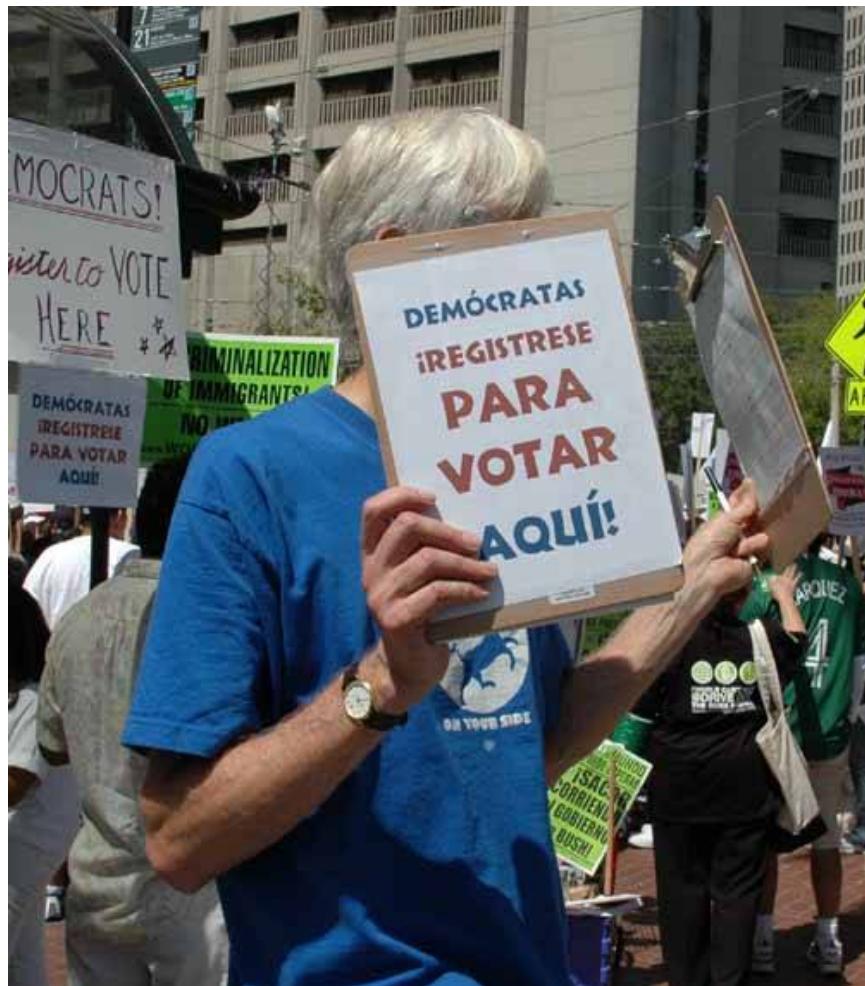


GBPPR 'Zine



Issue #27 / The Monthly Journal of the American Hacker / June 2006



"In the first place, we should insist that if the immigrant who comes here in good faith becomes an American and assimilates himself to us, he shall be treated on an exact equality with everyone else, for it is an outrage to discriminate against any such man because of creed, or birthplace, or origin. But this is predicated upon the person's becoming in every facet an American, and nothing but an American... There can be no divided allegiance here. Any man who says he is an American, but something else also, isn't an American at all. We have room for but one flag, the American Flag... We have room for but one language here, and that is the English Language... and we have room for but one sole loyalty and that is a loyalty to the American People."

--- Theodore Roosevelt, 1907

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Parameter Changes / #1A ESS

BELL SYSTEM PRACTICES
AT&T Co Standard

SECTION 231-080-201
Issue 1, March 1982

PARAMETER CHANGES ADMINISTRATIVE RESPONSIBILITIES NETWORK MAINTENANCE NO. 1/1A ELECTRONIC SWITCHING SYSTEMS

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NOTICE

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parameter. The TELCO supplies some of this information. (Other set cards are generated by WE.)

- (b) Upon receipt of the parameters, the TELCO must verify that the information in the parameters is correct.
- (c) The parameter must be loaded into the machine and tested.

2. METHOD OF PROCEDURE

2.01 The WE installation supervisor normally initiates the preparation of a method of procedure (MOP) as this is part of the installation contract on additions and partial removals. If the contract does not call for a MOP, the network maintenance supervisor or the network dial administrator can demand, through the equipment engineer, that the installation supervisor prepare a MOP prior to work operations being started. (Refer to Section 790-100-421 and Section 790-100-420.)

2.02 Minimum approval requirements for a MOP are the equipment engineer, maintenance supervisor, maintenance engineer, and installation supervisor. (Refer to Section 790-100-421.)

2.03 Parameter overwrites requiring immediate application due to major service affecting problems do not require a written MOP. In emergency situations, concurrence of change or recommended procedures are obtained from the local maintenance supervisor *along with* maintenance engineering and/or Electronic Systems Assistance Center (ESAC). If possible, the overwrite comes from the WE Regional Technical Assistance Center (RTAC) or WE Product Engineering Control Center (PECC). All emergency parameter overwrites must be followed by a confirming request by network maintenance to the equipment engineer. The equipment engineer reviews the requirement with the network design engineer and forwards them to the WE line engineer. The WE line engineer prepares the parameter overwrite and where possible returns it to ESAC for review and formatting into a standard broadcast warning type overwrite. In this case, ESAC forwards the standard confirming overwrite to network maintenance and equipment engineering.

2.04 Request for parameter overwrites by network maintenance are directed to the equipment engineer. The equipment engineer reviews the re-

quirement with the network design engineer and forwards them to the WE line engineer. The WE line engineer prepares the parameter overwrite and returns it to the ESAC, if possible. The ESAC will verify the overwrite for accuracy, format it into a broadcast warning format, and forward the overwrite to network maintenance and copies to the maintenance engineer and equipment engineer. The equipment engineer may or may not request that a MOP accompany the overwrite depending on the scope of parameter involvement. If a MOP does not accompany the overwrite, the network maintenance supervisor prepares a written MOP and forwards it to the equipment engineer for review.

2.05 A written MOP must specify the following:

- (a) What set of parameters is to be loaded (identified by issue number and date as recorded on the parameter listing). This information will be provided by the equipment engineer.
- (b) That recent changes should be updated in the No. 1 ESS, or System Reinitialization (SR) tapes (both combined and separate tapes) should be generated for the No. 1A ESS prior to the parameter change and as close as possible to the date of the change. It is recommended that the MOP include dumping the variable Call Forwarding List via 'VFY DNSL' to reininput if problems are encountered where recent change is lost or mutated.
- (c) If it is a parameter issue change, state that the initials of the equipment engineer, the network design engineer, the network maintenance supervisor, maintenance engineer, and the network administrator are entered in the equipment engineering and central office parameter listings per paragraph 8.05 or 8.07.
- (d) That Aux Program XLCK was executed after item (b) of this paragraph. If there were errors, that they were corrected and, if necessary, a new SR tape was made for the No. 1A ESS and "updated" for the No. 1 ESS prior to the scheduled parameter change.
- (e) That all major hardware and software problems have been cleared (ie, no repetitive interrupts, no program store/call store errors and in No. 1A ESS no excessive file store interjects).
- (f) That the maintenance control center (MCC) portion of the baseline test has been completed

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within days prior to the parameter change. This routine checks the hardware necessary to do emergency recovery actions. Since it can go bad at any time, the closer to the loading date, the better.

- (g) That prior to loading the first copy of parameters, input the V-DNSVY message and attach the output to the MOP.
- (h) Include emergency recovery procedures to be used if parameter loading fails.

2.06 Parameter overwrites initiated for Growth Recent Changes (GRCs) need not follow the specifications or restrictions outlined in paragraph 2.05, even though a written MOP is still required. However, having a PDA backup tape or SR tape on hand before GRCs are started could be used to get back to a "SAFE" point if necessary. This MOP must specify the reason for the parameter change and is prepared by WE personnel.

3. PARAMETER VERIFICATION RESPONSIBILITIES AND PROCEDURES—NETWORK MAINTENANCE SUPERVISOR

3.01 It is the network maintenance supervisor's responsibility (shared with engineering and administration) to assure that whenever an office parameter is updated because of a generic program update and/or equipment addition, the WE record of parameter set card values agree with their equivalents which actually reside in the No. 1/1A ESS. The network maintenance supervisor responsibility may be fulfilled by attending the parameter review meeting and taking the actions described in the following paragraphs.

3.02 In a No. 1 ESS office prior to loading the replacement parameter, hash sums must be taken on the memory block. Compare the CW13 output message against the PDA listing MOD hash sums. If they agree, no overwrites have been added. If they do not agree, compare the card hash sums. For each card that does not compare, T-PATTERN the card and compare this data against the PDA listing and the Parameter Overwrite Log (Section 231-104-302). All differences must be resolved before the new parameter is loaded.

Note: It is important to log all PDA overwrites in the space provided in the listing.

3.03 The TELCO or WE installation (a TELCO decision) shall perform the following steps. Once

the PVP is performed, no overwrite should be made to the predecessor issue.

- (1) Enter the TTY message MCW-VERIFY-HST 0004.
- (2) At program store O (PSO), depress the request inhibit (REQ INH) key. When the out-of-service (OS) lamp lights, depress the verify (VER) key. The OS lamp then extinguishes as the system checks the module. Expect the CW04 and CW13 output responses.
- (3) Compare the CW13 output message against the PDA listings mod hash sums. These sums are listed after magnetic data listings. If these sums compare, forward the CW13 message to WE Regional Engineering and no other action is required.
- (4) If these sums do not compare, perform Steps (5) through (8).
- (5) Compare the CW04 output message against the PDA listing card hash sums, listing which cards disagree. These card sums are listed within the magnetic data listing printout portion of the PDA printout.
- (6) For each card that does not compare, enter the following message inserting the pass (0 or 1) and octal card number in the blanks:

```
PS SWTCH IN S00  
T-PATTERN-00004 _ _ _001  
00004 _ _ _10/  
00004 _ _ _20/  
00004 _ _ _30/  
00004 _ _ _40/  
00004 _ _ _50/  
00004 _ _ _60/  
00004 _ _ _70.
```

Expect the TW06 responses.

- (7) If an interrupt occurs during these TW06 responses, it is recommended that Step (6) be repeated in order that these messages appear together.
- (8) Forward the hash sums, card sums, and TW06 data for the cards whose sums did not match the PDA listing together with a copy of the param-

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eter overwrite log showing what overwrites have been inserted into the parameter module to WE Regional Engineering.

Note: Refer to No. 1 ESS Input Manual, IM 1A001 and the No. 1 ESS Output Manual, OM 1A001.

3.04 In a No. 1A ESS office prior to loading the replacement parameters, the office history tape of the last PDA run should be loaded and compared with the parameters residing in the machine by auditing PDA in the noncorrecting mode (Section 231-368-001). This tape should have been generated by the WE engineering organization and will contain no locally applied overwrites. Compare this data against the PDA listing and the Parameter Overwrite Log (Section 231-104-302). All differences, if any, must be resolved before the new parameter is loaded.

Important: Do not use an SR tape or any other parameter tape that was written in the central office.

3.05 At the time agreed to by the TELCO and the region, the following PDA tape audit is done at the ESS office:

(1) Input message:

OP:HEADERS;PDA!

The response outputs the PDA tape header from file store and provides the parameter issue and PDA run data of the most recent parameters loaded in the office from a tape provided by the region.

(2) The most recent parameter tape (not an SR tape) received from the region and loaded in the office is mounted on a spare tape unit controller (TUC), and a PDA tape audit is performed on that tape. Input message:

SET:TUC a;FUNCTION AUT!
where a = member number of the TUC

The response will be the tape header, parameter issue, and PDA run date of the parameter tape.

(3) The header information obtained in Step (1) must match the header obtained in Step (2).

(4) Input message:

ALW:TUC a:RO!

An OK response indicates that normal processing of the tape on TUC "a" is allowed to proceed.

(5) Input message:

AUD:PDA;NCG!

The response will be a printout of the mismatches or discrepancies between the office parameters and the parameter tape mounted on the TUC. The printout gives the address, the tape data at that address, and the data in store at that address. The printout also lists mismatches in the address range 3700000 to 3707777 which are hash sum table mismatches and which should be ignored as far as the PVP is concerned. Those addresses are outside the range of parameters.

(6) Input message:

STOP:AUD;PDA!

This message stops the tape audit.

(7) Forward the printout of Step (5) along with the parameter overwrite log to the regional engineer.

Note: Refer to No. 1A ESS Input Manual, IM 6A001-01 and the No. 1A ESS Output Manual OM 6A001-01.

3.06 When the new parameter arrives, it must be reviewed to assure that the overwrites residing in the current parameters have been incorporated into the new parameters. If they are not in the new parameters, the discrepancies must be resolved with WE before loading the new parameters. A PDA review meeting including engineering and administration is recommended prior to the loading.

3.07 For No. 1 ESS, the Master Head Table (MHT) address must be verified with the new PDA MHT (set card HHTP) address.

3.08 The contents of the new PDA head table must be checked with the current translation head table via the T-Read/DUMP message to obtain the current values in the machine. The translation head

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table must be reviewed anytime there is parameter activity involving set cards: CMNGS, CNSG, CTGHT, HHTP, PMTC, ZSK, or any of the following set cards:

Note: These set cards are also listed in the PDA assembly preceding the set card listings under item PDA 1200.

No. 1 ESS		1500A ITEM	SET CARD		
1500A ITEM	SET CARD	23	CSL		
01	LLN	28	SFG		
05	UTF	30	DAG		
07	MSF	31	ASP		
08	NTG	35	DLG		
11	MHG	36	CFG		
15	CTG	See Parameter Guide (PG-1 or PG-1A) for individual set card descriptions and for detailed relationships. When set card quantities are reduced, verify the highest assigned member number, not just the total number being used. Check all set cards added for generic features for reasonableness.			
17	CPD				
22	HSL				
23	CSL				
24	SLC				
25	NSL				
28	SFG				
30	DAG				
31	ASP				
35	DLG				
36	CFG				
No. 1A ESS		1500A ITEM	SET CARD		
01	LLN				
05	UTF				
07	MSF				
08	NTG				
Caution: When assigning group numbers in translation that are equal to or greater than set card value, check individual set card descriptions since there is not a uniform rule. Also refer to "Set Card Change Warning Note" included in parameter listing.					
3.09 If parameters are associated with a generic change, review all the set cards listed in the Program Change Sheets (PCGs) or Detailed Change Sheets (DCSs) and/or Engineering Change Procedure (ECP).					
3.10 If parameters are associated with a growth job, the following checks are made:					
(a) If it is a final set, verify that prior transitional parameter(s) have all the patches applied.					
(b) Verify that all GRCs are applied.					
(c) For the scan point rearrangements, coordinate wiring, GRCs, and related trunk order activity with the parameter change.					

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- (d) Verify all the new scan point assignments to be sure they are not on scanner frames being added.

3.11 For a No. 1A ESS, the Parameter Verification Procedure (PVP) will be used as an assurance measure for all parameter updates.

Caution: *For No. 1A ESS, the library program SUPPLIB, J6A002AA-1, List 25, is required to load new parameters in No. 1A ESS offices with 1AE5/1AE6, Issue 5, or later generic programs.*

3.12 For No. 1 ESS offices, auxiliary program XPTV should be run for all parameters other than restart or retrofit, including growth or transitional parameters. Procedures are in Section 231-151-303.

Caution: *The XPTV requires that both old and new issues of parameters be loaded into the machine. A loss of the duplicate program store could cause the new parameter to be brought on line.*

3.13 After XPTV is run, the network maintenance supervisor should compare the printout with the PDA listing and add to the XPTV printout any set card value changes listed in the PDA but not listed by XPTV. Make one copy of the XPTV printout and send that copy to the network design engineer.

3.14 Sometimes parameters do not arrive in sufficient time to adequately verify them because of due dates or cut dates. The procedures described in paragraphs 3.02 through 3.12 cannot be skipped.

3.15 Any time a parameter is loaded, either successfully or unsuccessfully, or overwritten (except a "GRC parameter overwrite), prepare a Parameter Change Notification (PCN) form and send it to the equipment engineer.

3.16 Notify the equipment engineer of any deviation from the load date agreed on in the Parameter Review Meeting (Part 8) and the reason for any delay.

