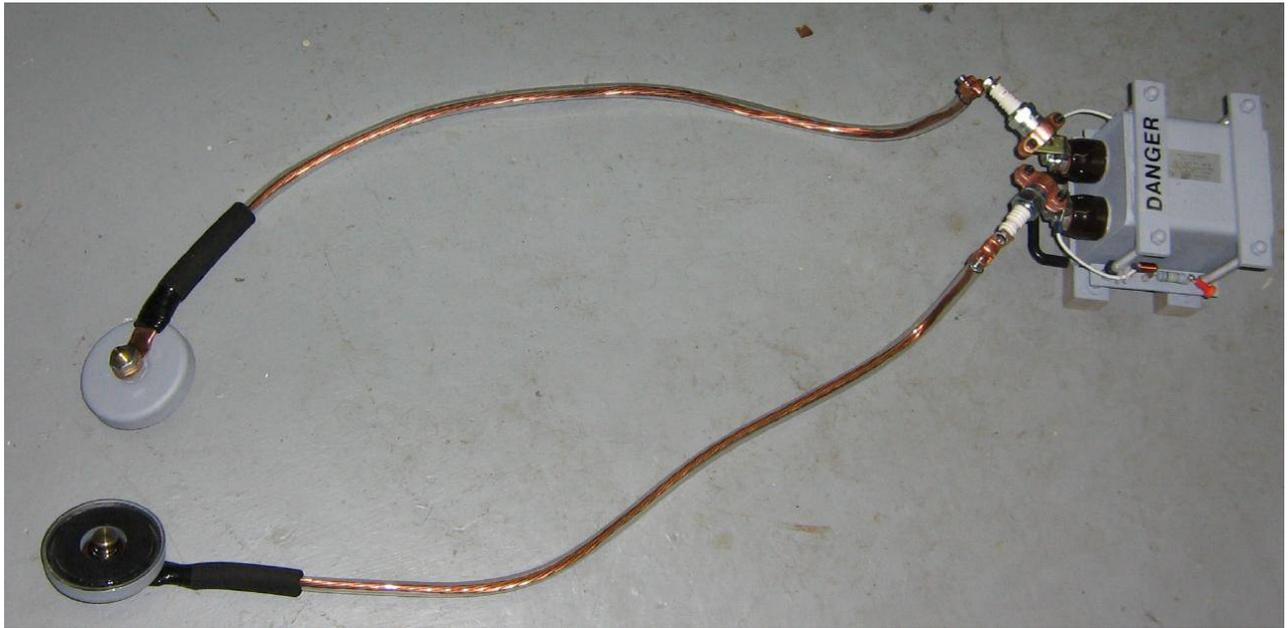
A handy addition is a foam handle. You'll want to add this if you are positioning the magnetic ground contact blocks while the capacitor is already charged. The pieces of foam tubing comes from those cheap carabiners you can buy at the hardware store.



View of the two magnetic ground blocks and their attached wires. You'll want to place one of the ground blocks on the engine or oil pan and the other on the vehicle's frame. This should help the discharge pulse to flow from the engine to the frame, blowing out any electronic engine controls in the path. Of course, you'll probably want to experiment ahead of time.



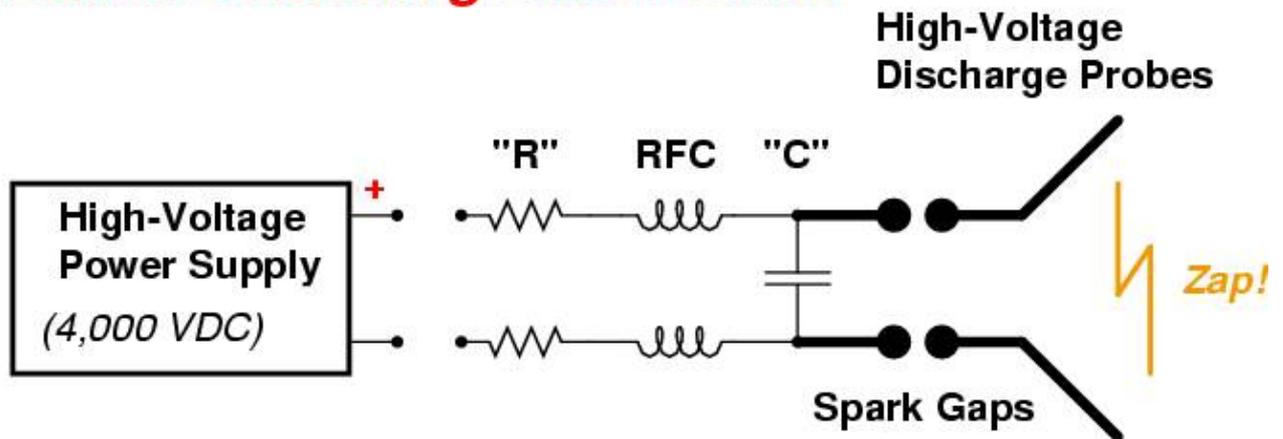
View showing how the copper wires are attached to the spark plug screw terminals. *This particular setup is very fragile!* An updated version should include better mechanical support.



Stationary vehicle disabling device – overall view.

Schematic / Block Diagram

Vehicle Disabling EMP Device



R = Current Limiting, High-Voltage Resistor

100Ω to 2 MΩ, depending on H.V. power supply current limit.

RFC = Radio Frequency Choke

Filament chokes from an old microwave oven magnetron.

C = High-Voltage Pulse Capacitor

4 μF / 3,000 VDC General Electric Pyranol used here.

Spark Gap = Champion D14 Spark Plugs

Set gap to around 0.04-inches.

RADAR

27·1 Principles of radar. Radar is an electronic system of determining the direction and range of anything that will reflect microwave radio waves. This chapter represents an application of the microwave theory of Chap. 26.

The use of echoes as an aid to navigation is not new. When running in fog near a rugged shoreline, ships have sounded a short blast on their whistles, fired a shot, or struck a bell. The time between the origination of the sound and the returning echo indicates how far the ship is from the cliffs or shore. Sound is known to travel approximately 1,100 ft/sec. If an echo is heard after 2 sec, it indicates a total sound-travel distance, outward and return, of 2,200 ft. The ship must be half this distance, or 1,100 ft, from shore. The direction from which the echo approaches indicates the bearing of the shore.

Today, ships transmit a short pulse (P0) of microwave energy and receive the echo produced when the radio wave is reflected from any object. By use of an antenna with a narrow radiation beam, the direction of the reflecting target can be accurately determined. By indicating electronically the time between transmission and reception, the range of the target can be accurately determined. This is radar, from **Radio Direction And Range**.

Besides being employed as a marine navigational aid, radar is used by aircraft, by airfields, and by the armed services as a means of locating enemy targets and aiming guns. Even the police can determine accurately the

speed of an unwise and unsuspecting motorist.

The indicators of U.S. ship radar sets are cathode-ray tubes (CRT), usually calibrated in U.S. nautical miles, of 6,080 ft (the international nautical mile is 6,076 ft long). Land-based radar may be calibrated in statute miles, of 5,280 ft.

Radio waves travel 162,000 nautical miles per second (186,000 statute miles per second, or 300 million meters per second). Thus, in 1 μ sec they travel 0.162 mile. To travel 1 nautical mile a radio signal requires 1/0.162, or 6.17 μ sec. A *radar mile* is considered to be 12.3 μ sec, since the wave must travel for this period of time, to and from the target, if the target is 1 mile away. If a target is 10 miles away, it takes 123 μ sec from the time of transmission before the echo signal returns and is displayed on the CRT of the radar. ∇

The frequencies used for marine radar are in the SHF (superhigh-frequency) part of the radio spectrum, either in the 3,000- to 3,246-MHz band (which may also be designated as the 10-cm, or S, band) or in the 9,320- to 9,500-MHz band (3-cm, or X, band). A third band, 5,460- to 5,650-MHz is also available.

For the 10-cm band, a half-wave antenna is only 5 cm (approximately 2 in.) long. An antenna reflector 5 or 6 ft wide can form a radiated beam with a horizontal width of 2° or 3°. In the 3-cm band, the antenna is only 1½ cm in length, and a similar-sized reflector can form a 1° or 2° beam. At these frequencies the effective range is only slightly more than line of sight.

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Marine radar is usually made to operate with a maximum range of 20 to 40 miles and with a minimum range of less than 100 yd from the antenna.

The number of pulses transmitted per second, the *pulse repetition rate* (PRR), varies between about 800 and 2,000 per second. The lower PRR may be used for longer ranges, and the higher for shorter-range work. The pulses on long-range equipment have a longer duration, representing a greater power output from the transmitter and producing stronger echo signals from distant objects.

The average pulse width is about $0.4 \mu\text{sec}$, with $0.25 \mu\text{sec}$ being used on some equipment for better short-range indications. A pulse width of more than $1.0 \mu\text{sec}$ is used for long-distance operation.

27.2 A basic radar system. Before the operation of one of the more complex radar systems is explained, the functioning of a simple one (Fig. 27.1) will be described.