3.17 For other responsibilities of the network maintenance supervisor, see Section 790-100-425.

4. PARAMETER VERIFICATION RESPONSIBILITIES— NETWORK DESIGN ENGINEER

4.01 The network design engineer's responsibilities are as follows:

- Verify all parameter set card values connected with new offices, growth, retrofits, and restarts for correctness as related to the design order and/or specification.
- Verify program-generated set cards for correctness in relation to feature groups and office generics.
- Resolve any questions and/or errors found while verifying PDA with the appropriate work group.
- Resolve questions from other departments pertaining to PDA discrepancies.
- Attend the parameter review meeting.

4.02 For other responsibilities of the network design engineer, see Section 790-100-425.

5. PARAMETER VERIFICATION RESPONSIBILITIES— NETWORK ADMINISTRATOR

5.01 The network administrator's responsibilities are as follows:

- Review call processing registers in PDA with the network design order for correct sizing.
- Issue all translation forms required for the parameter change. Particular importance is placed on the 1500A due to its relationship to call store set card values.
- Attend the parameter review meeting.

5.02 For other responsibilities of the network administrator, see Section 231-070-435 for No. 1 ESS and Section 231-070-427 for No. 1A ESS.

6. PARAMETER VERIFICATION RESPONSIBILITIES— EQUIPMENT ENGINEER

6.01 The equipment engineer's responsibilities are as follows:

- Purchase the parameters and administer billing from WE.

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- Coordinate all growth jobs with WE.
- Assure that all concerned groups are aware of the software schedules and that they are advised of any changes in schedules.
- Assure that all concerned groups are aware which issue of the parameter is to be loaded.
- Coordinate any set card changes with WE engineering to assure that these changes are included on the history tape.
- Assure the integrity and flow of the PCN form.
- Assure jointly with network maintenance and network administration that hardware has progressed to the point that the new parameter may be loaded.
- Schedule and attend parameter review meeting.

6.02 For other responsibilities of the equipment engineer, see Section 790-100-425 and Section 790-100-420.

7. PARAMETER VERIFICATION RESPONSIBILITIES—MAINTENANCE ENGINEER

7.01 The maintenance engineer's responsibilities are as follows:

- Review PDA listing upon receipt. This includes checking set card changes for reasonable values. In generic changes or feature package change related PDAs, check for proper additions/deletions.
- Check current copy of PDA listing. If maintenance engineering's copy shows any overwrites were done in the PDA area, make sure that the appropriate set cards change in the new PDA.
- Contact network design and/or central office engineers regarding suspicious increases/decreases of set cards.
- Attend the parameter review meeting.

7.02 For other responsibilities of the maintenance engineer, see Section 790-120-470 which is in the process of being written.

8. PARAMETER REVIEW MEETING

8.01 A parameter review meeting is chaired by the equipment engineer, near the anticipated load date, but no later than 5 days before the load date. If other parameter changes are to occur at approximately the same time involving the same attendees, those parameters are discussed at the same meeting.

8.02 The attendees must include the network maintenance supervisor, maintenance engineer, network design engineer, network administrator, and equipment engineer. If the MOP is to be discussed or a discrepancy has been found during parameter verification which will require that a parameter overwrite be generated by WE, the WE installation supervisor must be included.

8.03 All parameter discrepancies must be resolved and full agreement reached that the parameter to be loaded is complete and acceptable or a subsequent meeting must be arranged by the equipment engineer for a final resolution.

8.04 The parameter loading date and time is determined at this meeting. Parameter changes and all parameter overwrites should be accomplished during low traffic periods consistent with local Company policy.

8.05 The five principal attendees must initial and date the first page of the permanent central office and equipment engineering copies of the new parameter listing. This process eliminates any confusion in the future concerning the required approvals for the parameter installation.

8.06 To determine if there are any discrepancies to resolve, or if time is a critical factor, the parameter review meeting may be held using a conference call. The network maintenance supervisor and the equipment engineer enter the initials of the four attendees (paragraph 8.02) on the first page of their respective copies of the parameter listing, if the parameter is approved during this conference. A note that the meeting was a conference call and the date accompany the initials.

8.07 Any parameters that are skipped should be reviewed at this meeting. Deviations between what is in the machine at present and the skipped parameter that have not been verified in the new parameter must be resolved before the new parameter

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is loaded (ie, set cards that changed in the skipped parameters may not be marked in the parameters to be installed as deviations from what is in the machine). Use caution when skipping parameter issues.

8.08 Arrangements for emergency assistance should be made at this meeting. This person's name and telephone number should be recorded on the PCN form. If operations forces have trouble loading the PDA (failure to initialize, phases, etc), they will call this person.

9. PARAMETER ACCEPTANCE TEST

9.01 Parameter acceptance tests are performed when **one** copy of the new PDA has been successfully integrated into the system. A soak period on the new parameter is required before the duplicate copy is inserted. This procedure is to prevent a serious service reaction due to a fault(s) in the new parameters. This soak period varies in length from office-to-office depending on the number of special features to be tested. The **minimum** soak is **one-half hour**.

9.02 During the soak period, the following tests or observations must be accomplished:

- (a) Simulate (test) calls from centrex and large multiline hunt group customers, both originating and terminating.
- (b) Request diagnosis of the highest member of each unit type (ie, CC, CS, PS, LSF, TSF, MS, etc).
- (c) Particular emphasis should be given to the purpose of the parameter change (ie, dial tone first conversion) with appropriate tests.
- (d) Be alert for maintenance interrupts and repeating audits. Typical problems could be repeating audit 3s, indicating equipment enable troubles; audit 4s, recent change problems; audit 19s, receiver scan row problems; audit 38s, centrex troubles, etc.
- (e) Offices with special features should make appropriate tests, ie, calls to an automatic call distributor.
- (f) Check various special codes, ie, 911, 0, 0+7, 0+10, 611, 411.

10. PARAMETER CHANGE NOTIFICATION

10.01 The Parameter Change Notification (PCN) form (Fig. 1) is a means for network maintenance to notify affected departments of a change in parameters. Several departments require notification to update their records. The change may be a new parameter loaded (successfully or unsuccessfully) or an overwrite to a parameter except a "GRC" overwrite. The PCN form should be completed by the originator and mailed to the equipment engineer within 5 working days.

Note: Currently, Operational Trouble Reports (OTRs) are filled out by Operations when a PDA is changed. The PCN should not replace OTRs.

10.02 The equipment engineer is the primary contact when dealing with the PCN form flow (Fig. 2). Upon receiving a PCN, he should complete his section within 5 working days and forward copies to the WE line engineer, maintenance engineer, ESAC, and the network design engineer.

10.03 The Central Office Equipment Engineering System—Mechanized Order (COEES-MO) data base is updated by the network design engineer and the equipment engineer.

10.04 The parameter history tape is updated by the WE line engineer and after completing his section, returns a copy to the TELCO equipment engineer.

10.05 The equipment engineer returns a copy to the SCC/CO originator and the network design engineer. He also keeps a record of completed PCN forms and is responsible for correcting repeated parameter problems.

10.06 A periodic audit is necessary to ensure that all phases of the parameter notification process is working. A quarterly report on the success/failure rate of parameter installations, including the reasons for the failure, is one way of performing this audit. The equipment engineer is in the best position to perform this audit from information provided by the PCN.

10.07 The PCN form contains sections for identification, reason for issuance, overwrite information, equipment engineer, and WE engineer. A

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detailed explanation of each section is provided in the following paragraphs:

IDENTIFICATION SECTION: This section is to be completed by the originator for all PCNs generated.

TELCO: The telephone company that generates the report.

ORIGINATOR'S NAME: The name of the person who originates the PCN.

PHONE: Company telephone number of the TELCO originator.

DATE: The date the PCN is written.

ORIGINATOR'S ADDRESS: The originator's business address where he receives his mail.

CITY, STATE, AND ZIP CODE: Of the originator.

OFFICE NAME: The name of the central office which generates the notification.

OFFICE BASE DRAWING NO.: Enter the central office base number found in the lower right hand corner of the PDA listing.

GENERIC AND ISSUE: The generic and issue of the program active at the time the affected parameter is active.

REASON FOR ISSUANCE SECTION: This section is completed by the originator.

NEW PARAMETER ISSUE NUMBER: If a new parameter was loaded (successfully or unsuccessfully), the issue of the affected parameter is entered.

SUCCESSFUL: If the parameter change was successful, this box should be marked.

UNSUCCESSFUL: If the parameter change was unsuccessful, this box should be marked.

PARAMETER ISSUE NOW LOADED: Enter the parameter issue. It is the issue number of the parameter now active in the machine.

OVERWRITE(S) APPLIED ISSUE NUMBER: If an overwrite is applied to any parameter,

whether active or not, this box will be marked and the issue number entered. If this box is marked, the overwrite information section will be completed by the originator.

OVERWRITE INFORMATION SECTION: This section is filled out by the originator, if the (overwrite applied) box is marked.

REASON FOR OVERWRITE (Interrupts, etc): ie, PDA deficiency, WE engineering miscalculation or oversight, TELCO engineering improper input, miscalculation, or oversight.

PERSON(S) AUTHORIZING OVERWRITE: This is usually the equipment engineer but could be concurrence of the network maintenance supervisor and the maintenance engineer and/or ESAC if it occurred in an emergency, service affecting situation.

DEPT: Department of person authorizing overwrite.

DATE: Date overwrite was authorized.

SET CARD CHANGES: List the set card **name(s)** that were overwritten, the old value in **decimal**, and the new value in **decimal**.

EQUIPMENT ENGINEERING SECTION: This section is completed by the equipment engineer responsible for the specified central office; it is self-explanatory. This information is used by WE Regional Engineering to return the completed form.

EQUIPMENT ENGINEER: Name, Telephone Number, Date Forwarded, Address, and Remarks

TECHNICAL SUPPORT EMERGENCY CONTACT: Name, Telephone Number

WESTERN ELECTRIC ENGINEERING SECTION: This section is completed by the WE engineer responsible for the specified central office; it is self-explanatory. The WE engineer must return a copy of the form to the TELCO equipment engineer to ensure a positive feedback.

WE ENGINEER: Name, Telephone Number, Date Forwarded, and Remarks

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Parameter Change Notification

BS-1130
(11-61)

Identification

Telco	Originators Name	Phone	Date
Originators Address	City	State	Zip
Office Name	Office Base Drawing No.	Generic	Issue

Reason For Issuance

New Parameter Issue #	<input type="checkbox"/> Successful	Parameter Issue Now Loaded	<input type="checkbox"/> Overwrite/S Applied Issue #
	<input type="checkbox"/> Unsuccessful		

Overwrite Information

Reason For Overwrite (Interrupts, Etc.)

Person(s) Authorizing Overwrite	Dept	Date

Set Card Changes

Set Card Name	Old Value	New Value	NOTE: Set Card Names Are Not Addresses. Set Card Values Must Be In Decimal.

Equipment Engineer To Be Completed By TELCO Equipment Engineer

Name	Tel. No.	Date Fwd.
Address	City	State
Remarks		

Technical Support Emergency Contact	Name	Tel. No.
-------------------------------------	------	----------

Western Engineer To Be Completed By WECO Engineer

Name	Tel. No.	Date Fwd.
------	----------	-----------

Included In Par. Iss. (If Par. O.W. Is Indicated)

Return To Equipment Engineer Listed Above

FCC Item No. 43e

Fig. 1—Parameter Change Notification (10.01)

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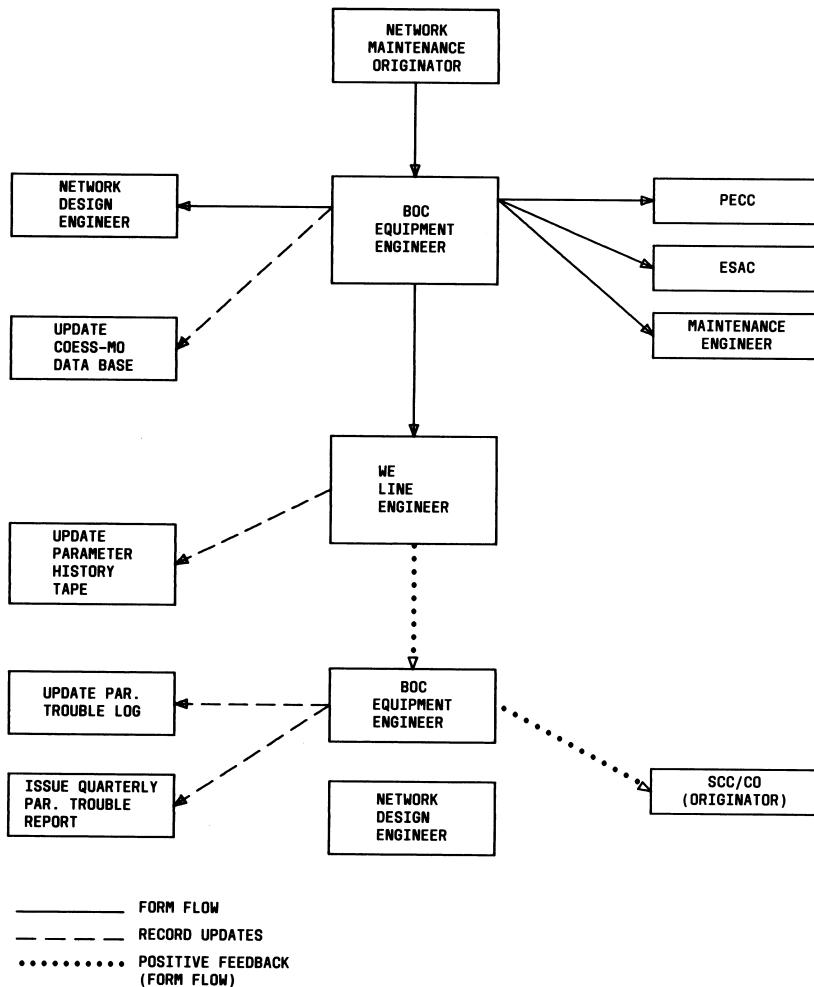


Fig. 2—Parameter Change Notification Form Flow (10.02)

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Ferrod Sensor Replacement Procedures / #1 ESS

AT&T PRACTICE
Standard

SECTION 231-010-801
Issue 2, March 1978
Reprinted July 1984**

FERROD SENSORS REPLACEMENT PROCEDURES NO. 1 ELECTRONIC SWITCHING SYSTEM

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3. LIST OF TOOLS AND MATERIALS	3	10. Typical Readout Winding Straps for Ferrod Sensors in Junctor, Universal Trunk, Miscellaneous Trunk, and Master Scanners	13
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FIGURES

1. Typical Ferrod Sensor Assembly
2. Power and Ground Strapping for Line Scanner Ferrod Sensor (2:1 or 4:1 LCR)
3. Interrogate Winding Straps for Middle Ferrod Sensor of Line Scanner
4. Interrogate Winding Straps for Line Scanner Ferrod Sensor Near Core Matrix
5. Interrogate Winding Straps for Line Scanner Ferrod Sensor Near All-Seams-Well Transformer
6. Interrogate Winding Straps for Middle Ferrod Sensor of Junctor, Universal Trunk, Miscellaneous Trunk, and Master Scanners
7. Interrogate Winding Straps for Ferrod Sensor Near Core Matrix of Junctor, Universal Trunk, Miscellaneous Trunk, and Master Scanners

TABLE

- | FIGURE | TABLE |
|--------|--|
| 1 | A. Differences in Ferrod Sensor Replacement Procedures |
| 2 | 1. GENERAL |
| 5 | 1.01 This section describes the procedures for replacement of ferrod sensors in scanner circuits of the No. 1 Electronic Switching System (ESS). This section also covers the information necessary for ordering replacement ferrod sensor assemblies. |
| 6 | 1.02 This section is reissued for the following reasons.
(a) To include Addendum 1 |
| 7 | (b) To add coverage for the KS-21232 L1 electric wire wrapping gun |
| 8 | (c) To change KS tool designations. |

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1.03 Ferrod sensors used in the various scanner circuits are listed in Part 3. A typical two ferrod sensor assembly is shown in Fig. 1. For more information on scanner operation, refer to Section 231-030-010.

1.04 Before a ferrod sensor assembly can be replaced, the circuits in which it is used must be made busy or taken out of service.

(a) This is accomplished in the line scanners and junctor scanners by teletypewriter (TTY) input messages that make the line busy or remove the junctor circuit from service. Where input messages are specified, reference should be made to the Input Message Manual IM-1A001 for correct message format and contents. Replacement of a ferrod sensor assembly is performed without removing power from the scanner circuits. Appropriate precautionary measures are given in the procedure.

(b) In the universal trunk and miscellaneous trunk scanners, ferrod sensors are taken out

of service by keying the appropriate trunk network numbers on the line and trunk test panel.

(c) Ferrod sensors in the master scanners are made busy as determined by the circuits using the scan points. Replacement of a ferrod sensor assembly is performed without removing power from the scanner circuits. Appropriate precautionary measures are given in the procedure.

2. PIECE-PART DATA

2.01 When ordering replacement ferrod sensors, give both the type and the name as shown in the following example:

1B ferrod sensor assembly

Do not refer to the number or to any information shown on the illustrations.

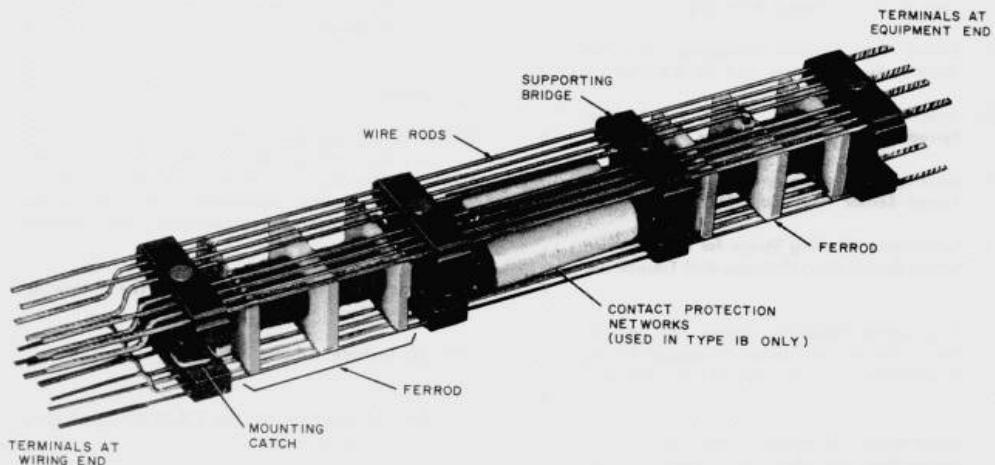


Fig. 1—Typical Ferrod Sensor Assembly

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- 2.02 Four types of ferrod sensors are used in the scanner circuits as shown in the following list:
- Electrical tape
 - Plastic sheets (for protective insulation)
 - Solder

SCANNER CIRCUIT	FERROD SENSOR TYPE
Line	1B
Junctor (2-wire No. 1 ESS)	1C
Universal Trunk (2-wire No. 1 ESS)	1C and 1D
Universal Trunk (4-wire No. 1 ESS)	1D
Miscellaneous Trunk (4-wire No. 1 ESS)	1D
Master	1D and 1E

3. List of Tools and Materials

CODE OR

SPEC. NO. DESCRIPTION

TOOLS

- KS-14440 L3 Soldering copper
KS-14440 L20 Heater and tip
♦ KS-16363 L1 or L2 Wire wrapping tool
KS-21232 L1 Electric wire wrapping gun
KS-20963 L3 Stationary sleeve for 26-gauge wire
KS-20827 L1 Wire unwrapping tool
KS-16903 L1 Wrapping bit for 26-gauge wire

MATERIALS

- 26 AWG insulated wire (for straps)

4. FERROD ASSEMBLY REPLACEMENT PROCEDURE

4.01 The procedures for replacing ferrod sensors in the various scanner circuits are essentially the same and are consolidated into one procedure. Pertinent references and procedural differences peculiar to each circuit are covered in Table A. The steps in the table are numbered to correspond with those in 4.02. For complete instructions applicable to a particular circuit, follow the steps in 4.02 as indicated in Table A.

4.02 To replace a ferrod sensor assembly, perform the following.

(1) Locate the faulty ferrod sensor in the equipment frame and on the schematic diagram (SD) specified in Table A.

(2) Make busy circuits associated with the ferrods or take them out of service as indicated in Table A. Since each ferrod sensor assembly contains two ferrods, **both must be made busy**.

(a) The master scanner ferrods should be made busy only when their failure impedes effective system operation. The method for making a master scanner ferrod busy is determined by the circuit using the scan point.

(b) Incoming trunk circuit ferrods must be made busy at the distant office associated with the circuit.

(c) The following replacement procedures refer to the faulty ferrod. To replace a faulty ferrod, the other ferrod in the assembly must also be replaced. The procedures for the faulty ferrod should also be applied to the other ferrod in the assembly.

Caution: Some line scanner and master scanner ferrod sensors are replaced while power is applied to the ferrod sensor. Do not short to ground (frame) the -48V power appearing

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TABLE A
DIFFERENCES IN FERROD SENSOR REPLACEMENT PROCEDURES

STEP (See 4.02)	LINE SCANNERS		JUNCTOR SCANNERS (2 Wire Only)		UNIVERSAL TRUNK SCANNERS 2 Wire		MISCELLANEOUS TRUNK SCANNERS (4 Wire Only)		MASTER SCANNERS
	2:1 LCR	4:1 LCR	SD-	SD-	SD-	SD-	SD-	SD-	
(1)	SD-1A111-01	SD-1A115-01	SD-1A214-01	SD-1A215-01	SD-1A010-01	SD-2A003-01	SD-1A118-01	SD-1A209-01	
(2)	Use TTY input message T-DN or T-LEN.		Use TTY input message T-JNN.		Use line and trunk panel.		As determined by circuit using scan point.		
(3)	See caution in 4.02.		Remove the fuse carrying the -48V power.		See caution in 4.02.		See caution in 4.02.		
(4)	See Fig. 2.				Does not apply.		See Fig. 2.		
(5)	See Fig. 3, 4, and 5.				See Fig. 6, 7, and 8.				
(6)	See Fig. 9.				See Fig. 10.				
(7), (8), (9), (10), and (11)					As stated in 4.02 (7), (8), (9), (10), and (11).				
(12)	Use TTY input message SCL-DGN.				Use TTY input message SC-DGN.		Use TTY input message SC-DGN.		
(13)	Does not apply.				As stated in 4.02 (13).		As stated in 4.02 (13).		Does not apply.
(14)	Use TTY input message T-DN or T-LEN.		Use TTY input message T-JNN.		Use line and trunk test panel.		As determined by circuit using scan point.		
(15)	Make test from main distributing frame or from terminal block on LSF.				Use line and trunk test panel.		As determined by circuit using scan point.		

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on terminals 5, 9, or 12 of a line scanner ferrod sensor. Power may appear on any terminal of a master scanner ferrod sensor; therefore, the circuit using the ferrod must be analyzed to determine which terminals carry power. Use electrical tape, plastic sheets, and other protective devices as required to prevent shorting ferrod sensor terminals.

- (3) Remove the fuse carrying the -48V power to the ferrod sensor if indicated in Table A.

Note: In Steps (4), (5), and (6), use 26 AWG insulated wire for shorting straps and be sure to cut straps long enough to permit access to the terminals of the faulty ferrod sensor. At the wiring end, terminals are numbered from right to left; bottom row terminals are 1 through 8 and top row terminals are 9 through 16.

- (4) Strap the -48V battery and frame ground terminals as shown in Fig. 2.

Note: When replacing master scanner ferrods **caution** should be used when strapping -48 volts. If these straps are broken, ferrods in that row will be inoperative. Strap these leads in the same manner as a line scanner ferrod.

- (5) Strap around both interrogate windings of the faulty ferrod sensor as shown in the appropriate figure. The strapping arrangement for the interrogate windings of middle ferrod sensors in the line scanners are shown in Fig. 3; of ferrod sensors adjacent to the core matrix, in Fig. 4; and of ferrod sensors adjacent to the all-seems-well (ASW) transformer, in Fig. 5. Strapping arrangements for the interrogate windings of the junctor, universal trunk, miscellaneous trunk, and master scanner ferrod sensors are illustrated in Fig. 6 (middle ferrod sensors), Fig. 7 (ferrod sensors adjacent to core matrix), and Fig. 8 (ferrod sensors adjacent to ASW transformer).

- (6) Strap around both readout windings of the faulty ferrod sensor (Fig. 9 or 10) as indicated in Table A. Typical strapping arrangements for the line scanner readout windings are shown in Fig. 9. Figure 10 shows typical strapping

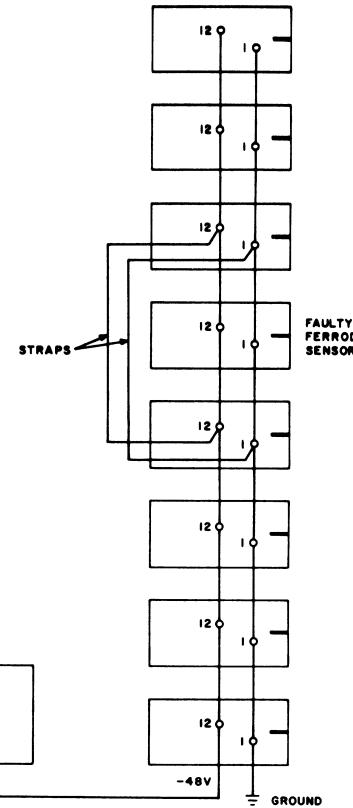


Fig. 2—Power and Ground Strapping for Line Scanner Ferrod Sensor (2:1 or 4:1 LCR)

arrangements for the readout windings in all other scanner circuits. The straps in Fig. 9 and 10 are numbered to correspond with the ferrod sensor being strapped out of the circuit. For example, if ferrod sensor 5 is faulty, use straps 5A and 5B.

Caution: To prevent shorting, tape each bare wire end with electrical tape as soon as it is disconnected.

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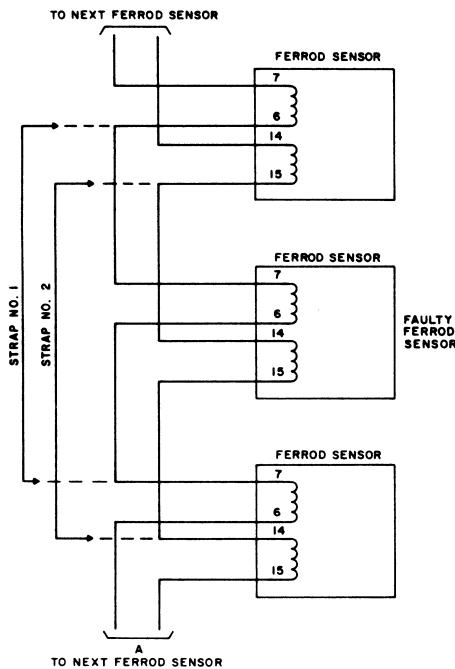


Fig. 3—Interrogate Winding Straps for Middle Ferrod Sensor of Line Scanner

- (7) Tag and disconnect all leads from the terminals of the faulty ferrod sensor. Use the KS-20827 L1 wire unwrapping tool or the KS-14440 L3 soldering copper with the KS-14440 L20 heater and tip.
- (8) Depress the mounting catch on the side of the faulty ferrod sensor assembly and push the assembly toward the front of the frame far enough to hold mounting catch disengaged. At the front of the frame, remove the ferrod sensor assembly from the apparatus mounting unit.
- (9) Make sure the new ferrod sensor assembly is of the proper type and the strapping on the equipment end is identical to that on the faulty ferrod sensor assembly. At the front of the frame, insert new ferrod sensor assembly

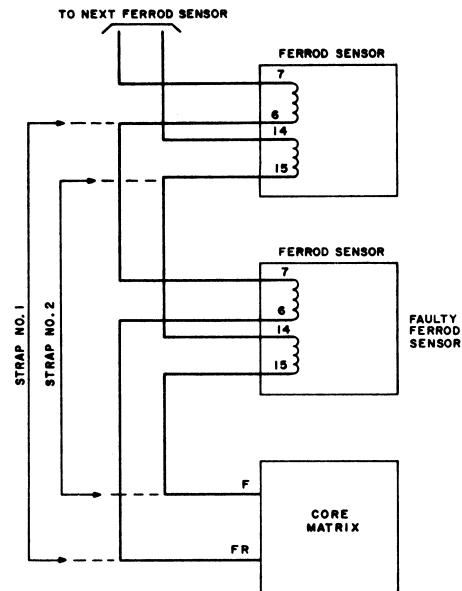


Fig. 4—Interrogate Winding Straps for Line Scanner Ferrod Sensor Near Core Matrix

into cell with equipment end toward the front. Make sure mounting catch snaps into place, securing ferrod sensor assembly in the cell.

- (10) Using the KS-16363 L1 or L2 wire wrapping tool or the KS-21232 wire wrapping gun with the KS-16903 L1 wrapping bit and the KS-14440 L3 soldering copper with the KS-14440 L20 heater and tip, connect leads to terminals according to the tags attached in Step (7). Each terminal should be wire wrapped and soldered. Do not remove the electrical tape from end of a lead until ready to connect it to the terminal.
- (11) Remove the shorting straps installed in steps (4), (5), and (6).
- (12) Request diagnosis of the ferrod sensors using the TTY as indicated in Table A. If the diagnosis fails, recheck connections for interrogate and readout windings; then, if

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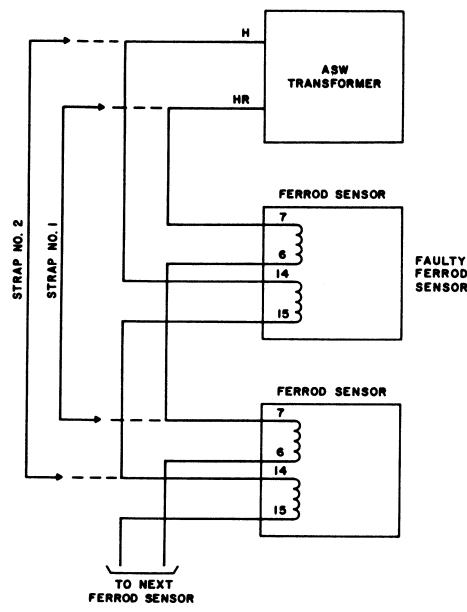


Fig. 5—Interrogate Winding Straps for Line Scanner
Ferrod Sensor Near All-Seconds-Well Transformer

necessary, use the trouble locating manual to find the trouble. If the diagnosis passes, proceed to next step.

(13) If a fuse was removed in Step (3), replace it as indicated in Table A.

(14) Restore the circuits associated with the ferrods to service using the TTY or the line and trunk test panel as indicated in Table A. Since each ferrod sensor contains two ferrods, both must be restored to service.

(15) Test the ferrods to make sure they are operating properly.

(a) For line ferrods, make a test call across the tip and ring of the line from the main distributing frame or from a terminal block on the line switching frame. To verify ferrod saturation, dial tone should be returned.

(b) Junctor, universal trunk, and miscellaneous trunk scanner ferrods may be tested using the line and trunk test panel.

(c) The master scanner ferrods must be tested as determined by the circuit using the scan point.