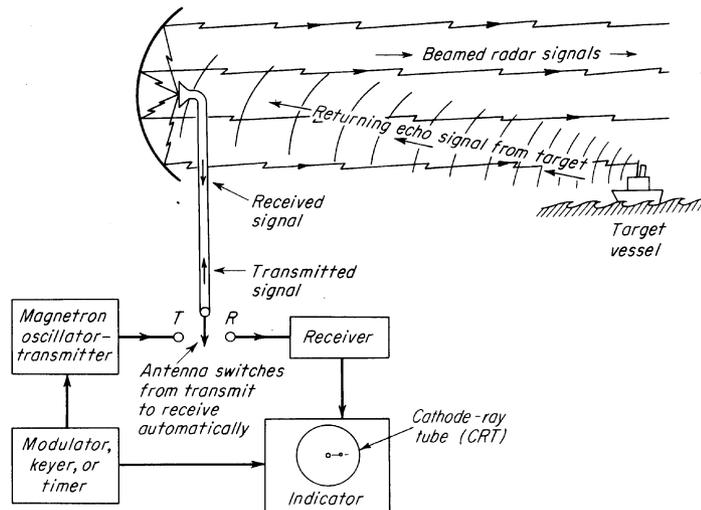
The heart of the system is in the modulator, keyer, or timer. In this section, a $0.4\text{-}\mu\text{sec}$ pulse is formed and fed to a magnetron oscillator, resulting in the transmission of a $0.4\text{-}\mu\text{sec}$ pulse of SHF radio energy. The timer pulse is also fed to the indicator, starting a dot moving horizontally, tracing from the center of the

CRT face to one edge. If the maximum range of the radar set is to be 10 miles, the time for the barely visible dot to move to the edge of the scope will be $123 \mu\text{sec}$. The timer pulse is also fed to the grid (or cathode) of the CRT, producing a bright spot at the center of the tube at the start of the trace.

After each RF pulse has been transmitted, the antenna automatically switches to the receiver. The receiver waits for the return of the echo signal. If a target happens to be 5 miles away and in the beam of the antenna, after $62.5 \mu\text{sec}$ a weak echo signal is received by the antenna, fed to the receiver, amplified, and fed to the grid of the indicator scope. This signal increases the brightness of the moving dot wherever it happens to be on the trace line, and a bright spot appears. The distance from the center spot to the echo dot is an indication of the range of the target. In this case the target *blip* will appear halfway across the 10-mile trace. The direction of the target is indicated by the direction to which the antenna must be rotated to pick up the echo signal.

As soon as the trace has traveled for $123 \mu\text{sec}$, the indicator tube is desensitized and the dot retraces to the center without producing any trace.

Fig. 27.1 Block diagram of the basic elements of a simple radar system.



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By the use of a PRR of 1,000, every 1,000 μ sec a new pulse is produced and the target signal is registered at the same point on the trace. If the target is approaching the radar set, the distance between blip and center spot on the trace shortens. In this way a constant check can be maintained on the range of the target vessel.

The parabolic antenna reflector is constructed to produce a beam with about a 2° horizontal width for good *bearing resolution*. It has a vertical beam height of 15° to 20° . Bearing resolution is the ability to separate adjacent targets the same distance away. *Range resolution* is the ability to distinguish two or more targets in the same direction but at different distances.

If the antenna rotation were controlled manually, it might be difficult to keep the target in the 2° horizontal beam if either the target or the radar ship were moving. It is necessary to improve this basic radar system to make it a practical aid to navigation.

If the antenna is made to rotate horizontally at a constant speed, 10 times per minute, it will make one rotation in 6 sec. With a PRR of 1,000, it will fire $6 \times 1,000$, or 6,000 pulses per single rotation. This is about seventeen pulses per degree of rotation. If horizontal deflection coils are rotated physically around the neck of the CRT in exact synchronism with the rotation of the antenna, targets can be shown on the indicator face in exact relationship with their range and bearing. This is known as a PPI (plan-position-indication) presentation and is the type used in marine navigation, in aircraft, and at airports.

The CRT used in radar employ electromagnetic deflection and vary in diameter from 7 to 16 in. They differ from television tubes in screen persistence. The radar-tube faces are coated with a little fluorescent and considerable phosphorescent material. The phosphors retain a latent image for a period of 10 sec or more, which is longer than is required to make one antenna rotation. As a result, a PPI presentation forms a constant, well-illuminated plan, map, or chart of the targets in all horizontal directions from the ship. A block diagram of the component parts of the system is shown in Fig. 27·2.

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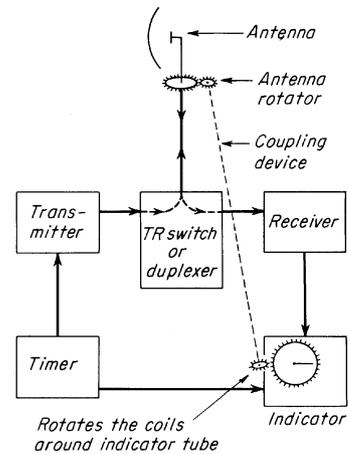


Fig. 27·2 Block diagram of the elements of a PPI navigational radar system.

27·3 A marine radar system. A step-by-step explanation of the important circuits in a marine radar system will be given. Most of the circuits in the receiver and indicator are similar to those found in other types of equipment, explained previously. New circuits will be explained at some length. In each, the circuitry has been simplified as much as possible to give a general understanding, since it is impossible to cover all the various types and models of radar.

27·4 The transmitter section. The radar transmitter will be considered as the blocking oscillator, a pulse-forming circuit, and the magnetron oscillator (Fig. 27·3).

The blocking-oscillator circuit depends on the C_g and R_g values to determine how many times per second it will operate. The circuit shown resembles an Armstrong oscillator, but any oscillator circuit will block if high values of grid-leak resistance and capacitance are used. As the circuit starts to oscillate, plate current flows for an instant, inducing a charge in C_g well beyond plate-current cutoff. During the resting time, C_g discharges slowly through R_g and the bias voltage decreases until finally plate current can begin to flow again. Short-duration plate-current pulses induce high-amplitude pulses in the grid winding of the transformer. The number of pulses of current

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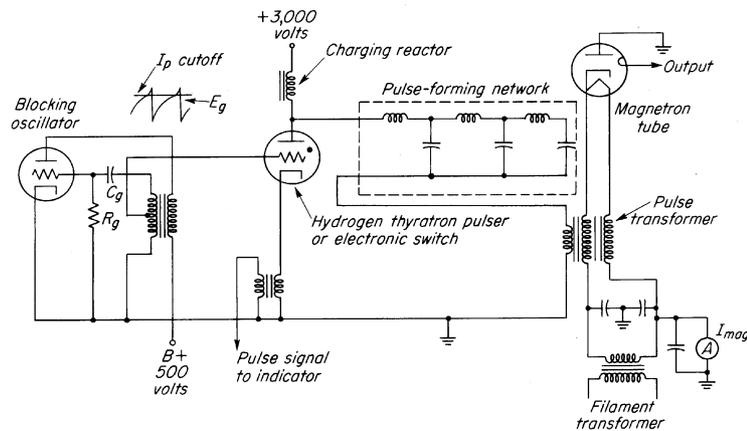


Fig. 27·3 Diagram of transmitter portion of a simplified radar system.

per second in this stage determines the PRR of the whole radar system.

The grid of the hydrogen thyratron is triggered by the positive pulse, and the tube ionizes. (Hydrogen is used in radar thyratrons because it ionizes and de-ionizes more rapidly than argon or mercury.) Ionization discharges the capacitors of the pulse-forming network that have charged to a 3,000-V or higher potential from the power supply through the charging reactor during the nonoperating period of the oscillator. This charge produces a narrow *square-wave* pulse of current through the primary of the pulse transformer, inducing a high voltage in the two secondaries. These two voltages are of equal value and are in phase, raising the filament and cathode of the magnetron to a negative potential of several thousand volts above the magnetron plate, without changing the potential between the two filament terminals. The plate of a magnetron consists of a series of tuned metal cavities surrounding the cathode. As a safety measure, the plate cavities of the magnetron with their metal cooling fins are always grounded, and the high-voltage pulses are fed to the cathode. The average value of magnetron plate current, perhaps 2 to 5 mA, is indicated by the meter between ground and the secondary of the filament transformer. The square-wave pulse of current from the pulse transformer excites electrons into oscillation in the cavities

of the magnetron. These oscillations are coupled to the antenna and form the RF output burst.

A pulse-forming network, as shown, may also be called an *artificial transmission line*. A transmission line has the ability to produce a square-wave output when triggered with a short burst of energy, provided its impedance is matched to the load impedance. The length of the pulse will be a function of the values of inductance and capacitance used in the pulse-forming network. (The pulse length = $2\sqrt{LC}$.) An artificial transmission line can be called a *delay line* because a pulse voltage fed across the input end will appear a few microseconds later across the output end (delay time = \sqrt{LC}). If an electric impulse travels 300 meters in 1 μ sec, a 300-meter transmission line will delay the voltage 1 μ sec. An artificial line with similar values of series inductance and shunt capacitance will delay the same time.

The transformer in the cathode of the thyratron pulser tube has a primary of two or three turns, which induces a voltage into the secondary. This voltage is fed to the indicator system to trigger the circuit that starts the trace moving across the CRT screen.

One of the earlier radar systems employed a rotating spark gap to produce the pulses (Fig. 27·4). The capacitor C charges to 5,000 V during the time the spark gap is open. When

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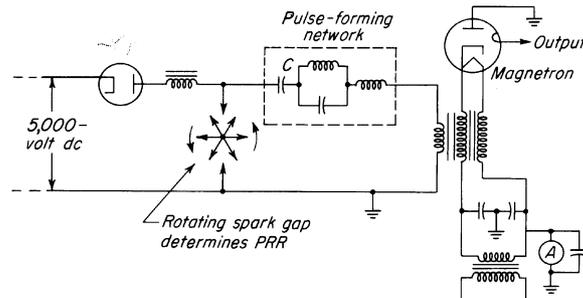


Fig. 27-4 Diagram of rotating-spark-gap radar transmitter.

the gap rotates closed, the capacitor discharges through the pulse line and the primary of the pulse transformer, developing the desired square-wave pulse that fires the magnetron into operation.

27-5 Average power and duty cycle. At the marine radar frequencies, 3 and 9 GHz, the most practical transmitting oscillator tube is the magnetron. The voltage pulses fed to it range from 10 to more than 20 kV, and the output pulses from 15 to over 100 kW (megawatts for military radar). What power rating must such tubes have?

Suppose a radar transmitter has a PRR of 900 pps (pulses per second), each pulse having a duration of 2 μ sec (0.000002 sec) and a peak pulse power of 15 kW. The total emission duration must be 900×0.000002 , or 0.0018 sec. The transmitter is on 0.0018 sec each second. It has a *duty cycle* of 0.0018. The average power output of the transmitter must be the peak power (15 kW) times the fraction of a second it operates, or, in this case, $15,000 \times 0.0018 = 27$ W. The tube is transmitting pulses with peaks of 15 kW but is only transmitting an average power of 27 W. If the magnetron is 50 percent efficient, the average d-c power input is only about 54 W. From the above-cited information formulas for average power output are

$$P_{av} = \frac{P_{peak} \times PRR \times \text{pulse width}}{\text{duty cycle}}$$

From this information, two formulas for duty cycle must be

$$\begin{aligned} \text{Duty cycle} &= \frac{PRR \times \text{pulse width}}{P_{peak}} \\ &= \frac{P_{av}}{P_{peak}} \end{aligned}$$

The duty cycle is also the ratio of the pulse width to the time between the beginning of two pulses (called the *pulse repetition time*, or PRT). With a PRR of 900, the PRT is $\frac{1}{900}$ sec, or 0.00111 sec, or 1,110 μ sec. For the transmitter above, the duty cycle must be $0.000002 / .00111$, or 0.0018.

EXAMPLE: What are the peak power and duty cycle of a radar transmitter with a pulse width of 1 μ sec, a PRR of 900, and an average power of 18 W? By solving for P_{peak} from the P_{av} formula,

$$\begin{aligned} P_{peak} &= \frac{P_{av}}{PRR \times \text{pulse width}} \\ &= \frac{18}{900(0.000001)} = 20,000 \text{ W} \\ \text{Duty cycle} &= \frac{P_{av}}{P_{peak}} = \frac{18}{20,000} = 0.0009 \end{aligned}$$

27-6 The antenna system. The radar antenna system consists of a coaxial output line from the magnetron, a waveguide leading to the antenna, an antenna, and a duplexer in the waveguide near the magnetron, shown in block form in Figs. 27-5 and 27-7. The end of the center conductor of the magnetron coaxial line acts as a quarter-wavelength antenna, transmitting RF energy down the waveguide. At the far end, the walls of the waveguide may be expanded to form a horn, and the RF energy will radiate from the horn into a nearby parabolic antenna reflector. In some equipment the waveguide carries the signal up to the antenna, where the inner conductor of a coaxial cable projects into the waveguide, acting as a receiving antenna. The signal picked up is transferred a short distance by coaxial cable to a tiny vertical half-wave-

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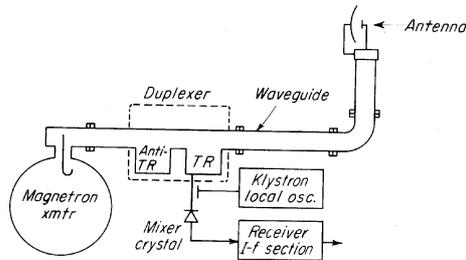


Fig. 27·5 Block diagram of duplexer and components coupled to it.

length dipole which radiates RF energy into the reflector.

Radio waves of 3 or 9 GHz propagate in much the same way as light rays. As in a flashlight, these radio waves can be focused into a narrow beam with a metal parabolic reflecting surface by placing the radiator at the focal point (Fig. 27·6). By shaping the

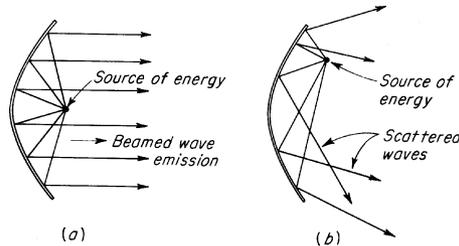


Fig. 27·6 Parabolic reflectors. (a) With source at the focal point, all reflected waves are radiated parallel, forming a narrow beam. (b) Waves scatter when the source is not at the focal point.

reflector properly, the emitted wave can be formed into the desired 2° horizontal beam width and 15° vertical beam height.

Radiator and reflector are rotated constantly at about 10 rpm, in synchronism with the sweep coils rotating around the neck of the CRT in the indicator.

The horn, or dipole radiator, is usually covered with polystyrene or some other plastic to protect it from weather. This plastic must not be painted. An excessive amount of soot or dirt on either the polystyrene cover or the active surfaces of the reflector may decrease the transmission and reception to a slight degree. The radiated power is considerable

with some radar equipment. There are reports of people who have stood in line with the beam of high-powered radar equipment for a few minutes being cooked internally and dying within a few days. Radar beams have been known to ignite a shipment of photograph flashbulbs and to start fires.

The placement of the radar antenna is important. It should be mounted as high and as much in the clear as possible. The higher the antenna, the farther it can "see" targets. If the radiated beam is above masts, booms, and stacks, these objects will not be able to shadow, reflect, and produce false signals on the indicator.

27·7 TR boxes. The radar transmitter and receiver use the same antenna system. Some means must be provided to prevent the powerful transmitter signal from feeding directly into the receiver and burning out the input circuit. This is accomplished by using a resonant transmit-receive (TR) cavity with a special gas-filled spark-gap TR tube in it. The cavity is coupled to an opening in the antenna waveguide. Signals in the waveguide excite the tuned cavity into oscillation. A coupling loop in the cavity feeds these signals to the crystal-diode mixer (Fig. 27·7). The local oscillator is also coupled to the mixer circuit, as shown.

When the transmitter emits a pulse from the magnetron, the high-powered waves from this signal induce enough voltage across the TR cavity to ionize the TR tube, and it conducts. The tube then effectively shorts out the cavity, detunes it, and prevents high-amplitude signals from forming in it. At the conclusion of the transmitted pulse, the TR tube de-ionizes and the cavity is ready to receive any returning echo signals. To make the TR tube more sensitive, a d-c *keep-alive* voltage is applied across it at all times. This voltage is not quite high enough to support ionization, but a small increase in voltage across the gap will ionize it. When the TR tube ages, it requires a greater signal voltage to produce ionization, it does not protect the crystal diode in the mixer circuit of the receiver, and the diode burns out. Generally, when the diode must be replaced, the TR tube is also replaced.

The distance from the point where the

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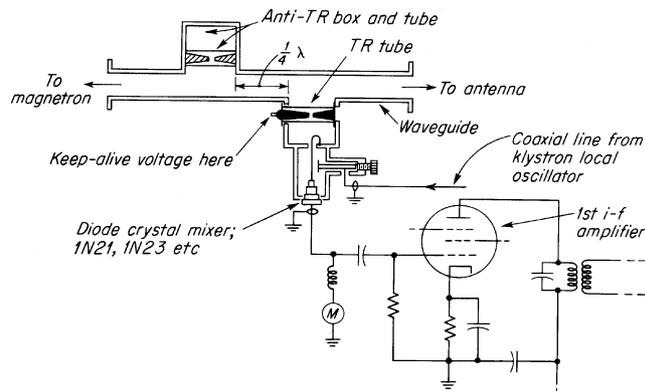


Fig. 27-7 Details of the TR, ATR, and crystal mixer.

magnetron is coupled to the waveguide and where the TR box is installed is very critical. A less critical means of coupling the TR box to the waveguide is to use a second tuned cavity, placing it exactly a quarter wavelength from the TR box opening. This second cavity is called an *anti-TR* (ATR) box.

The anti-TR box has a TR tube in it also, but since it does not have to protect any circuits, it has no keep-alive voltage. The ATR ionizes during the transmitted pulse, presenting a low-impedance across its opening in the waveguide. This allows the pulse moving up the waveguide to pass unattenuated. When the pulse ceases, the ATR tube de-ionizes and presents a high-impedance point to the waveguide. Now echo signals coming down the waveguide can no longer pass to the magnetron but are reflected at the ATR opening and dispose of their energy in the TR cavity, which is the input circuit of the receiver.