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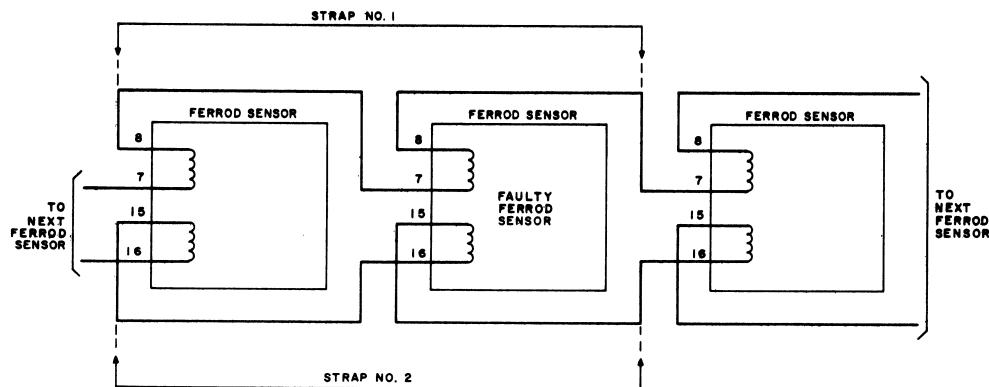


Fig. 6—Interrogate Winding Straps for Middle Ferrod Sensor of Junctor, Universal Trunk, Miscellaneous Trunk, and Master Scanners

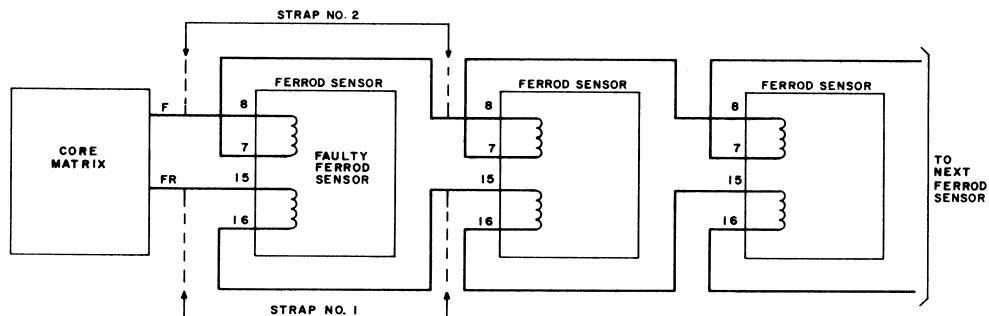


Fig. 7—Interrogate Winding Straps for Ferrod Sensor Near Core Matrix of Junctor, Universal Trunk, Miscellaneous Trunk, and Master Scanners

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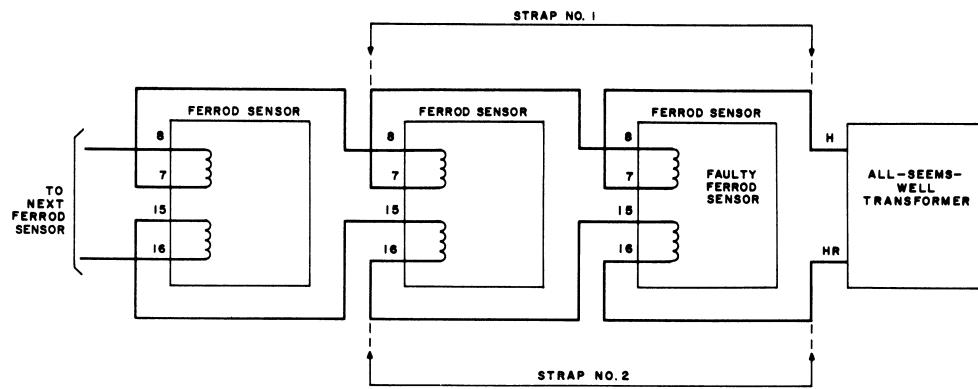


Fig. 8—Interrogate Winding Straps for Ferrod Sensor Near All-Seems-Well Transformer of Junctor, Universal Trunk, Miscellaneous Trunk, and Master Scanners

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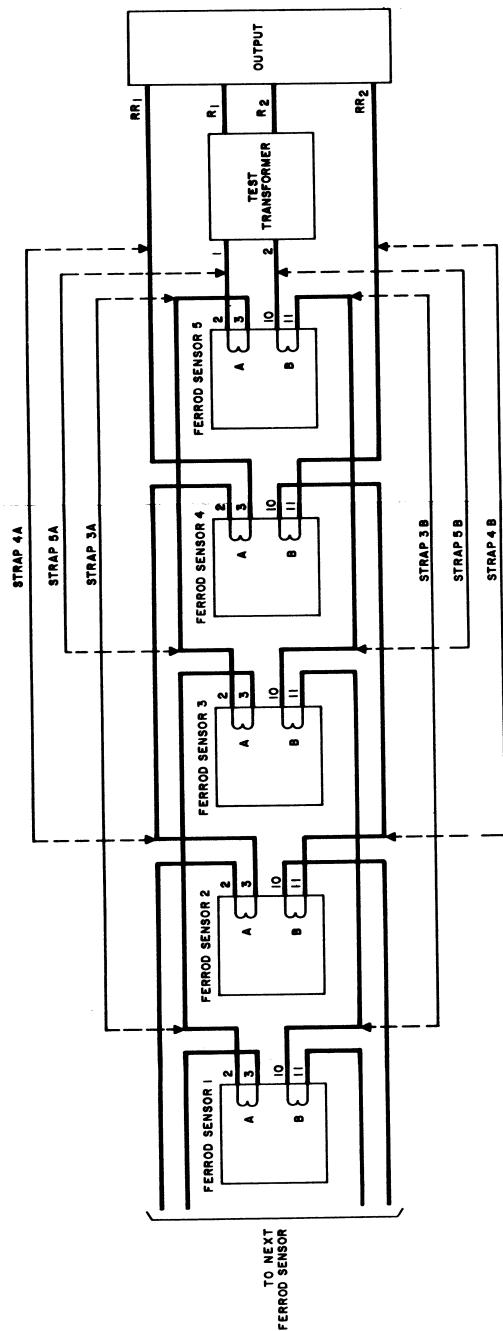


Fig. 9—Typical Readout Winding Straps for Ferrod Sensors in Line Scanner

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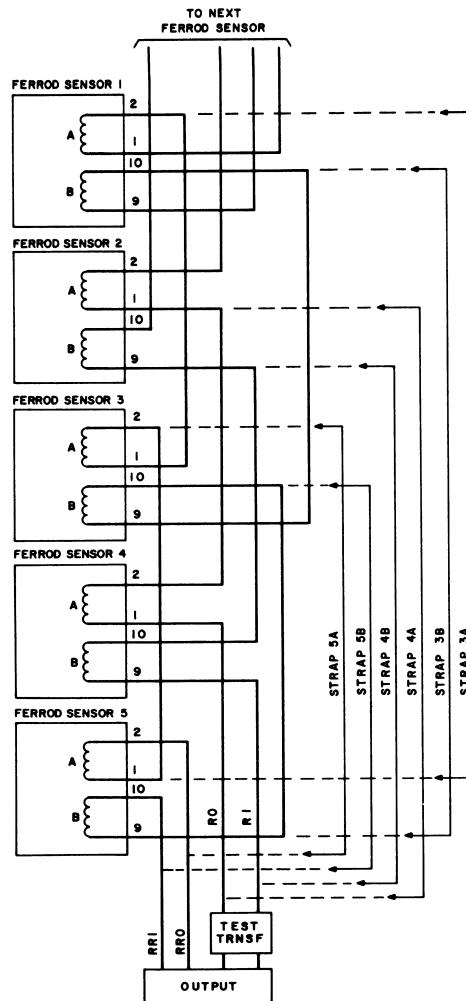


Fig. 10—Typical Readout Winding Straps for Ferrod Sensors in Junctor, Universal Trunk, Miscellaneous Trunk, and Master Scanners

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Nortel DMS-100 Metallic Test Access Horizontal Connection Table (MTAHORIZ)

Table Name

Metallic Test Access Horizontal Connection Table

Functional Description of Table MTAHORIZ

Table MTAHORIZ lists the assignment of horizontal agents, Line Test Units (LTU), Metallic (or multi-line) Test Units (MTU), operator verification, Metallic Jacks (MJACK), incoming test access trunks, extended Metallic Test Access (MTA) and short circuits to a horizontal connection, and horizontal group of Metallic Test Access Minibars (MTAM).

Different horizontal agents can use the same horizontal connection, but are associated with different MTAMs and horizontal groups. A maximum of 160 different horizontal agents are permitted for a given horizontal connection.

A maximum limit of 32 MTAMs can be multiplied (grouped) to connect to a single horizontal agent. A horizontal agent can be used only once.

Line test units for the host and remote locations are assigned to pseudo Common Language Location Identifier (CLLI) code LTU.

Metallic (or multi-line) test units for the host and remote locations are assigned to pseudo CLLI code MTU.

Operator verification trunks for the host switching unit are assigned to the pseudo CLLI code VER90.

The CLLI codes for operator verification trunk groups for remote locations are assigned by the operating company.

Metallic jacks are assigned to pseudo CLLI code MJACK.

The CLLIs for incoming test access trunks for the host and remote locations are assigned by the operating company.

The assignment rules for table MTAHORIZ are as follows:

- There are no horizontal connections reserved for dedicated LTUs. Non-dedicated LTUs have no restrictions on assignment.
 - If the MTAM is a 2X50, the maximum number of lines for each LTU is governed by hardware restraints. One LTU is required for 6,400 lines (10 Line Concentrating Modules [LCM]) or any fraction of this.
 - If the MTAM is a 3X90BA, the recommended maximum number of lines for each LTU is 5,120 (8 LCMs).
 - When a line test unit is assigned to the host switching unit, the horizontal connection to which it is assigned is multiplied to all minibar switches that are assigned to the host switching unit.
 - When a line test unit is assigned to a remote location, the horizontal connection to which it is assigned is multiplied to all minibar switches that are assigned to the remote location.
- If the minibar switch is located at the host switching unit, no assignment restrictions exist for the assignment of incoming test and operator verification trunks. One horizontal connection is required for each incoming test access trunk and operator verification trunk.
 - If the MTA configuration is small or medium, the horizontal connections to which the incoming test access and operator verification trunks are assigned are multiplied to all minibar switches that are located at the host switching unit. If the MTA configuration is large, see the *Large MTA Configuration* section below.

- If the minibar switch is remote from the host switching unit, all horizontal connections are available for the assignment of incoming test access and operator verification trunks, as well as for the extension of the metallic test access feature.
- One horizontal is required for each incoming test access trunk, operator verification trunk and for each vertical connection on the host minibar switch that is assigned to a horizontal connection on the minibar switch located at the remote or host location.
- The number of metallic jacks in each DMS office is restricted to 256.

For the assignment of the LTUs, incoming test access and operator verification trunks to trunk group, trunk subgroup and trunk member tables, see tables TRKGRP (Trunk Group), TRKSGRP (Trunk Subgroup), and TRKMEM (Trunk Member) respectively.

A LTU, MTU, or both must be entered in table TRKMEM before being added to table MTAHORIZ. If the LTU or MTU is deleted from the TRKMEM table, the corresponding tuple in table MTAHORIZ is marked as deleted, but is automatically restored if the LTU or MTU is re-added to table TRKMEM.

Large MTA Configuration

A large MTA configuration is used if the vertical connections that are required to connect to the NOTEST trunk through the MTA exceed the MTAHORIZ limitation of 32 MTA drivers. The NOTEST trunk is placed on an Extended Metallic Trunk Access (EMTA), and the EMTA capability of connecting to Line Concentrating Device (LCD) vertical connections is used as shown in the following figures.

Figure 1 shows how the LCD group MTA drivers and the EMTA connections and MTA drivers connect.

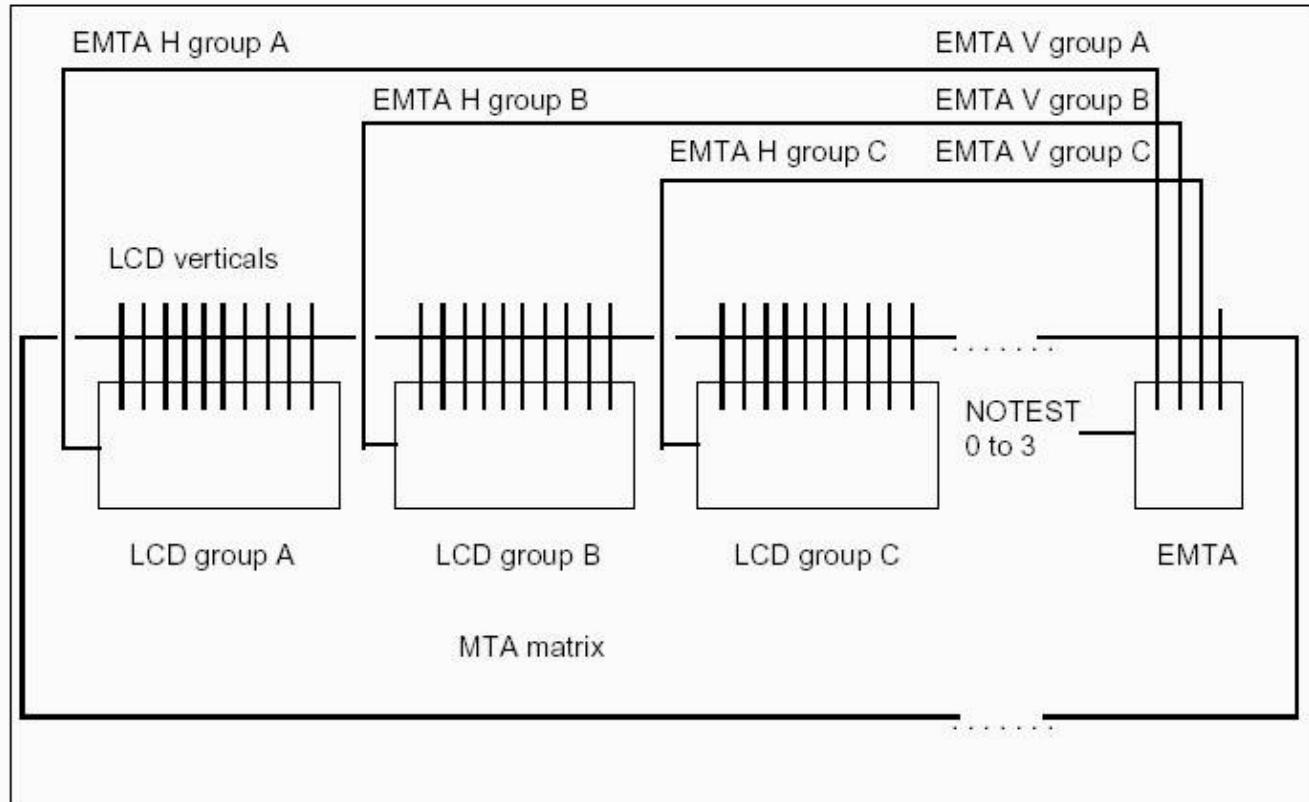


Figure 1: LCD Connections to EMTA

If there are a large number of test access trunks, the previous solution could result in a large number of MTA drivers needed for the EMTA configuration. The number of MTA drivers for the EMTA can be reduced by breaking it into groups also, as shown in *Figure 2*.

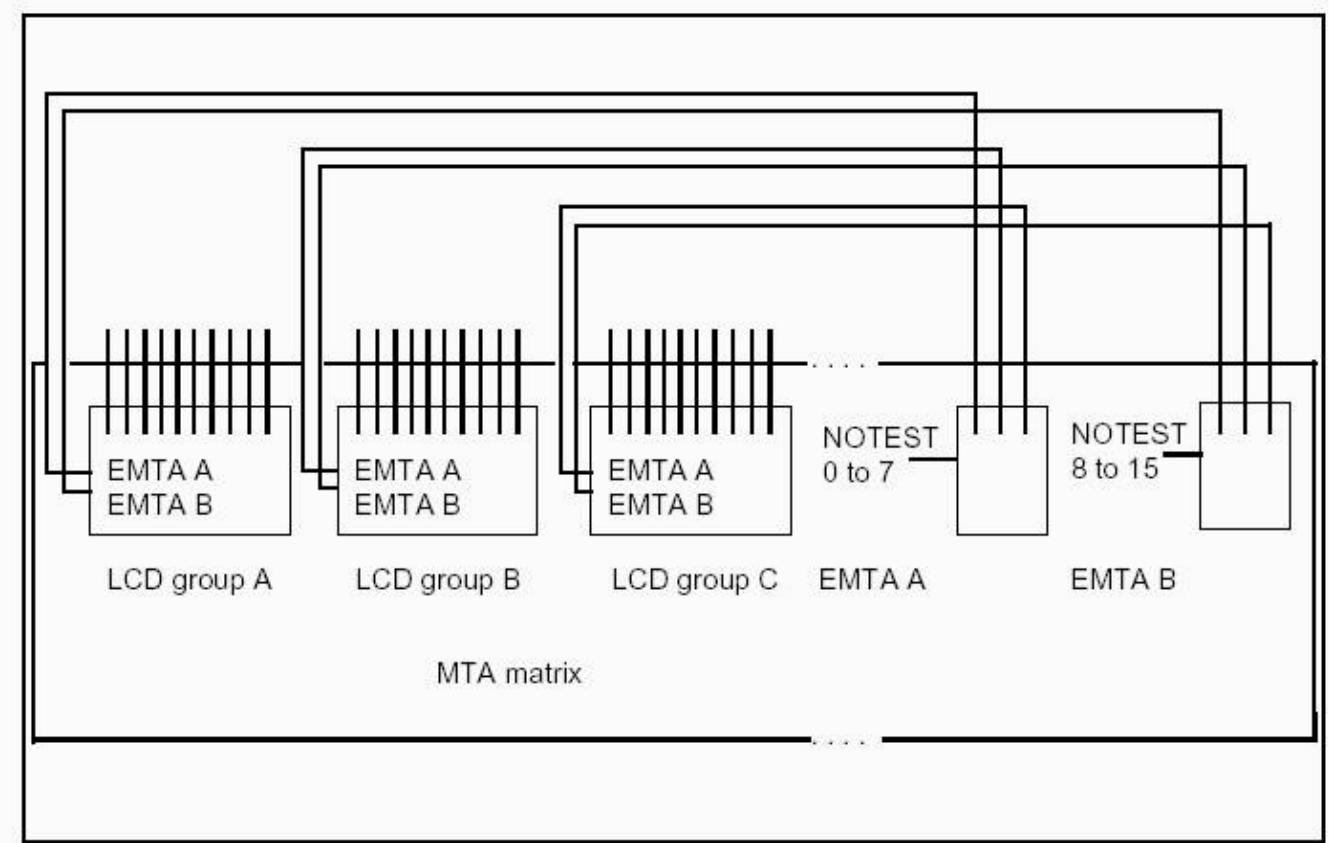


Figure 2: MTA Driver Reduction Through Grouping

For related information, refer to table MTAMDRVE (Metallic Test Access Minibar Driver).

Datafill Sequence and Implications

The following tables must be datafilled before table MTAHORIZ:

- MTAMDRVE (Metallic Test Access Minibar Driver)
- MTAVERT (Metallic Test Access Vertical Connection)
- TRKMEM (Trunk Member)
- TSTEQUIP (Test Equipment)

Table MTAHORIZ interacts with office parameter CABLE_SHORT_TIMEOUT in table OFCENG (timed short circuit [field SELECTOR set to S]).

Table Size

Memory for this table is dynamically allocated up to a maximum of 2,000 tuples.

Datafill

The following table lists datafill for table MTAHORIZ.

Table MTAHORIZ Field Descriptions

Field	Subfield	Entry	Explanation and Action
HORIZ		0 to 127	<i>Metallic Test Access Horizontal Connection</i> Enter the Metallic Test Access (MTA) horizontal connection to which the test equipment (horizontal agent) is connected.
HORIZGRP		0 to 159	<i>Metallic Test Access Horizontal Group</i> Enter the horizontal group number which identifies the horizontal connection and its horizontal agent as a unique tuple. The horizontal group is used to assign different test equipment (horizontal agents) on the same MTA horizontal. A horizontal group can involve only one horizontal agent, but is cross-connected (multiplied) at the Main Distribution Frame (MDF) to a single or a number of MTA Minibar (MTAM) driver horizontal connections.
HORIZAGT		See Subfield	<i>Horizontal Agent</i> This field consists of subfield SELECTOR.
SELECTOR		B, BBT, E, J, L, LA, MJ, NT1, S, T	<p><i>Selector</i> If the assignment is for a board-to-board dedicated horizontal connection, enter "B" and datafill refinement BBTNR, section "SELECTOR = B".</p> <p>If the assignment is for the MTA horizontal connections on a Board-to-Board Testing (BBT) unit, enter "BBT" and datafill refinement BBTNR.</p> <p>If the assignment is to multiple a horizontal connection of a minibar switch from a host or remote connection to the vertical of a host minibar switch, enter "E" (extension of MTA) and datafill refinement EMTAVERT, section "SELECTOR = E".</p> <p>If a metallic connection to the tip and ring of the subscriber line is required, enter "MJ" and datafill refinements CLLI and MJACKNUM, in section "SELECTOR = MJ".</p> <p>Selector values J and LA are for licensee use only.</p> <p>If the assignment is for a Line Test Unit (LTU) or Metallic (or multi-line) Test Unit (MTU), enter "L" and datafill refinements CLLI, EXTRKNM, and ALTUSE in section "SELECTOR = L".</p> <p>If the assignment is for a test NT1, enter "NT1" and complete refinement NT1NUM in section "SELECTOR = NT1".</p>

If the assignment is for a timed short circuit (and the time is defined by the office parameter CABLE_SHORT_TIMEOUT in table OFCENG), enter "S". No refinements require datafill. Go to field MTAGRP in section "SELECTOR = B, BBT, E, LA, MJ, S, T".

If the assignment is for an incoming test access or operator verification trunk, enter "T" and datafill refinements CLLI and EXTRKNM in section "SELECTOR = T".

-End-

SELECTOR = B

If the entry in field SELECTOR is B, datafill refinement BBTNR as described below.

SELECTOR = B Field Descriptions

Field	Subfield	Entry	Explanation and Action
	BBTNR	0 to 7	<p><i>Board-to-Board Testing Number</i> Enter the number of the board-to-board set with which this horizontal connection is associated.</p> <p>Go to field MTAGRP in section "SELECTOR = B, BBT, E, LA, MJ, S, T".</p>

-End-

SELECTOR = BBT

If the entry in field SELECTOR is BBT, datafill refinement BBTNR as described below.

SELECTOR = BBT Field Descriptions

Field	Subfield	Entry	Explanation and Action
	BBTNR	0 to 7	<p><i>Board-to-Board Testing Number</i> Enter the number of the board-to-board set with which this horizontal connection is associated.</p>
	CLLI_NAME	Alphanumeric	<p><i>Common Language Location Identifier</i> This subfield specifies the CLLI name of the BBT outgoing trunk.</p>
	EXTRKNM	0 to 9,999	<p><i>External Trunk Number</i> This subfield specifies the external trunk number assigned in table TRKMEM to the BBT outgoing trunk.</p>
	PREDIAL_DELAY	0 to 300	<p><i>Predial Delay</i> This subfield specifies the time in hundreds of milliseconds between sending an off-hook by the DMS switch on the no-test trunk to the old office and outpulsing of digits on that trunk. For example, an input of "2" gives a delay of 200 milliseconds.</p>

SDMEM	0 to 511	<i>Signal Distribution Member</i> This subfield specifies the group number associated with the primary Signal Distribution (SD) circuit of a NT2X57 card connected to this BBT test unit previously datafilled in table SDGRP (Signal Distributor Group)
SCMEM	0 to 511	<i>Scan Detector Member</i> This subfield specifies the group number associated with the primary SC circuit of a NT0X10 card connected to this BBT test unit previously datafilled in table SCGRP (Scan Group).
DISC_RELAY	A, K	<i>Disc Relay</i> This subfield specifies the relay in the NT5X73AB BBT test unit which, when operated, disconnects the BBT test unit from the old office. The default is the "A" relay.
DISC_TIME	1 to 300	<i>Disc Time</i> This subfield specifies the time in 100 millisecond increments required for the old office to properly release once a disconnect signal has been received from the DMS switch.
OFFICE_TYPE	SxS, XBAR, ESS, DMS, and OTHER	<i>Office Type</i> This subfield specifies the information required by the BBT software to communicate with the old office. The old offices are categorized as SxS, XBAR, ESS, DMS, and OTHER.
OPTIMIZE_OUTPULSING	Y or N	<i>Optimized Outpulsing</i> This subfield specifies if the old office uses optimized outpulsing. This subfield is displayed only for SxS offices.
DIGSOUT	0 to 18	<i>Digit Number</i> This subfield specifies the number of digits that must be outpulsed by the DMS switch to connect to a line in the old office.
AT_HOST	YES or NO	<i>At Host</i> This subfield specifies if the ABBT test unit is located at the host site.
RELAY_DELAY	0 to 100	<i>Relay Delay</i> This subfield specifies the time in 100 millisecond increments for a signal output from a SD point of the host DMS switch to travel to the BBT test unit located at a remote site and operate a relay in the BBT test unit. For example, an input of "2" specifies a delay of 200 milliseconds. The prompt appears only if the BBT test unit is located at a remote site (AT HOST=NO).

SCAN_DELAY	0 to 10	<i>Scan Delay</i> This subfield specifies the time in 100 millisecond increments for a signal generated by an ABBT test unit located at a remote site to travel to a SCAN point of the host DMS switch and be read. For example, an input of "2" specifies a delay of 200 milliseconds. The prompt appears only if the ABBT test unit is located at a remote site (AT HOST=NO).
VERT	0 to 639	<i>Vertical</i> This subfield is the starting vertical number on the MTA driver.
NBRVERTS	0 to 640	<i>Number Verticals</i> This subfield is the number of verticals for the MTA driver.

Go to field MTAGRP in section
"SELECTOR = B, BBT, E, LA, MJ, S, T".

-End-

SELECTOR = E

If the entry in field SELECTOR is E, datafill refinement EMTAVERT as described below.

SELECTOR = E Field Descriptions

Field	Subfield	Entry	Explanation and Action
	EMTAVERT	0 to 1,023	<i>Extended Metallic Test Access Column</i> Enter the associated vertical connection on the MTA in the host to which the horizontal connection is connected.

Go to field MTAGRP in section
"SELECTOR = B, BBT, E, LA, MJ, S, T".

-End-

SELECTOR = L

If the entry in field SELECTOR is L, datafill refinements CLLI, EXTRKNM, and ALTUSE as described below.

SELECTOR = L Field Descriptions

Field	Subfield	Entry	Explanation and Action
	CLLI	LTU or MTU	<i>Common Language Location Identifier</i> If the assignment is for a LTU, enter the pseudo CLLI code LTU. If the assignment is for a MTU, enter the pseudo CLLI code "MTU". The pseudo CLLI codes must be previously entered in table CLLI.

EXTRKNM	0 to 9,999	<i>External Trunk Number</i> Enter the external trunk trunk number assigned in table TRKMEM to the LTU or MTU.
ALTUSE	Y or N	<i>Automatic Line Test Use</i> Enter "Y" (yes) to use the line test equipment for automatic line testing. Otherwise, enter "N" (no).
Go to field MTAGRP in section "SELECTOR = B, BBT, E, LA, MJ, S, T".		

-End-

SELECTOR = MJ

If the entry in field SELECTOR is MJ, datafill refinements CLLI and MJACKNUM as described below.

SELECTOR = MJ Field Descriptions

Field	Subfield	Entry	Explanation and Action
CLLI	MJACK		<i>Common Language Location Identifier</i> If the assignment is for a metallic jack, enter the pseudo CLLI code MJACK. The pseudo CLLI code must be previously entered in table CLLI.
MJACKNUM	1 to 256		<i>Metallic Jack Number</i> Enter the metallic jack number. Note: The vertical connection to which the horizontal connection is being extended, must be previously datafilled as an EMTA vertical connection in table MTAVERT.
Go to field MTAGRP on section "SELECTOR = B, BBT, E, LA, MJ, S, T".			

-End-

SELECTOR = NT1

If the entry in field SELECTOR is NT1, datafill refinement NT1NUM as described below.

SELECTOR = NT1 Field Descriptions

Field	Subfield	Entry	Explanation and Action
NT1NUM	0 to 255		<i>Network Termination 1 Number</i> Enter the number of the test Network Termination 1 (NT1) in the DMS testing system with which this horizontal connection is associated.
Go to field MTAGRP in section "SELECTOR = B, BBT, E, LA, MJ, S, T".			

-End-

SELECTOR = T

If the entry in field SELECTOR is T, datafill refinements CLLI and EXTRKNM as described below.

SELECTOR = T Field Descriptions

Field	Subfield	Entry	Explanation and Action
	CLLI	Alphanumeric (up to 16 characters) or VER90	<p><i>Common Language Location Identifier</i> If the assignment is for the host operator verification trunk, enter the pseudo CLLI code "VER90".</p> <p>If the assignment is for an operator verification trunk for a remote location, or an incoming test access trunk, enter the pseudo CLLI code previously datafilled in table CLLI. The pseudo CLLI codes must also be entered in table CLLI.</p>
	EXTRKNM	0 to 9,999	<p><i>External Trunk Number</i> Enter the external trunk number assigned in table TRKMEM to the operator verification trunk or the incoming test access trunk.</p> <p>Go to field MTAGRP in section "SELECTOR = B, BBT, E, LA, MJ, S, T".</p>

-End-

SELECTOR = B, BBT, E, LA, MJ, S, T

If the entry in field SELECTOR is B, BBT, E, LA, MJ, S, or T, datafill field MTAGRP as described below.

SELECTOR = B, BBT, E, LA, MJ, S, T Field Descriptions

Field	Subfield	Entry	Explanation and Action
MTAGRP		See Subfields	<p><i>Metallic Test Access Group</i> This field consists of a list of MTA drivers that multiple to the test equipment and is a vector of up to 32 multiples of subfields MTAMEM and HORIZ. If less than 32 multiples are required, end the list with a "\$" (dollar sign).</p>
	MTAMEM	0 to 511	<p><i>Metallic Test Access Minibar Driver Member</i> Enter the Metallic Test Access Minibar (MTAM) driver member number to which the horizontal connection is connected.</p>
	HORIZ	0 to 127	<p><i>Horizontal</i> This read-only field gives information about the MTA drivers physical horizontal connection. Enter "0" (zero) to satisfy table control.</p> <p>Any entry outside the range indicated for this field is invalid.</p>

-End-

Datafill Example

The following example MAP display shows sample datafill for table MTAHORIZ.

The example shows an addition to table MTAHORIZ. The value in field HORIZ is entered which is part of the vector of field MTAGRP. After the values have been input, a display of the table shows the actual horizontal connection on the physical driver.

HORIZ	HORIZGRP	HORIZAGT	MTAGRP
3	159	BBT 0 BBTOUT 0 8 0 0 A 12 DMS Y 7 YES 24 4	(6 3) \$

Nortel DMS-100 Metallic Test Access Vertical Connection Table (MTAVERT)

Table Name

Metallic Test Access Vertical Connection Table

Functional Description of Table MTAVERT

Table MTAVERT identifies the vertical connectivity to the Metallic Test Access (MTA) matrix. Two types of vertical connections are allowed, as described below.

Single

A single connection is defined using selectors L, E, T, and O. Selector L requires the assignment of two vertical connections for the Line Concentrating Devices (LCD). One is for the first 320 lines; the other is for the remaining lines. The datafill automatically takes the two vertical connections; one vertical connection is taken as the primary and the other is taken as its mate. Any attempt to datafill on a vertical that is a mate is denied. Mate verticals cannot be displayed in table control.

Selectors E, T, and O require the assignment of a single vertical connection for use. Selector E defines an extended vertical; the MTA Minibar Drivers (MTAM) on this vertical must all be located at the host (field SITE). Selector T specifies that the vertical is connected to a Trunk Module (TM) Peripheral Module (PM). Selector O is for LCDs that require only one vertical for test access.

Note: Selector T is reserved for a special market segment (Austria) and is not available for general usage.

Multiple

The vertical connection is connected to a remote LCD that does not reside on a Subscriber Carrier Module (SCM) and can have multiple or shared appearances of LCDs. Only selector O can be used, and a maximum of 32 LCDs for each vertical are allowed.

The *Figure 1* illustrates single and multiple vertical connections.

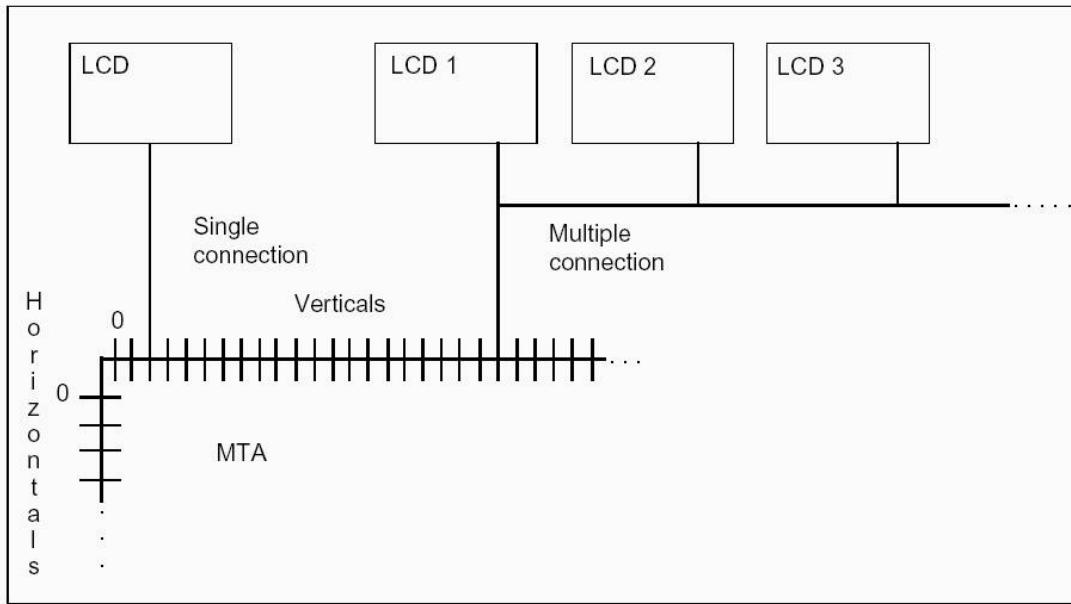


Figure 1: Single and Multiple Vertical Connections

For related information, refer to table MTAMDRVE (Metallic Test Access Minibar Driver).