27-8 The radar receiver. Radar receivers are always superheterodynes, with an IF (intermediate frequency) of approximately 30 MHz. This requires an oscillator operating at a frequency only 30 MHz removed from the transmitting frequency (3 to 9 GHz). A reflex klystron tube is usually used in the local-oscillator circuit. The basic klystron oscillator is shown in Fig. 27-8.

A radar receiver consists of the crystal-diode mixer stage, a klystron local oscillator, six or more 30-MHz IF amplifiers, a diode-rectifier second detector, and two or more

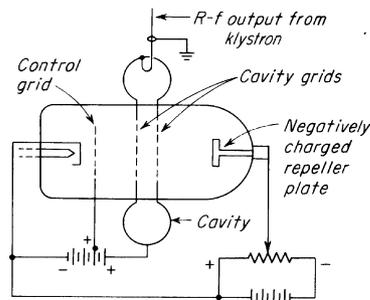


Fig. 27-8 SHF reflex-klystron oscillator circuit.

stages of video amplification capable of amplifying signals up to several megahertz (Fig. 27-9). This wide range is required because a pulse of 0.5- μ sec duration represents a frequency of 1 MHz. The square waveshape of the pulse requires many harmonics of the 1-MHz frequency to reproduce the square waveshape. A bandwidth of 10 MHz can be attained with a 30 MHz IF strip.

The AFC (automatic-frequency-control) system keeps the klystron circuit oscillating on the correct frequency. A second crystal diode is coupled to the duplexer-mixer cavity. The output of this crystal mixer is similar to that of the receiver mixer, feeding an IF amplifier and a 30-MHz discriminator circuit. When the transmitter and klystron local oscillator are separated by the proper IF difference, no output is delivered to the klystron repeller by the discriminator circuit. Should either the

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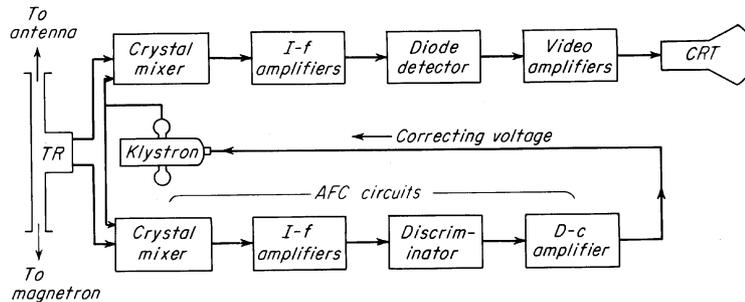


Fig. 27·9 Block diagram of radar receiver with AFC.

transmitter or the klystron drift in frequency, a d-c output voltage is produced by the discriminator, is amplified, and is made to vary the repeller voltage of the klystron, forcing it to oscillate at a frequency 30 MHz from the transmitter frequency. When mixer crystals must be replaced, AFC crystals should be changed at the same time.

The IF stages of a radar receiver are basically similar to other broadband superheterodynes. However, to prevent strong returning echoes from nearby sea waves, known as *sea return*, from being shown on the indicator, it is necessary to desensitize the receiver immediately after the transmitted pulse. The sensitivity of the IF stages must then return to maximum in 10 to 15 μ sec. Sea-return elimination may be accomplished by using a thyatron tube in a *sensitivity-time-control* (STC) circuit. A simplified STC circuit is shown in Fig. 27·10. When a positive trigger impulse from the transmitter modulator is applied to the thyatron grid circuit, it overcomes the bias. The tube ionizes, conducts heavily, and discharges capacitor C. This drives electrons from the right-hand plate of the capacitor to the grid

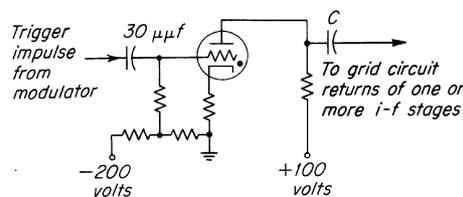


Fig. 27·10 Thyatron STC circuit to develop a decay-bias for IF amplifiers.

circuits of the IF stages, biasing them negatively and desensitizing them. At the completion of the trigger pulse, the thyatron de-ionizes and capacitor C begins charging, reducing the negative charge on the grids to normal in a few microseconds. Thus, as the transmitted pulse is produced, the IF stages are highly biased and insensitive. As time progresses, the bias falls off and in 10 to 15 μ sec normal sensitivity returns. STC is controlled by a switch on the panel.

The signal from the IF stages is rectified, or detected, by a crystal diode and fed to the video stages, where it is limited to reduce *blooming* (excessively expanded blips on the CRT screen).

The output impulses of the video amplifiers are fed to either the grid or the cathode of the CRT, producing the visible echo signals on the screen. A manual gain control in the video stages acts as the brilliance control for the scope presentation. A manual gain control on the IF amplifiers acts as the sensitivity control. These controls are adjusted to produce a just visible trace on areas of the CRT screen where no targets are displayed.

27·9 Circuits of the indicator. The radar indicator consists of a CRT and the circuits necessary to produce a sawtooth sweep current for the deflection coils that rotate around the CRT neck, plus range-marker pulses. At first the CRT grid will be considered biased so that no electrons can strike the face of the tube.

The originating signal for the deflection system comes from the hydrogen thyatron (Fig. 27·3). The pulse transformer signal, in negative phase, is fed to a one-shot multi-

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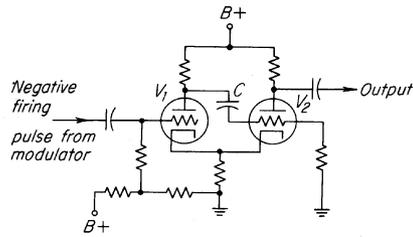


Fig. 27·11 One-shot multivibrator oscillator to develop square-wave intensifier pulse.

vibrator gating circuit (Fig. 27·11). Tube V_1 normally conducts heavily because of the positive bias on it. The resulting cathode bias of this stage holds V_2 in nonconduction. A negative pulse from the thyatron drives V_1 into nonconduction for an instant and charges C , and V_2 conducts for a period of time. When C discharges far enough, V_1 starts conducting again and V_2 cuts off once more. For each pulse from the modulator a negative-going square-wave intensifying output pulse is produced from V_2 . This pulse is reversed in phase through an amplifier and fed to the grid of the CRT, through an adder circuit, overcoming the bias on the grid and allowing a few electrons to strike the face of the tube.

The leading edge of the intensifying pulse (Fig. 27·13) triggers a sawtooth circuit into one cycle of oscillation. The sawtooth current is amplified and fed through slip rings and brushes to the deflection coils that rotate around the CRT neck. With the intensifying pulse operating, deflection coils rotating, and the sawtooth current deflecting the beam, a weak glow appears all over the face of the tube. The glow is somewhat brighter at the center, where all the sweep lines originate.

Now, when echo signals are received and fed in a positive phase to the CRT grid, through the adder circuit, they produce much brighter spots than are produced by the intensifying pulse. These target signal blips are readily visible.

The negative intensifying pulse is also fed to a *range-marker* circuit. Figure 27·12 illustrates a possible circuit. Tube V_1 in this case has no bias and conducts heavily, producing a strong stationary magnetic field around the cathode coil L . As the negative intensifying

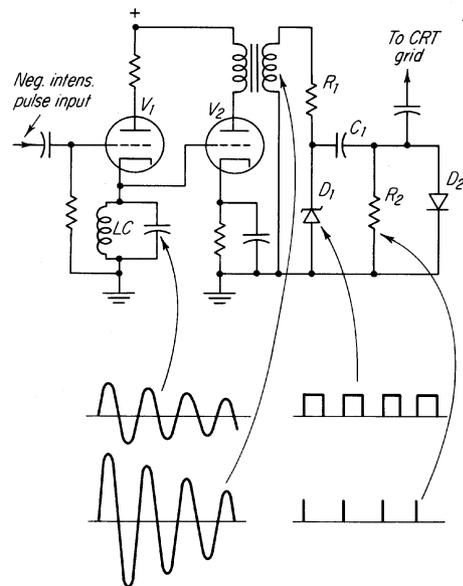


Fig. 27·12 Possible circuit to develop range-marker signals and the waveforms developed.

pulse suddenly biases V_1 into nonconduction, the magnetic field collapses and the high- Q LC (inductance-capacitance) circuit is driven into damped oscillations. This a-c is fed to an amplifier V_2 . The amplified output voltage is fed through resistor R_1 to a zener diode, which acts essentially as a short circuit to the negative half of the a-c and limits the positive excursion to its zener-voltage rating. This produces the half-wave-rectified, constant-amplitude square-wave pulses indicated. These are differentiated (coupled through a short-time-constant R_1C_2 circuit), a process which develops a narrow positive pip on the rise of the square wave and a narrow negative pip on the fall of the square wave. The negative pip is shorted to ground by diode D_2 , leaving only the positive pip to be fed to the adder circuit and to the CRT grid.