Datafill Sequence and Implications

Table MTAMDRVE must be datafilled before table MTAVERT.

Table Size

0 to 1,024 tuples.

Store for table MTAVERT is dynamically allocated.

Datafill

The following table lists datafill for table MTAVERT.

Table MTAVERT Field Descriptions

Field	Subfield	Entry	Explanation and Action
VERT		0 to 1,023	<p><i>Vertical</i> Enter the Metallic Test Access (MTA) vertical connection number.</p> <p>If subfield SELECTOR has value "L", and the entry in field MTACARD has value 2X50AB (in table MTAMDRVE), the entry in field VERT must be an even number. Each Line Module (LM) requires two vertical connections that must be adjacent. The second connection is made internally to vertical VERT+1. The odd numbered vertical can only be used internally.</p>
VERTCONN		See Subfield	<p><i>Vertical Connection</i> This field consists of subfield VERTSEL.</p>

VERTSEL	M or S	<p><i>Vertical Connection Type Selector</i> Enter one of the two types of vertical connections.</p>
		<p>For multiple LCD connections to the vertical connection, enter "M" and datafill refinement VERTAREA. This entry can be used only if the vertical is connected to a remote LCD that does not reside on a Subscriber Carrier Module (SCM), namely Remote Carrier DMS-1 Rural (RCT), Remote Concentrator SLC-96 (RCS), Remote Carrier DMS-1 Urban (RCU), and Remote Digital Terminal (RDT). Multiple connections are allowed and a vector of up to 32 selectors plus their refinements can be input. If less than 32 selectors are required, end the list with a "\$" (dollar sign).</p>
		<p>If subfield VERTSEL is set to "M", subfield SELECTOR can only have a value of "O".</p>
		<p>For a single Line Concentrating Device (LCD) connection to the vertical connection, enter "S" and datafill refinement VERTITEM. Only a single connection is allowed and only one selector and its refinements can be input for any tuple. Any selector and its refinements can be used in this case.</p>
VERTITEM	See Subfield	<p><i>Vertical Item</i> If the entry in subfield VERTSEL is "S", datafill this refinement. This field consists of subfield SELECTOR.</p>
VERTAREA	See Subfield	<p><i>Vertical Area</i> If the entry in field VERTSEL is "M", datafill this refinement. This field consists of subfield SELECTOR.</p>
SELECTOR	E, L, O, or T	<p><i>Selector</i> Enter one of the four selector types.</p>
		<p>If the vertical connection is used for an extended connection, enter "E" and datafill refinements EHORIZ and EHORZGRP in section "SELECTOR = E".</p>
		<p>If the vertical connection is used for a line module, enter "L" and datafill refinement LINEMOD in section "SELECTOR = L". Selector L requires that two verticals be used. The datafill automatically takes the two verticals, one as the primary and other as its mate.</p>
		<p>If the vertical connection is used for a RCT or RCS, enter "O" and datafill refinement LINEMOD in section "SELECTOR = L".</p>
		<p>If the vertical connection is used for a RTD, enter either "L" or "O" and datafill refinement LINEMOD in section "SELECTOR = L". Up to two vertical assignments can be made for one or more RTDs.</p>

If the vertical connection is connected to a Trunk Module (TM) Peripheral Module (PM), enter "T" and datafill refinements TMTYPES and TMNO (for licensee use only) in section "SELECTOR = T".

-End-

SELECTOR = E

If the entry in subfield SELECTOR is E, datafill refinements EHORIZ and EHORZGRP as described below.

SELECTOR = E Field Descriptions

Field	Subfield	Entry	Explanation and Action
	EHORIZ	0 to 127	<i>Extended Metallic Test Access Horizontal Connection</i> Enter the horizontal connection on the MTA to which the vertical connection is connected.
	EHORZGRP	0 to 159	<i>Extended Metallic Test Access Horizontal Group</i> Enter the horizontal group on the MTA to which the vertical connection is connected.

-End-

SELECTOR = L or O

If the entry in subfield SELECTOR is L or O, datafill refinement LINEMOD as described below.

SELECTOR = L or O Field Descriptions

Field	Subfield	Entry	Explanation and Action
	LINEMOD	See Subfields	<i>Line Module</i> This field is identical to field LEN that is datafilled in other tables. Field LINEMOD (and field LEN) defines the physical location of the equipment that is connected to a specific telephone line. Field LINEMOD (and field LEN) consists of subfields SITE, FRAME, UNIT, DRAWER or LSG, SHELF, SLOT, and CIRCUIT. If the entry in field SELECTOR is "O", the field LINEMOD subfields must be set for RCS, RCT, or RDT only.

-End-

SELECTOR = T

If the entry in subfield SELECTOR is T (for licensee use only), datafill refinements TMTYPES and TMNO as described below.

SELECTOR = T Field Descriptions

Field	Subfield	Entry	Explanation and Action
	TMTYPES	Alphanumeric (1 to 3 characters)	<i>Trunk Module Types</i> Enter the TM type. This field is for licensee use only.
	TMNO	0 to 511	<i>Trunk Module Number</i> Enter the number of the TM. This field is for licensee use only.

-End-

Datafill Example

The following example MAP display shows sample datafill for table MTAVERT.

The example is datafilled for the following attributes:

- Vertical 0 with single LCD connection to LCM 00, unit 0.
- Vertical 4 with single LCD connection to remote MTAM 10 (extended connection).
- Vertical 5 with single LCD connection to RCS 00.
- Vertical 10 with multiple connection to three REMs.
- Vertical 17 with multiple connection to two RDTs.

VERT	VERTCONN
0	S L HOST 00 0
4	S E 10 0
5	S O RCS 00 0
10	M (O REM1 00 0) (O REM1 00 1) (O REM1 01 0) \$
17	M (O RDT1 00 0) (O RDT1 01 0) \$

Simple Fax Interceptor

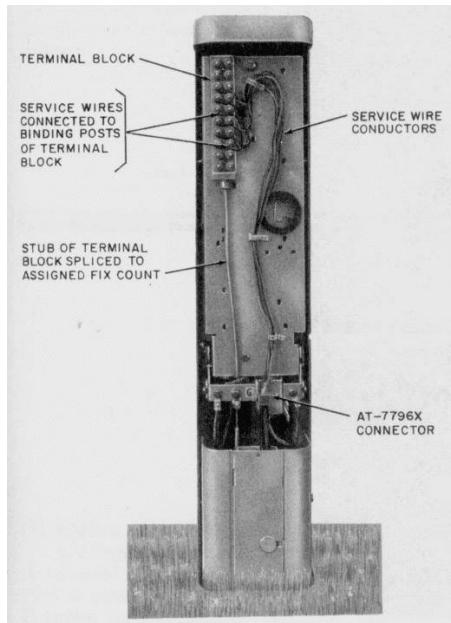
Overview

This hack is for a simple and portable facsimile interceptor. It is based around a slightly modified Panasonic PC/FAX Store 40, Model KX-FB40. This device is a stand-alone fax receiver that is meant to take the place of a regular, full-size fax machine. The stock Panasonic PC/FAX Store 40 can store up to around 40 pages of standard text faxes. The Model KX-FB80 will double that to around 80 pages. The stored faxes are then "downloaded" via a computer with a fax modem and fax software which has a **Manual Receive Now** option, such as WinFax or Microsoft Exchange.

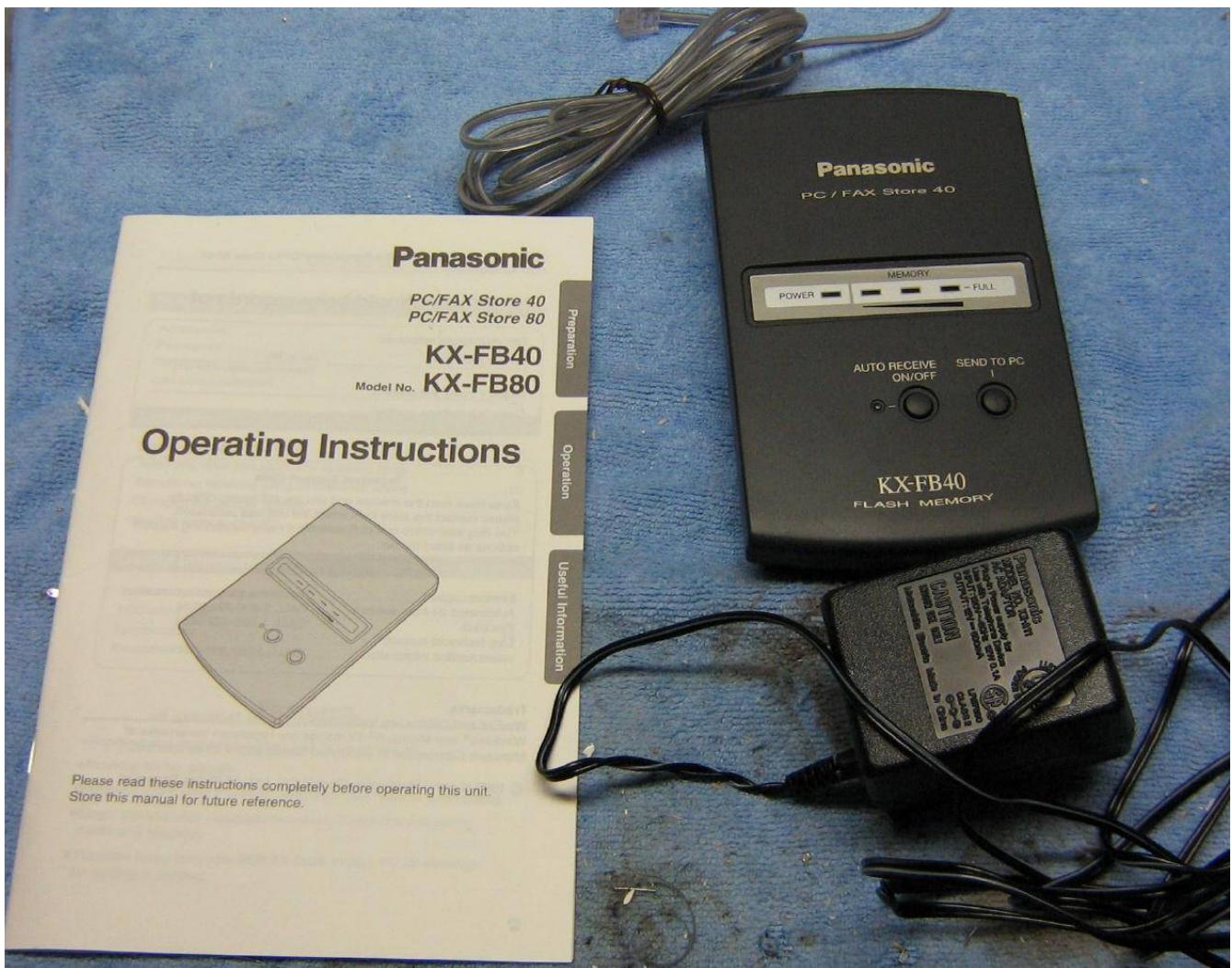
A good use for this device is to add an external 12 volt rechargeable battery and some alligator clips for the phone line connector, then hide it at the bottom of a telco Network Access Interface (NAI) or terminal box at your intended target's phone line location. Of course, you'll need to somehow *physically* disconnect the phone line going to your target's fax machine, as you don't want *their* fax machine to pick-up! If you really want to be sneaky, set up remote call forwarding on the *target's* fax line and forward their fax calls to some phone line out in the boonies. Anyone calling the *target's* fax phone number will automatically be forwarded to your new interceptor box. Collect your faxes, disconnect the box, clean up your mess, and disable call forwarding (or reconnect the wires to the binding posts). Easy as pie.

A couple of little bugs with this operation, though. You'll need to manually set the Panasonic PC/FAX Store 40 to answer on the same number of rings as the *target's* fax machine to avoid causing any suspicion. Also, if the target's fax machine has one of those customized "message received" messages, well, you're screwed. Remember though, people are stupid. Especially if they are *\$2600 Magazine* subscribers.

The complete twenty page Panasonic PC/FAX Store 40 operating instruction manual will be included at the end of this article. It explains the computer/software setup in much more detail. It will also tell you how to adjust the number of rings before answering. It can only be set to one, four, or five rings.



Pictures



Panasonic PC/FAX Store 40, Model KX-FB40 right out of the box. I found it at a thrift store for \$3. Have fun finding yours at that price!



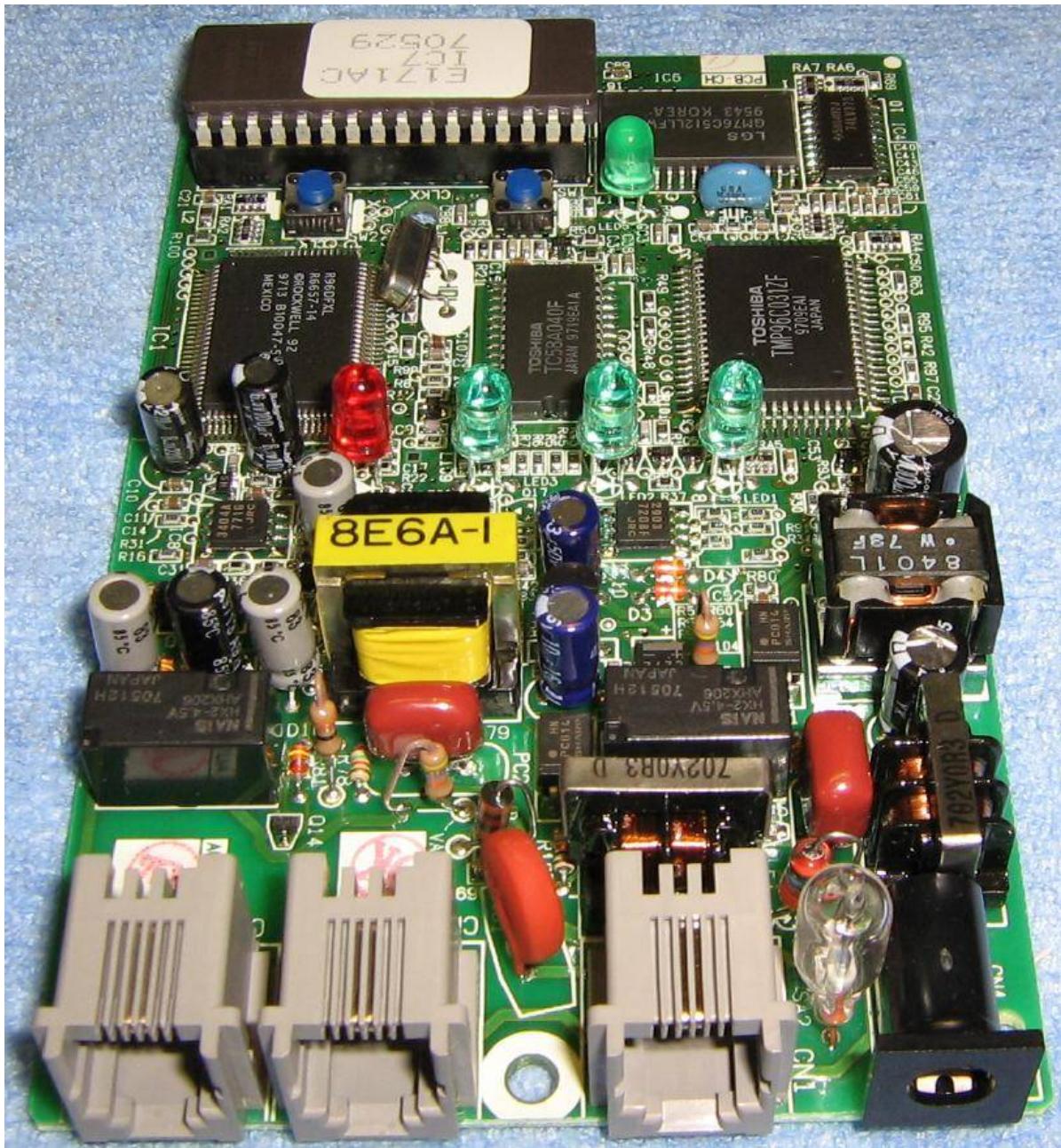
Front panel overview.