An LC oscillation frequency of 80.7 kHz produces one complete cycle every 12.3 μ sec. It will be remembered that this is the time equivalent to 1 radar mile. If some 80.7 kHz pips are added to each outward moving sweep on the CRT, they will produce concentric rings of illumination, each separated from the

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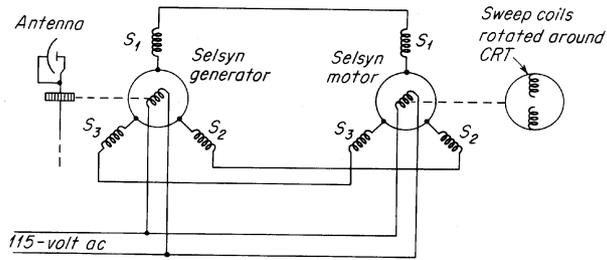


Fig. 27-14 A basic selsyn system.

vertical drive shaft with gears at both ends to rotate the antenna and the deflection coils in perfect synchronization. In practice this is not feasible.

Some sort of synchro system is usually used. A basic form consists of a selsyn generator and a selsyn motor. Both units are similar, each having a rotor and three stator windings, interconnected as shown in Fig. 27-14.

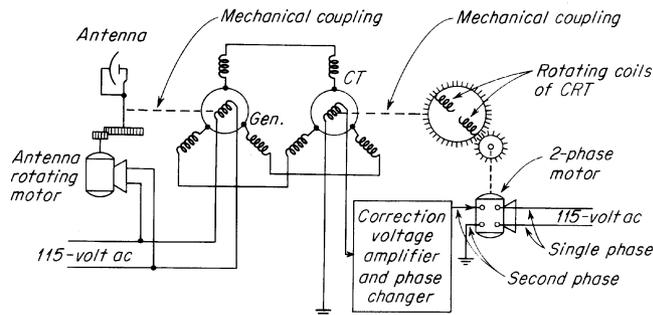
The connections of the stator windings make this appear to be a three-phase system, but this is not true. There is only the single phase of the 115-V 60-Hz power line a-c. This emf is fed to both motor and generator rotors. The magnetic fields from these rotors induce voltages in the stators. As long as the two rotors are resting at the same relative angle between similar field coils, the voltages induced in these stator coils will equal each other and a condition of balance occurs. If the motor is held in position and the generator rotor is moved by hand in a clockwise direction, the voltages induced in the two sets of stators will no longer be similar. This results

in a magnetic pulling, counterclockwise by the generator rotor and clockwise by the motor. When the generator is turned, the motor will respond to the proportionate magnetic changes produced in its stator fields and will follow the angular rotation of the generator rotor.

Mechanically coupling the rotating radar antenna to a selsyn generator and the selsyn motor to the rotating mechanism that drives the deflecting coils around the neck of the CRT provides a means of synchronizing antenna and deflection-coil rotation. However, in operation, rotation of the generator by a few degrees. The angle may change with variations of friction, wind pressure against the antenna, etc. The possibility of change of lag angle and an inherent lack of sensitivity make other forms of synchros more desirable.

The system in Fig. 27-15 uses the emf induced in the unexcited control transformer (CT) rotor winding as a correcting voltage. If the two rotors are in the same angular posi-

Fig. 27-15 Servomechanism to synchronize rotation of the radar antenna and the deflection coils around the CRT.



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tion, no voltage will be induced in the CT rotor. As the rotors are varied in angular placement, the CT-rotor-induced voltage will change, but the rotor does not try to turn. Any 60-Hz a-c induced in the CT is fed to a vacuum-tube amplifier, shifted in phase 90°, amplified, and fed to one winding of a two-phase a-c motor. The power-circuit a-c is fed to the other winding of this motor. With both phases applied, the motor rotates, turning the CT rotor and the deflection coils of the CRT. If the antenna tends to rotate faster than the deflection coils, a greater voltage is induced in the CT rotor. This correction voltage increases the speed of the two-phase motor, and the deflection coils pick up the necessary speed. The CT rotor must always lag the generator somewhat, but in this system the amplifiers reduce the lag or variation in lag to a small value, resulting in satisfactory synchronization for the radar system. The amplifier and driving motor are known as a *servo-mechanism*. Note that the rotation of the CRT coils is completely dependent on the rotation of the antenna. If the antenna motor stops, the selsyn generator is no longer rotated by the antenna rotation, the correcting voltage is no longer developed, without both phases the two-phase motor stops, and the CRT coils stop.

27·11 Heading flash. As the radar antenna turns toward the bow of the ship, it trips a microswitch, which feeds a short positive pulse of voltage to the grid of the CRT. This results in a trace being made from the center of the screen to the edge. Such a *heading flash* indicates, on the CRT, the direction the ship is taking on the chartlike presentation of the PPI screen. The circuit can be turned on or off by a control on the indicator panel.

27·12 Echo box. When at sea, with no targets available, or whenever it is desired to test the overall sensitivity and operation of the radar set, an *echo box* can be used. This is a high-Q cavity, resonant to the transmitter frequency. It may be coupled into the waveguide through a directional coupler. Each transmitted pulse shock-excites the cavity into oscillation, and it responds with a damped-wave output. The coupling to the echo box is usually adjusted to ring for about 12 μ sec. As long as it is active, it produces a tapering-

off signal for the receiver and will result in illumination of the screen, outward from the center, for a distance equal to about 1 mile. If tubes or crystals become weakened or the system is not operating properly, the distance indicated is less, or no echo-box signal will be seen at all.

Since the echo box will blot out all targets within a 1-mile radius, it is necessary either to decouple it by some mechanical means or to detune it far enough so that it will not ring. One method utilizes a plunger that tunes the box through resonance as it is pushed down. This results in a flash on the radial traces presented during the time that the box is being tuned through resonance.

27·13 Operating the radar set. The master of the vessel or any person designated by him may operate the radar set. No radio license is required. Furthermore, such a person may replace fuses or receiver-type tubes in the set, although this duty usually falls to one of the radio operators. However, whenever the equipment requires maintenance other than this, only persons holding First or Second Class licenses with radar endorsements or persons working under direct supervision of such a license holder may make adjustments to, service, or install radar equipment.

Each radar installation must have an installation and maintenance record, kept at the radar station. This record will include the date and location of installation and the name and license number of the person installing it. All subsequent maintenance, tubes, fuses, oiling, interference reports, tuning, etc., must be noted, with date and action taken, and signed by the person responsible. The station licensee, usually through the master, is jointly responsible with the operator concerned for the faithful and accurate making of such entries.

It is required that at least one set of instructions for the use and operation of the particular type of radar being used, as well as the FCC publication "Part 83—Stations on Shipboard in the Maritime Services," (from Volume IV, "Rules and Regulations") be on board the vessel.

A radar transmitter is one of the few RF emissions that require no specific identifying emissions or call letters.

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27·14 Radar interference. In most cases, the only interfering signals received on a radar set are due to other radar transmitters that are operating in the same area. This interference may take the form of curved dotted lines across the screen.

The radar transmitter can, however, produce interference to other radio receiving or electronic devices in its vicinity. Such radiation of interfering signals may be caused by improper shielding, bonding or grounding of radar equipment or connecting cables and waveguides, or by inadequate bypassing of the input power lines.

Interference with a radio receiver by radar is characterized by a harsh tone having a frequency of the PRR, about 1,000 Hz. The noise may increase and decrease as the radar antenna rotates or be steady if originating at the radar set itself. If grounding and bypassing power lines and other circuits do not help, it may be necessary to change the position of the receiving antenna. Rotation of the RDF (radio-direction-finder) loop may indicate nulls on interference produced by a radar transmitter.

Motors or generators in the radar set, with slip rings or armatures and brushes, may cause a constant scratching sound. Such interference may appear to peak at certain frequencies, particularly if caused by reradiation by random-length wires, but may be picked up on all frequencies used at sea (100 kHz to 150 MHz).

On the loran screen, radar interference appears as either *grass* or *spikes*. Sparking noise from motors appears as many vertical pips across the traces of the loran screen and actually looks like grass. Interfering signals due to the constant-rate pulsed emission of the radar transmitter appear as spikes on the loran screen. These spikes may appear to drift in one direction or the other but may seem to synchronize for short periods of time.

On an autoalarm receiver, radar interference will sound the same as on any other receiver if earphones are used. It presents a constant signal which may activate and hold the first dash counter circuit. The red light on the bridge and in the radio station will glow, indicating trouble.

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Intercommunication, motion-picture, or public address systems on the vessel may also pick up radar impulses if they are not properly shielded and grounded or if they have poor connections at some points in them.

27·15 Basic radar maintenance. Although cabinet enclosures may be protected by interlocks that remove high voltages when opened, some voltages, up to 200 or 300 V, may not be disconnected. Interlocks should never be jumpered or shorted to operate the high-voltage systems with the enclosure doors open.

In most cases, faulty operation of a radar set is the result of weak tubes, faulty TR gaps or crystals, or blown fuses. Tubes may be checked with a tube tester, or similar tubes substituted, one by one. When a TR gap weakens, the mixer crystals usually fail also, and the crystal current drops. When mixer crystals are replaced, it may be necessary to replace the TR gap at the same time. The crystals are quite sensitive to mechanical shock, magnetic fields, and electric current. Under certain conditions, the operator may attain a static charge. When he pushes the cartridge-like crystal (about the size of a 22-caliber shell) into its socket, he may discharge through the crystal, burning it out. To prevent this, the operator should always touch the crystal cavity with one hand while inserting the crystal with the other or ground himself in some other way. When a crystal is handed from one person to another, it should be kept in its metal-foil capsule to prevent static discharge and burnout. Never apply mechanical pressure to the crystal in any way.

The magnetron current should be checked periodically. No plate current may indicate an open filament or no modulator pulses. If the current is abnormally high, it may mean a gassy magnetron or a high PRR. The permanent magnet used in conjunction with the magnetron is quite strong. There is danger, when a magnetron is being removed or installed, that iron or steel tools may be grabbed by the magnet and cause damage to the tube. The filament leads and the output circuit have long glass seals that may be fractured by mechanical jarring.

If the permanent magnet weakens, the magnetron current will increase, the output

Radar Basics

power will lessen, and the frequency of operation may change so much that the AFC will not hold the receiver in tune.

If the AFC circuit, the adder, the intensifying pulse circuit, or the magnetron is functioning improperly, bright pie sections may appear on the screen.

Remember that the filament leads to the magnetron have several thousand volts on them when the set is in operation.

Most equipment has a series of jacks into which a test meter can be inserted to test the operation of the different circuits. It will be necessary to check the instruction booklets that accompany the equipment to determine what the readings should be.

With the sensitivity control turned to maximum, with little or no grass or signals appearing, and low crystal current indicated, the crystal may be suspected. It may be removed and checked by measuring its resistance in both directions with a sensitive ohmmeter adjusted to read "R times 1,000." If the front-to-back ratio is less than about 10:1, the crystal should be replaced. No crystal current may

also indicate a defective klystron. Turn off the equipment before changing this tube, which may have several hundred volts on the shell of its cavity. When klystrons or TR tubes are replaced, it is usually necessary to retune the screws in the associated cavities to bring the set up to optimum performance.

Cathode-ray tubes are dangerous to service because of high voltages applied to them and the possibility of implosion. Heavy gloves and a face mask should be worn when changing such tubes.

Motors and generators should be checked every 200 to 300 hours of operation. They should be cleaned, and the brushes checked and replaced if necessary. Oil or grease should be applied where necessary. Remember that oil left on rubber and other electrical insulations may cause them to deteriorate.

Before the ship leaves the dock, the radar set should be turned on and tested. At this time it should be dusted thoroughly and observed carefully, and any signs of overheating of any component or improper functioning of mechanical parts should be noted.

Nortel DMS-100 HNPACONT.HNPACODE

Code Type STRG (Station Ringer)

Code Type

STRG – Station Ringer (local)

The following is the functional description of the new format in subtable HNPACONT.HNPACODE for a station ringer code. A description of the STRG code appears in the following table.

Code type STRG is not for use in a toll switch. Code type STRG replaces code type SRNG.

Note: This method requires the definition of a distinct station ringer test office code for each office code that this office serves.

An alternate method for station ringer test is available that does not involve the use of this subtable. With the alternate method, dial a single station ringer test access code for the complete office. After you dial this code, dial the seven or ten-digit Directory Number (DN) for testing use. The system directs translation to a fixed Common Language Location Identifier (CLLI) STRG. The system uses subtable STDPRTCT.STDPRT and table OFRT to direct translation to a CLLI STRG. The CLLI STRG appears in table CLLI.

Code Type STRG

Code Type	Description
STRG	<p><i>Station Ringer</i></p> <p>The code type STRG applies when a dialed three-digit code represents a station ringer test code.</p> <p>The code combination NXX-XXXX, number of digits equal to seven and local originating source is correct for code type STRG.</p> <p>When the reception of an origination from a non-local source occurs, the system routes the originator to vacant code treatment.</p>

Datafill

The following table describes datafill for table HNPACONT.HNPACODE, code type STRG:

Table HNPACONT.HNPACODE Type STRG Field Descriptions

Field	Subfield	Entry	Explanation and Action
FROMDIGS		Numeric (3 digits)	<i>From Digits</i> Enter the three-digit number assigned as the station ringer test code.
TODIGS		Numeric (3 digits)	<i>To Digits</i> Enter the same number as in field FROMDIGS.

CDRRTMT	See Subfield	<i>Code Type</i> Route reference and treatment. This field contains subfield CD.
CD	STRG	<i>Code Type</i> Enter STRG for the station ringer test and enter data in refinements SNPA and NXX.
SNPA	Numeric	<i>Terminating Serving Numbering Plan Area</i> Enter the Serving Numbering Plan Area (SNPA) of the called terminating line DN that the station ringer test code is assigned to. Translation of the dialed digits proceeds to table TOFCNAME with the use of refinements SNPA and NXX as the key.
NXX	Numeric	<i>Terminating Office Code NXX</i> Enter the office code of the called terminating line DN that the station ringer test code is assigned to. Translation of the dialed digits proceeds to table TOFCNAME with the use of SNPA and NXX refinements as the key.

-End-

Datafill Example

An example of datafill for subtable HNPACONT.HNPACODE with code type STRG appears in the following example. The input for code 725 appears in the example. The input terminates to a line in the switching unit. Translation proceeds to the DN translations for translation of the last four-digits when the following conditions occur:

- The reception of the correct code combination and number of digits from a non-local source.
- The system does not use local calling area or class of service screening to route the call.

The terminating office number for code 725 is "0" (zero).

FROMDIGS	TODIGS	CDRRTMT
725	725	STRG 613 000

Murky world of CB radio

It's a band of hatred

By PETER HOLMES

MEET the man who has spent years abusing, harassing and threatening people on Sydney's CB airwaves.

Jason Kennedy broadcasts repulsive diatribes and threats of violence against immigrants, homosexuals, women and others.

Kennedy, alias JD, owns the licence to one of a handful of CB "repeaters" in Sydney.

A repeater is a device that receives and amplifies a signal before resending it.

It is typically located on top of mountains or buildings, which allows these broadcasts to be widely heard.

The Sunday Telegraph has heard Kennedy railing against Muslims and threatening others with violence.

In one broadcast last week, he said: "Tell



Diatribes: Jason Kennedy

me, wog boy, tell me why couldn't you make it in your war-torn country? Why did your parents come to Australia for a better life and they still can't make it?"

He called another CB user a: "F*****g houso derro, wino kero, poverty-packed, Down's Syndrome, speech impediment stinky f*****g unwashed thing".

Kennedy is believed to live in Sydney's

south and was the subject of a 2004 online petition aimed at removing him from the CB airwaves.

The petition alleged Kennedy was responsible for discriminating against Aborigines, migrants, refugees, asylum-seekers, homosexuals, the mentally impaired and physically disabled.

He is one of several key figures operating in the shadowy, X-rated world of NSW CB broadcasting.

ACMA, the government agency responsible for regulating CB broadcasts, said it didn't actively monitor broadcasts and would only act if presented with evidence from an individual who had been harassed.

The Sunday Telegraph has attempted unsuccessfully to contact Kennedy.

The pride of australia™ medal will honour 10 everyday Australians who do extraordinary things - the unsung

End of Issue #40



Any Questions?

Editorial and Rants

Kill all spics.

Gunfire Breaks out at Basalt 7-11

June 27, 2007 – From: www.vaildaily.com

By Scott Condon

BASALT – Five shots were fired at the counter of a 7-Eleven from outside the store at about 11:10 p.m., Tuesday, police said.

No one was hit but Basalt Police Chief Keith Ikeda said the clerk and the four or so customers – **which included a family with a child** – could have been killed or seriously injured.

Police want to question two Hispanic men who argued with a clerk at the convenience store at about 9:30 p.m., Ikeda said.

The men left the store, hung around outside for a short time, then departed.

The clerk the men argued with was off duty and had gone home by the time of the shooting.

Police have images of the two men from video surveillance cameras at the store, Ikeda said.

The clerk, Bruno Kirchenwitz, said the two men were angry about a hat he often wears to work. The baseball cap says, "U.S. Border Patrol." He said he didn't have the hat on at the time they approached him.

Ikeda stopped short of calling the incident racially charged.

"All we know is he got in a verbal dispute with two Latinos males and we believe that this may be connected to the shooting," Ikeda said.

Basalt investigators worked with law officers from Pitkin and Eagle counties and Snowmass Village Wednesday to try to find the two men, who police said were last seen driving a small, silver, two-door sedan on Two Rivers Road toward El Jebel.

Police described one of the men as overweight and about 5-foot-8-inches tall, with medium brown skin and a black crew cut. The other is a bit shorter, weighs between 180 and 195 pounds, and has a shaved head and dark brown skin, police said.

No arrests had been made as of 4 p.m. Wednesday, according to Basalt Sgt. Joe Chavira, but officers will still working numerous leads.

Though less serious, this is the second shooting in the region is as many days. On Monday night, a 20-year-old man was shot to death at the Ponderosa Lodge in Glenwood Springs.

More Democrat voter fraud.

7 Charged with Voter Registration Fraud

July 27, 2007 – From: www.komotv.com

By Associated Press

SEATTLE (AP) – King County prosecutors filed felony charges Thursday against seven people **in what a top official described as the worst case of voter-registration fraud in state history**, while the organization they worked for agreed to keep a better eye on its employees and pay \$25,000 to defray costs of the investigation.

The seven submitted about 1,800 registration cards last fall on behalf of the liberal Association of Community Organizations for Reform Now, or ACORN, which had hired them at \$8 an hour to sign people up to vote, according to charging documents filed in Superior Court.

Secretary of State Sam Reed told a news conference it was clearly Washington's most serious instance of voter registration fraud.