Rear panel overview.

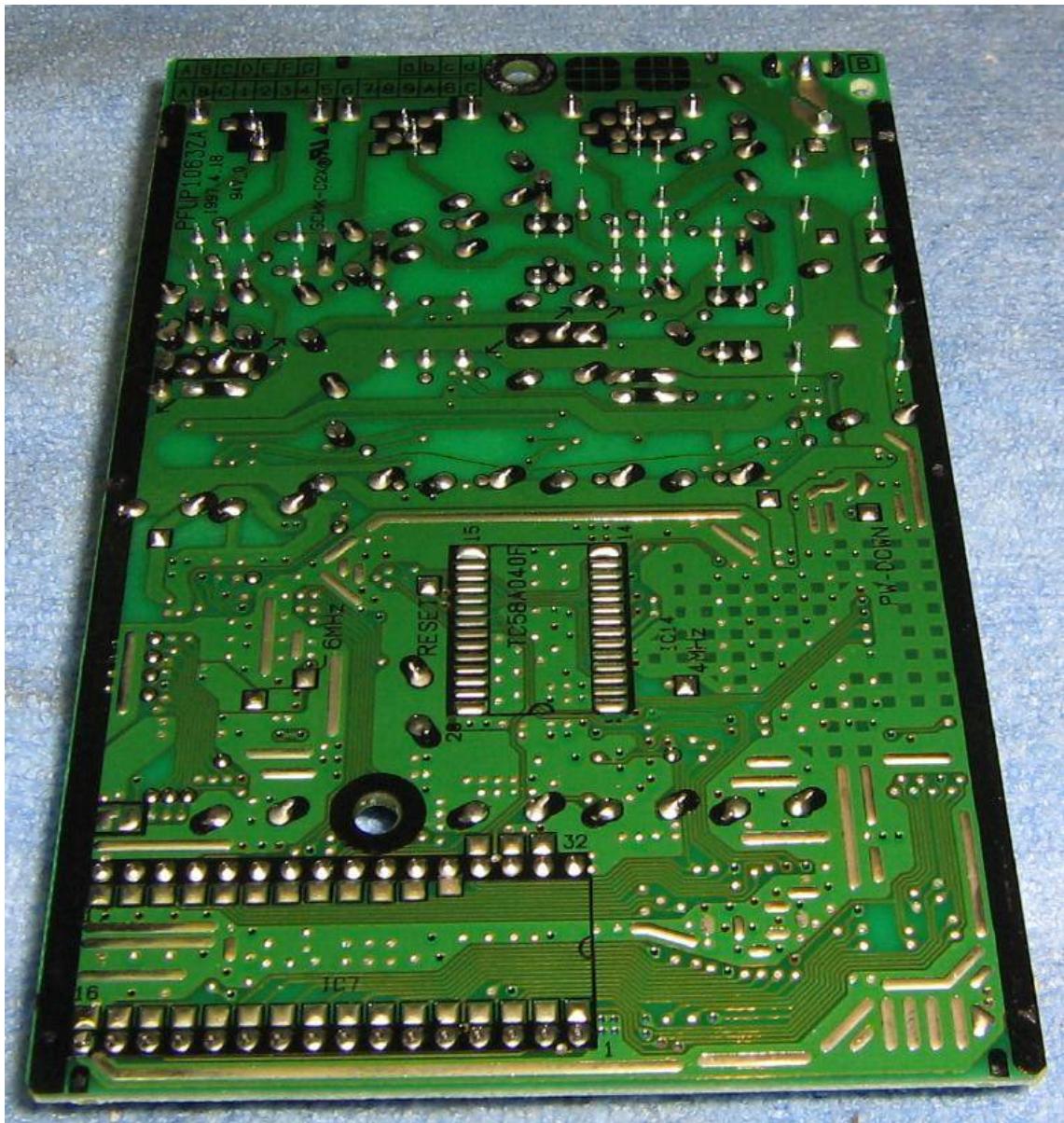


Inside view. I think the faxes are stored in a Toshiba TC58A040F EEPROM.

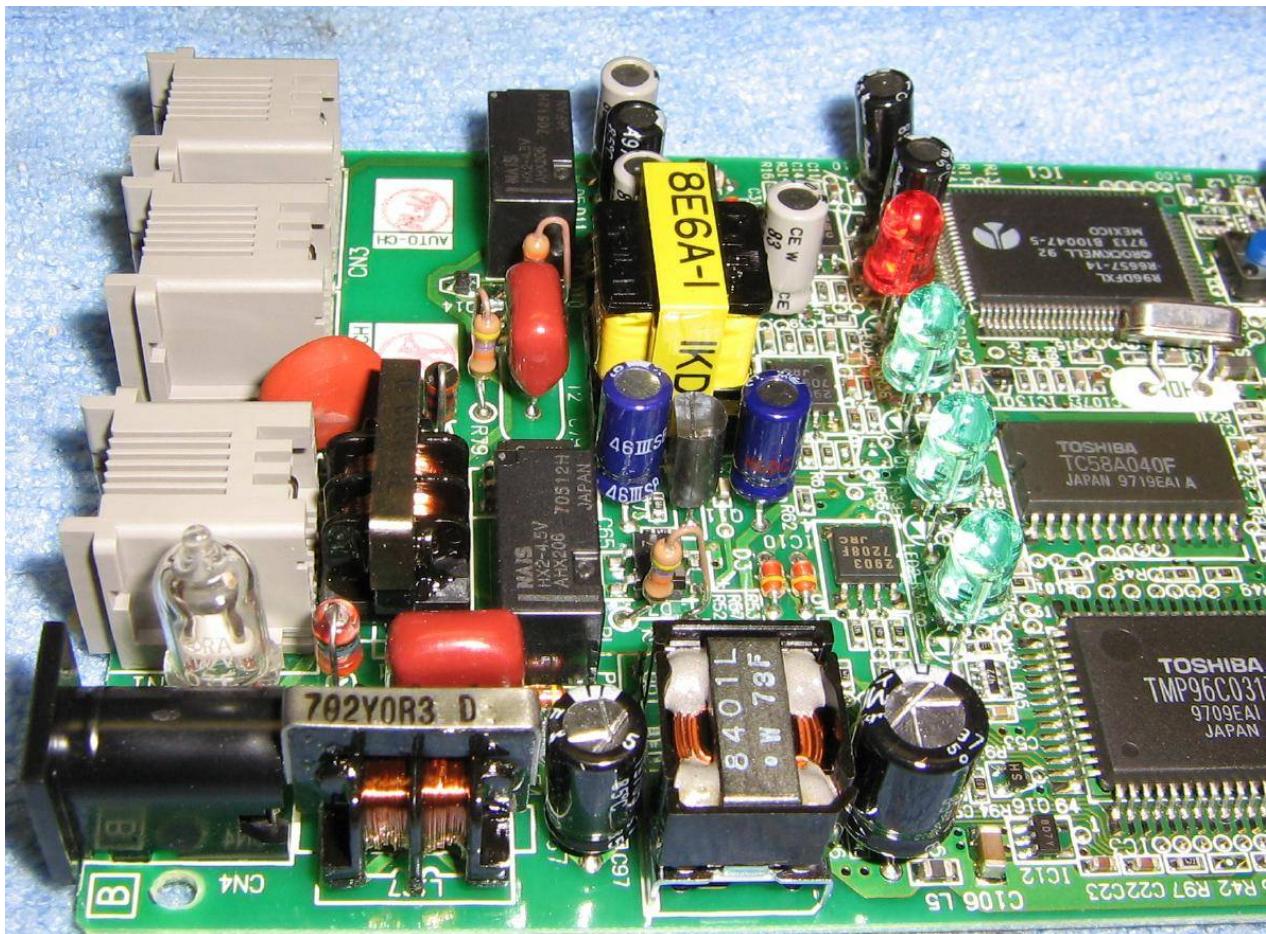


Connector view. From left-to-right: **PC**, **EXT TAM**, **LINE**, and **DC 12V**.

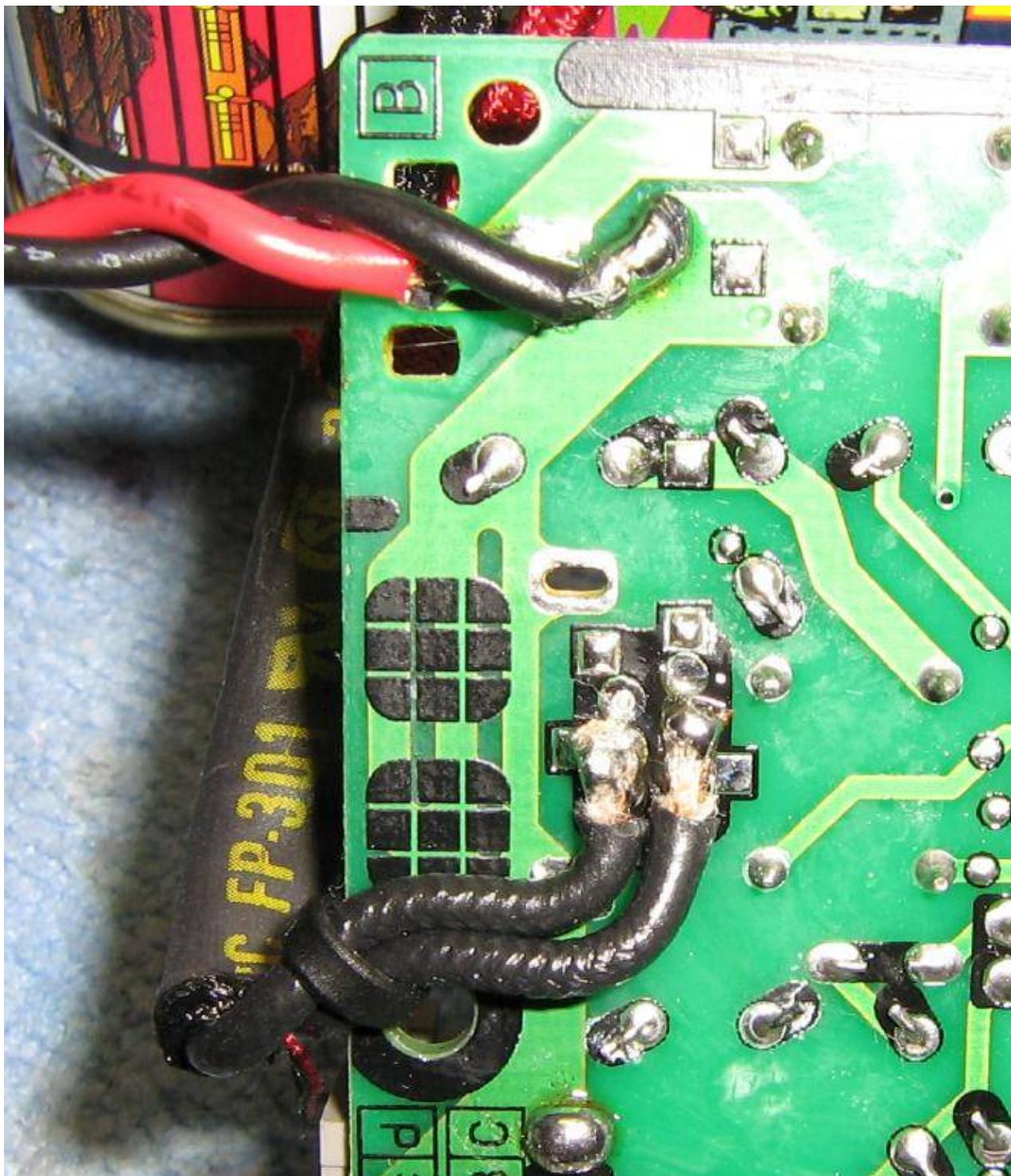
LINE and **DC 12V** will need to be modified to make this device portable.



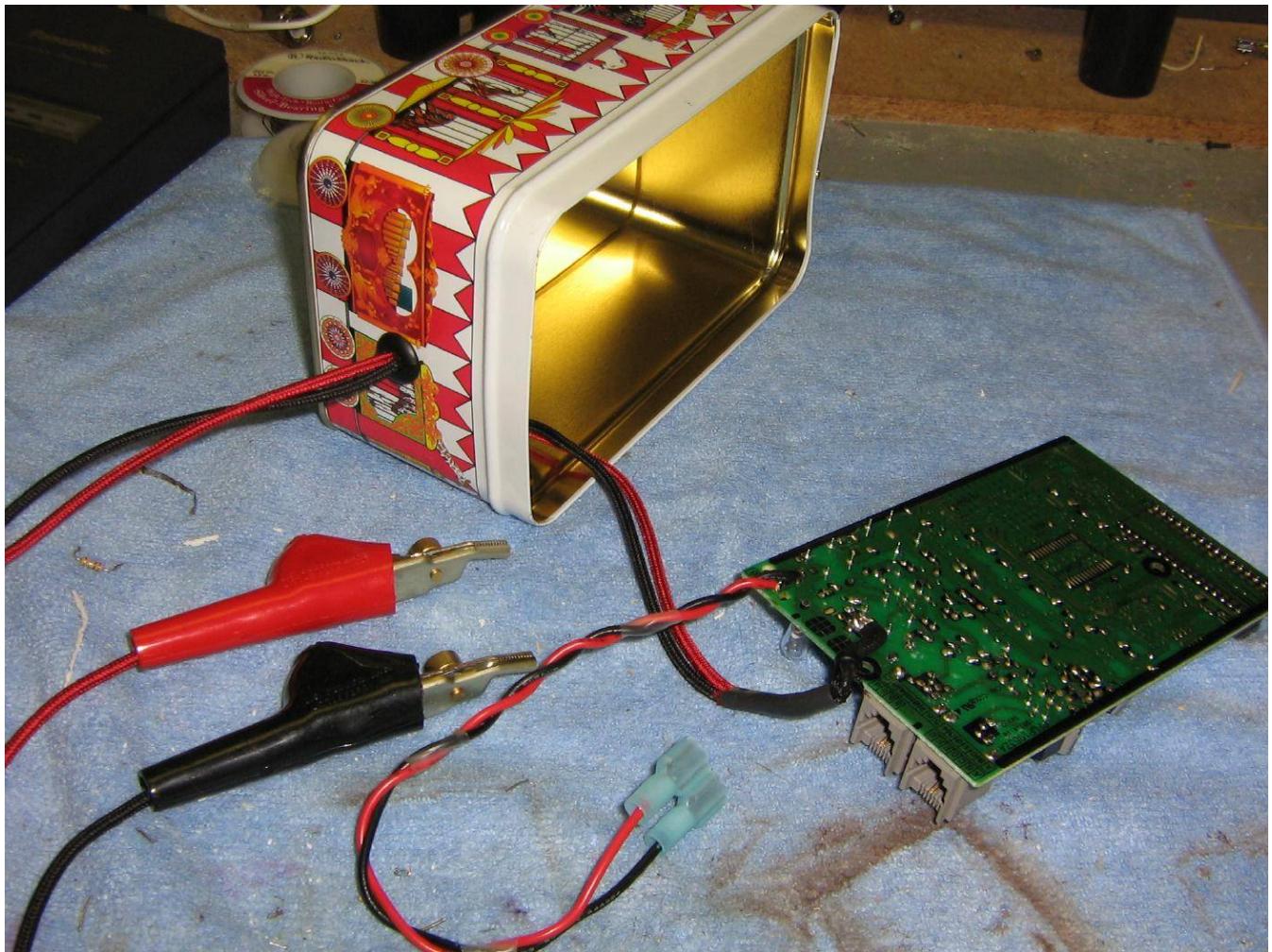
Bottom view of the main PC board. Oh look, an extra solder pad for a Toshiba TC58A040F EEPROM. I'll bet that is the only difference between the 40 page and 80 page models.