"This was an act of vandalism upon the voter rolls of King County," said Dan Satterberg, the interim King County prosecutor.

Satterberg, Reed and other officials stressed that the defendants were motivated by financial gain rather than any desire to toy with the outcome of an election. They said that in one sense, ACORN was victimized because it paid for voter-registration work that was never performed.

But in interviews with King County Sheriff's Detective Chris Johnson, several of the defendants – while freely admitting they forged the forms – insisted that they had been told ACORN would shut down their office in Tacoma if they didn't improve their numbers, Johnson wrote in a probable cause statement.

One, Ryan Olson, said another worker in the office told him "do what you have to do" to turn in more cards.

ACORN's oversight of the workers was virtually nonexistent – to the extent that civil charges could have been warranted, Satterberg said.

In a settlement agreement announced Thursday, ACORN, which cooperated with the investigation, agreed to pay \$25,000 and to make improvements in its management, training and oversight of suspect voter registrations throughout the state.

Acting Seattle U.S. Attorney Jeff Sullivan said he believes the agreement could become a model for other states in dealing with organizations like ACORN.

"Voter registration is a vital part of our work to increase civic participation," said John Jones, president of Washington ACORN. "We need to continue to do that work, and do all that we can to make sure that no one is trying to pull a fast one on us, and creating problems for the registrations, to get money they haven't earned. We will be working closely with county officials to do that."

ACORN, founded in 1970, has run voter registration drives across the country, with allegations of fraudulent registrations surfacing in several states, including Pennsylvania, Ohio, Missouri and Colorado in recent years.

The Washington state probe began after King County election workers in October spotted apparently forged voter-registration cards among about 1,800 that were turned in by ACORN. The cards arrived a day after they were due for the November election.

Election officials feared that tossing all of the registrations could inadvertently disenfranchise any potentially legitimate voters in the batch. So they allowed the names to appear on the rolls for subsequent elections, including an advisory vote on replacing Seattle's Alaskan Way Viaduct in March.

But they flagged those names and tried to verify them using other state databases. Only six turned out to be legitimate voters, Satterberg said. The King County canvassing board agreed to remove many of the rest – 1,762 – from the rolls Thursday, satisfied they were fraudulent.

Investigators determined that no votes were cast from the fraudulent voter registrations.

Charging papers said that in many cases, the ACORN workers flipped through phone books or baby-name books at the Seattle Public Library, picking names from one page and addresses from another.

Frequently they listed homeless shelters as the addresses, requiring shelter staff to spend hours going through their records to determine whether any of the people had actually lived there.

None of the defendants could immediately be reached for comment. Some had unlisted phone numbers or numbers that had been changed, while others did not return messages seeking comment.

Dan Donohoe, a spokesman for the King County prosecutor's office, said he did not know whether any had obtained attorneys.

Germanazis acting like Germanazis. Shocking!!!!

50 German Firms Under Investigation for Helping Iran's Nuke Program

July 20, 2007 – From: www.worldtribune.com

LONDON – Germany is investigating scores of companies suspected of aiding Iran's nuclear program. Officials said 50 German companies may have been involved in the sale dual-use systems and material required for Iran's nuclear project. They said Berlin has determined that the shipments were being used to complete Iran's nuclear energy plant at Bushehr.

"The equipment was ordered by Russia and diverted to Iran," an official said.

On July 12, Germany prosecutor Christoph Lange identified one of the companies. Lange said the Berlin-based company Vero was suspected of shipping nuclear material to Moscow via Poland. From there, he said, the material was exported to Iran.

Vero was identified as a supplier to Bushehr since 2000. Officials said the company purchased nuclear technology from dozens of companies in Germany for Russian contractors of Bushehr.

The German exports to Bushehr were believed to top 150 million euros, officials said. Lange said prosecutors have so far traced about five million euros worth of German exports slated for the Iranian nuclear reactor.

Officials said the companies have argued that they had merely filled orders from Russian clients. But Lange said at least a dozen of the German firms knew that Iran was the final destination.

Another German company was said to have exported parts for a crane ordered for Bushehr. The shipments by the unidentified company, located in the former East Germany, were reported to have taken place in 2001 and 2002.

The United States has long complained that German companies were facilitating Iran's nuclear program. In 2004, a German company employee was arrested in Saxony-Anhalt on charges of smuggling technology destined for Iran to Russia.

New York Slimes Edits Condoleezza Rice's Wikipedia Entry!!!!

Condoleezza Rice

From Wikipedia, the free encyclopedia
(Difference between revisions)

Revision as of 13:18, 22 June 2005 (edit)

Keetoowah (Talk | contribs)

(*→In the George W. Bush Administration - Deleted NPOV essay & article is NOT about Clarke.*)

[← Older edit](#)

Revision as of 02:14, 24 June 2005 (edit) (undo)

199.181.174.146 (Talk)

(*→Education*)

[Newer edit](#) 

Line 39:

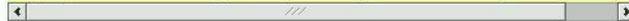
==Education==

After studying piano at an [[Aspen, Colorado|Aspen]] music camp, Rice enrolled at the [[University of Denver]], where her father both served as an assistant dean and taught a class called "The Black Experience in America."

[http://www.publiceye.org/frontpage/OpEds/berlet_condi_dad.htm

At age 15, Rice began classes with the goal of becoming a concert **[[pianist]]**. Her plans changed when she attended a course on international politics taught by [[Josef Korbel]], the father of former Secretary of State Madeleine Albright. This experience sparked her interest in the [[Soviet Union]] and [[international relations]] and led her to call Korbel, "one of the most central figures in my life"

[http://www.rider.edu/phanc/Phanc/JoKorbel.htm].



Line 39:

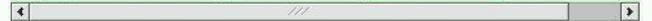
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[http://www.rider.edu/phanc/Phanc/JoKorbel.htm].



199.181.174.146 = nytgate05.nytimes.com

URL: http://en.wikipedia.org/w/index.php?title=Condoleezza_Rice&diff=prev&oldid=15725782

BBC Edits the Caterpillar D9 Wikipedia Entry!!!!

Caterpillar D9

From Wikipedia, the free encyclopedia
(Difference between revisions)

Revision as of 10:05, 1 November 2003 (edit)
80.179.85.7 (Talk)

← Older edit

Line 23:

The Israeli [[Combat engineering|Combat Engineering]] Corps have used the D9 for digging moats, clearing terrain obstacles and engineering tasks. The D9's have also been used to clear [[landmine]] fields and booby-trapped areas. The heavy armour installed by the [[IDF]] allows the D9's to work under heavy fire in dangerous battle-zones. The Israeli armor kit proved itself well, as no D9 operator was killed during the 3-years lasting [[al-Aqsa Intifada]].

In Israel, the "D9" has been used in standoff situations with armed Palestinians barricaded in buildings (which were wired with explosives and booby-traps). In order not to risk Israeli soldiers, the D9 shook the house until the **terrorists** surrendered and then razed the structure in order to detonate and bury any explosives inside.

Revision as of 13:21, 3 November 2003 (edit) (undo)
132.185.240.13 (Talk)

Newer edit 

Line 23:

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132.185.240.13 = gated.thls.bbc.co.uk

URL: <http://en.wikipedia.org/w/index.php?diff=prev&oldid=1667544>

Criticism of the BBC

From Wikipedia, the free encyclopedia
(Difference between revisions)

Revision as of 15:14, 19 June 2007 (edit)
132.185.240.122 (Talk)

← Older edit

Line 3:

== John Bridcut Report ==

An official report commissioned by the BBC **has found that the BBC "is out of touch with large swathes of the public and is guilty of self-censoring subjects that the corporation finds unpalatable"** <ref>{{cite web | url = <http://www.thisislondon.co.uk/news/article-23400983-detail.html> | title = "BBC accused of institutional 'trendy left-wing bias'" | publisher = [[Evening Standard]] | date = 18 June 2007 | accessdate = 2006-06-18}}</ref>.

Revision as of 15:16, 19 June 2007 (edit) (undo)
[132.185.240.122](#) (Talk)

Newer edit 

Line 3:

== John Bridcut Report ==

An official report commissioned by the BBC **Trust published on 18th June explored issues around impartiality.**

132.185.240.122 = webgw2.thls.bbc.co.uk

ACLU Edits Pope Benedict's Wikipedia Entry!!!!

Pope Benedict XVI

From Wikipedia, the free encyclopedia

([Difference between revisions](#))

Revision as of 19:28, 19 April 2005 (edit)

209.223.7.153 ([Talk](#))

(←*Early life and works*)

[← Older edit](#)

Revision as of 19:29, 19 April 2005 (edit) (undo)

12.42.243.10 ([Talk](#))

(←*Recent news and influence*)

[Newer edit](#) 

Line 66:

However it is important to note that Ratzinger's election to the Papal office was by no means certain. In [[Papal conclave, 2005|conclaves]] men who are considered "papabile" often are not elected to office. At times men considered certain to win the election did not win. This is expressed in the saying, "He who enters the conclave as Pope leaves as a Cardinal."

Benedict was considered to be [[Pope John Paul II]]'s "right hand man" and also one of his closest friends, and during the Pope's final illness, he carried out many of the Pope's functions as leader of the Catholic Church.

Line 66:

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Benedict was considered to be Pope John Paul II </wiki/Pope_John_Paul_II>'s "right hand man" and also one of his closest friends, and during the Pope's final illness, he carried out many of the Pope's functions as leader of the Catholic Church, **such as molesting young boys and degrading women.**

12.42.243.10 = aclusec1.aclu.org

URL: http://en.wikipedia.org/w/index.php?title=Pope_Benedict_XVI&diff=prev&oldid=12530341

Hero Edits Eric Corley's Wikipedia Entry!!!!

Eric Gordon Corley

From Wikipedia, the free encyclopedia

(Difference between revisions)

Revision as of 18:51, 9 November 2003 (edit)

24.193.194.137 (Talk)

(added link to kevin mitnick wiki)

[← Older edit](#)

Revision as of 04:04, 14 February 2004 (edit) (undo)

24.7.14.252 (Talk)

[Newer edit](#) 

Line 1:

Eric Corley is **viewed as a leader of** the computer [[hacker]] community and goes by the name "[[Emmanuel Goldstein]]", after the leader of the underground in [[George Orwell]]'s classic, "[[Nineteen Eighty-Four]]". He and his - company, 2600 Enterprises, Inc., together publish a magazine called [[2600 The Hacker Quarterly|2600: The Hacker Quarterly]], which Corley founded in [[1984]], and which is widely respected in the hacker community.

Line 1:

Eric Corley is a **child molestor and attention whore who exploits** the computer [[hacker]] community **to further his own interests**, and goes by the name "[[Emmanuel Goldstein]]", after the leader of the underground + in [[George Orwell]]'s classic, "[[Nineteen Eighty-Four]]". He and his company, 2600 Enterprises, Inc., together publish a magazine called [[2600 The Hacker Quarterly|2600: The Hacker Quarterly]], which Corley founded in [[1984]], and which is widely respected in the hacker community.

24.7.14.252 = MY FUCKING HERO!!!!!!!

URL: http://en.wikipedia.org/w/index.php?title=Eric_Gordon_Corley&diff=2386752&oldid=2386746

John Draper

From Wikipedia, the free encyclopedia
(Difference between revisions)

Revision as of 18:38, 30 January 2004 (edit)

Cprompt (Talk | contribs)

m (Young hackers --> Some hackers)

[← Older edit](#)

Revision as of 03:57, 14 February 2004 (edit) (undo)

24.7.14.252 (Talk)

[Newer edit](#) 

Line 1:

"John T. Draper", also known as "Captain Crunch" (after [[Cap'n Crunch]], the mascot of a [[breakfast cereal]]), was a phone [[phreaker]].

He **discovered** that the yellow toy whistle found in the breakfast cereal [[Cap'n Crunch]] emitted (with slight modification) a tone at precisely 2600 [[hertz]] -- the same frequency that was used by [[AT&T]] [[long line (telecommunications)|long lines]] to indicate that a trunk line was ready and available to route a new call. This would effectively disconnect one end of the trunk, allowing the still connected side to enter an operator mode.

Line 1:

"John T. Draper", also known as "Captain Crunch" (after [[Cap'n Crunch]], the mascot of a [[breakfast cereal]]), was a phone [[phreaker]].

He **took credit for discovering** that the yellow toy whistle found in the breakfast cereal [[Cap'n Crunch]] emitted (with slight modification) a tone at precisely 2600 [[hertz]] -- the same frequency that was used by [[AT&T]] [[long line (telecommunications)|long lines]] to indicate that a trunk line was ready and available to route a new call. This would effectively disconnect one end of the trunk, allowing the still connected side to enter an operator mode.

This is true.

Line 1:

[[fr:Kevin Mitnick]] [[de:Kevin Mitnick]]

```
<div style="float:right;width:150px;margin:0 0 1em 1em;text-align:center;"><small>[[Image:Kevinmitnick.jpg|Kevin Mitnick]]<br>"Kevin Mitnick"</small></div>
```

"Kevin Mitnick" (born [[August 6]], [[1963]]) is one of the **most famous [[cracker (computing)|crackers]] (black-hat [[hacker|hackers]])** to be jailed and convicted. Mitnick was arrested by the [[FBI]] on [[February 15]], [[1995]] and charged with **breaking into some of the [[United States]]' most [[secure computing]"secure" computer systems]]**.

Following his arrest, Mitnick was **held without bail for over two years before sentencing: he has said that he set some kind of United States record by being held for four and a half years without a [[bail]] hearing, while also held in [[solitary confinement]] for eight months "in order to prevent a possible nuclear strike being initiated by me**

Line 1:

[[fr:Kevin Mitnick]] [[de:Kevin Mitnick]]

"Kevin Mitnick" (born **a fat kike on**[[August 6]], [[1963]]) is one of the **stupidist mother fuckers** to be jailed and convicted. Mitnick was arrested by the [[FBI]] on [[February 15]], [[1995]] and charged with **using 0-day exploits to h4x0r** computer systems]].

Following his arrest, Mitnick was **sent to prison where he was sodomized on a daily basis** by a **300 pound nigger named Bubba, who later** became Kevin's **jailhouse husband**.

resulting pursuit and finally - arrest.

* [http://www.gulker.com/ra/hack/ The Kevin Mitnick/**Tsutomu Shimomura** affair] - lots of information on the case.

* The missing

[http://www.theregister.co.uk/content/55/28835.html Chapter 1 of Mitnick's book] (or from a [http://littlegreenguy.fateback.com/chapter1/Chapter%201%20 site where it appeared earlier], but in MS Word format only.)

*[http://interviews.slashdot.org/article.pl?sid=03/02/04/223325 Mitnick interview, February 5, 2003]

*[http://www.hackwire.com/comments.php?catid=2&id=3

- Kevin Mitnick **Buys Hacker Stories** for **Upcoming Book Titled The Art of Hacking**

resulting pursuit and finally - arrest.

* [http://www.gulker.com/ra/hack/ The Kevin Mitnick/**Japboy** affair] - lots of information on the case.

* The missing

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*[http://interviews.slashdot.org/article.pl?sid=03/02/04/223325 Mitnick interview, February 5, 2003]

*[http://www.hackwire.com/comments.php?catid=2&id=3

+ Kevin Mitnick **exploits Hackers** for **their Stories to make him money.**

Funny edits to Kevin Mitnick's entry.

Eric Gordon Corley

From Wikipedia, the free encyclopedia
(Difference between revisions)

Revision as of 23:45, 18 December 2005 (edit)
66.108.77.218 (Talk)

Older edit

Line 1:

Revision as of 23:50, 18 December 2005 (edit) (undo)
222.190.96.25 (Talk)

Newer edit 

Line 1:

+ BIG LOOSER WHO COULDN'T HACK HIS WAY INTO A
+ PAPER BAG!

+
+

[[Image:Shimo-Golstein-Mitnik.jpg|thumb|Left to right: [[Deth Vegetable]], Eric "Emmanuel Goldstein" Corley and [[Joe630]] in [[Freedom Downtime]]]]

[[Image:Shimo-Golstein-Mitnik.jpg|thumb|Left to right: [[Deth Vegetable]], Eric "Emmanuel Goldstein" Corley and [[Joe630]] in [[Freedom Downtime]]]]

Eric Gordon Corley

From Wikipedia, the free encyclopedia
(Difference between revisions)

Revision as of 07:07, 4 January 2006 (edit)
PaulHanson (Talk | contribs)
(category)
Older edit

Line 1:

[[Image:Shimo-Golstein-Mitnik.jpg|thumb|Left to right: [[Deth Vegetable]], Eric "Emmanuel Goldstein" Corley and [[Joe630]] in [[Freedom Downtime]]]]

"Eric Gorden Corley" is **viewed by some as a leader** of the computer [[hacker]] community and goes by the name "[[Emmanuel Goldstein]]", after the leader of the underground in [[George Orwell]]'s classic, "[[Nineteen Eighty-Four]]". He and his company, 2600 Enterprises, Inc., together publish a magazine called "[[2600: The Hacker Quarterly]]", which Corley founded in [[1984]], **and which is widely read in the hacker community.**

Revision as of 00:49, 8 January 2006 (edit) (undo)
69.17.73.234 (Talk)
(nobody thinks any of this stuff.)
Newer edit 

Line 1:

[[Image:Shimo-Golstein-Mitnik.jpg|thumb|Left to right: [[Deth Vegetable]], Eric "Emmanuel Goldstein" Corley and [[Joe630]] in [[Freedom Downtime]]]]

"Eric Gorden Corley" is a **member** of the computer [[hacker]] community and goes by the name "[[Emmanuel Goldstein]]", after the leader of the underground in [[George Orwell]]'s classic, "[[Nineteen Eighty-Four]]". He and his company, 2600 Enterprises, Inc., together publish a magazine called "[[2600: The Hacker Quarterly]]", which Corley founded in [[1984]].

Someone found out Corley's little charade!



An elderly Iraqi woman shows two bullets which she says hit her house following an early coalition forces raid in the predominantly Shiite Baghdad suburb of Sadr City. At least 175 people were slaughtered on Tuesday and more than 200 wounded when four suicide truck bombs targeted people from an ancient religious sect in northern Iraq, officials said.

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Staged Photo – AFP

URL:

<http://www.france24.com/france24Public/en/administration/afp-news.html?id=070814211100.kkqbxpk2>