Side view of the **LINE** and **DC 12V** connections.



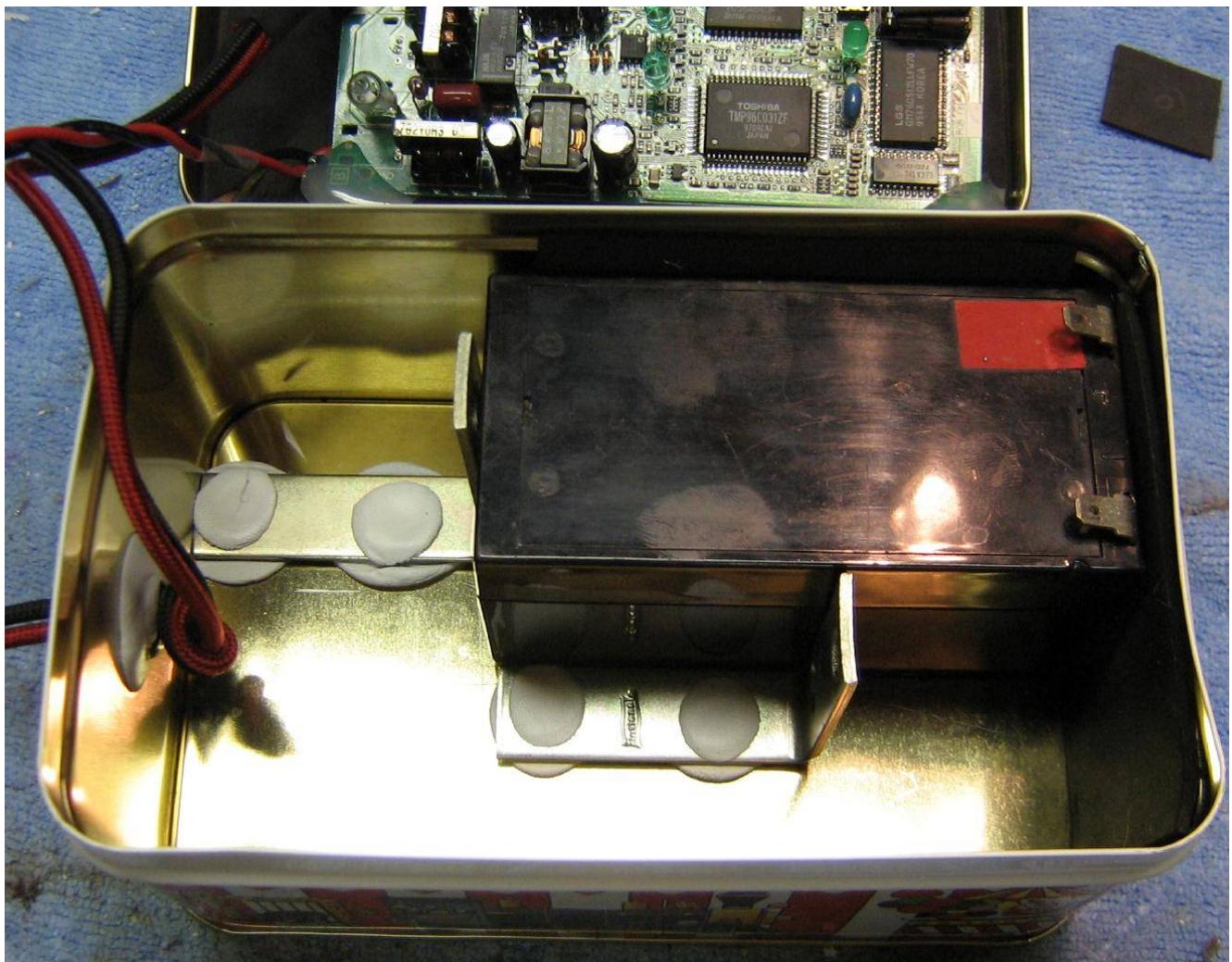
New solder connections. On top, the stock DC power adapter was removed and two wires are soldered onto their old pads. These will go to an external 12 volt rechargeable battery. Below that, is the **LINE** connector. The plastic RJ-11 jack is removed and some "J.S. Popper" test clips from an old lineman's handset are added. Regular alligator clips will also work. Note how they are soldered sideways. You can use the unused solder pads on the RJ-11 jack to support for the wires. Add a zip-tie for even more support.



New case overview. It should be quite weather resistant. Be sure to run the alligator clips through a hole and rubber grommet in your new case.



The main PC board is attached to the lid of the new case using a little hot-melt glue and some art foam. Try to avoid drilling any holes. You'll want to try and keep water out.



Some L-brackets, two-part epoxy putty, and more art foam are used to secure the Panasonic LC-R121R3PU rechargeable sealed lead-acid battery. Current draw for the device is around 300 mA during standby, and it jumps to 500 mA when receiving an incoming fax. The power and memory LEDs can be removed to reduce the overall current draw slightly.



Completed. Hmm... It looks a little queer, like Emmanuel Goldstein.



Ahh... That's better.

Panasonic

*PC/FAX Store 40
PC/FAX Store 80*

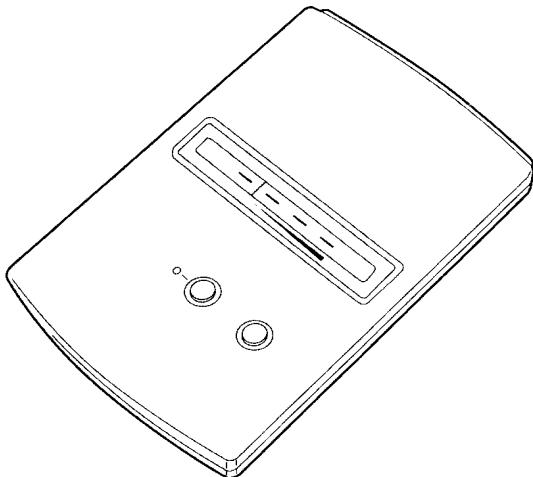
**KX-FB40
Model No. KX-FB80**

Preparation

Operation

Useful Information

Operating Instructions



Please read these instructions completely before operating this unit.
Store this manual for future reference.

**Thank you for purchasing the Panasonic PC/Fax Store 40 or
PC/FAX Store 80.**

Things you should keep records of

For your future reference

Date of purchase _____

Serial No. _____

(found on the bottom of the unit)

Dealer's name and address _____

Dealer's telephone number _____

Technical Support Calls

If you have read this manual and you are still having difficulty,
please contact the store from which the unit was purchased.
You may also utilize one of Panasonic's many outstanding support
options as listed below:

Helpful Numbers

Internet support	http://www.panasonic.com/alive
Automated 24-hour support	CALL 1-800-222-0584
Fax back	CALL 1-800-222-0584
Live technical support and service information	CALL 1-201-271-3149

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Preparation

Operation

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Operation

Useful Information

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Panasonic Warranty Policy	Back cover

Useful Information

Features

- Receives and stores faxes while your PC is turned off.
- Provides full fax security.
- Receives faxes while traveling, away from your desk or even asleep.
- Single line voice/fax automatic detection (Telephone answering machine is required)
- Transfers faxes from your PC/FAX Store to your PC for viewing, forwarding or printing.

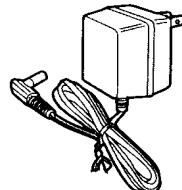
Accessories

Telephone Line Cord 1 pc.



PQJA59V

AC Adaptor 1 pc.



KX-A11

Part names

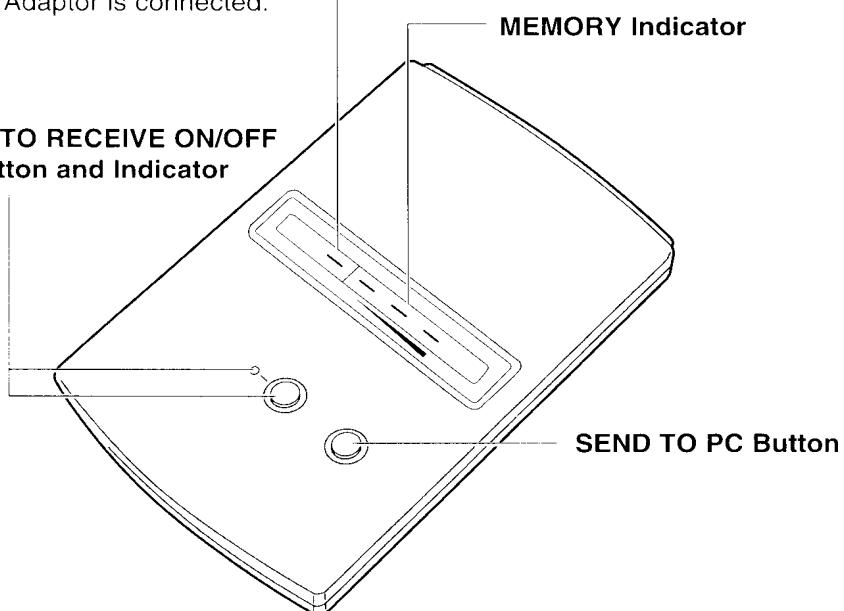
POWER Indicator

This Indicator lights when the AC Adaptor is connected.

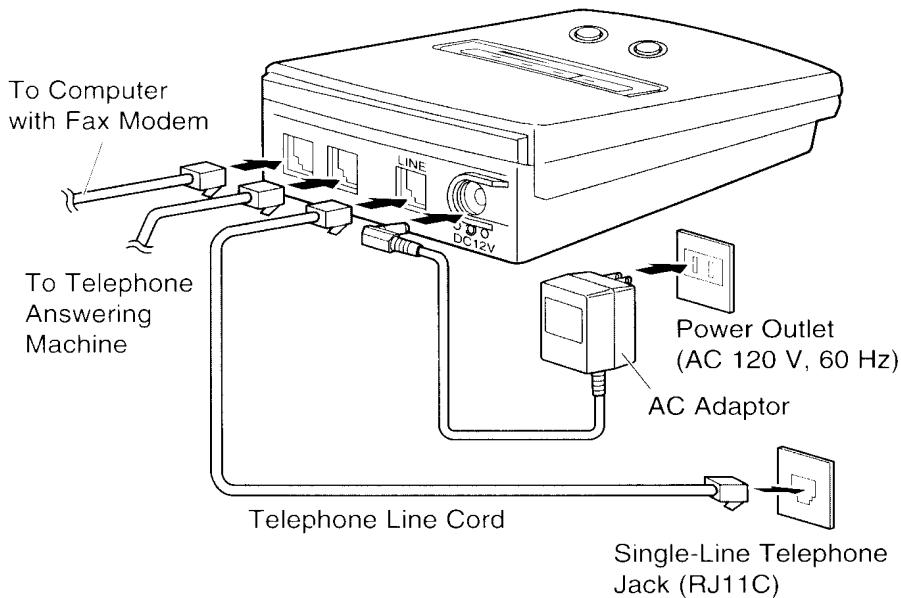
AUTO RECEIVE ON/OFF Button and Indicator

MEMORY Indicator

SEND TO PC Button



Connection



- Use only Panasonic AC adaptor KX-A11.
- Your computer requires a fax modem and fax application software.

Setting the number of rings

- The number of rings on the PC/FAX Store is preset to 4. To change the number of rings, see page 11.
- When you connect a telephone answering machine, **the rings on the answering machine must be set lower than that of the PC/FAX Store**. This will give the answering machine an opportunity to answer the line first. Refer to the table to set up the answering machine.

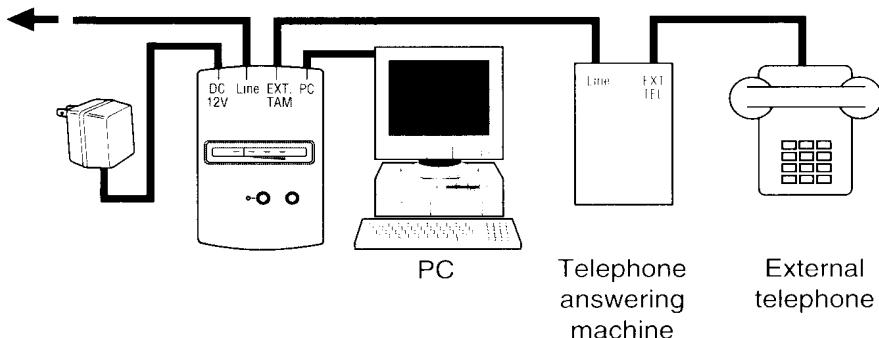
PC/FAX Store	Telephone answering machine	Note
4 rings (Default)	Set to 3 rings	Recommended setting
5 rings	Set to 4 rings	Use this setting when the rings on the answering machine cannot be set to 3, 2 or 1.

Connection examples

The following examples will help you when setting up the PC/FAX Store with other devices.

Example 1—PC/FAX Store, PC and telephone answering machine

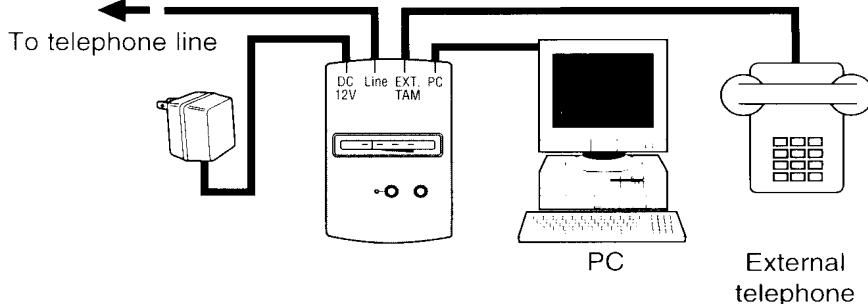
To telephone line



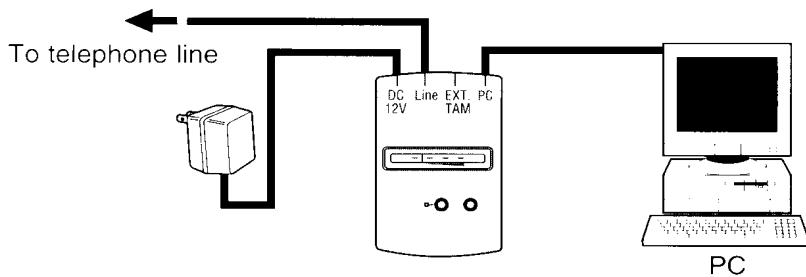
- Receives both voice messages and faxes.
- Sends saved faxes to your PC.
- Allows you to make/answer calls using the external telephone.

Example 2—PC/FAX Store, PC and telephone

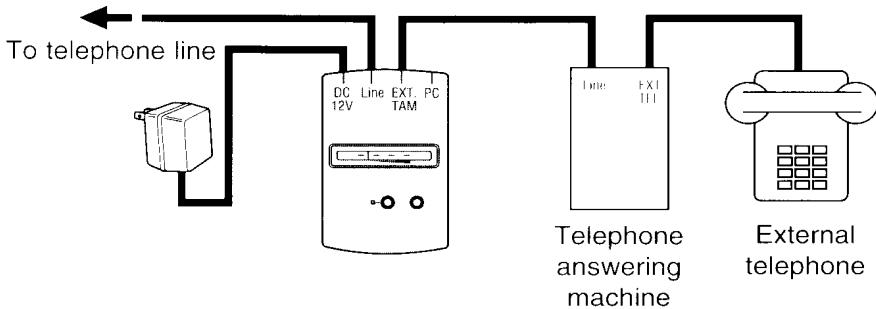
To telephone line



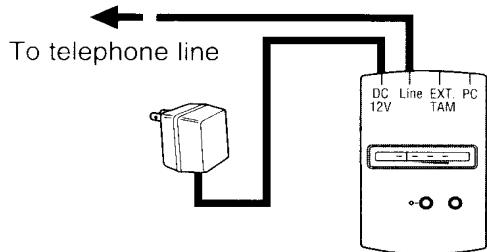
- Receives faxes.
- Sends saved faxes to your PC.
- Allows you to make/answer calls using the external telephone.

Example 3—PC/FAX Store and PC

- Receives faxes.
- Sends saved faxes to your PC.

Example 4—PC/FAX Store and telephone answering machine

- Receives voice messages and faxes without a PC.
- Allows you to make/answer calls using the external telephone.

Example 5—PC/FAX Store only

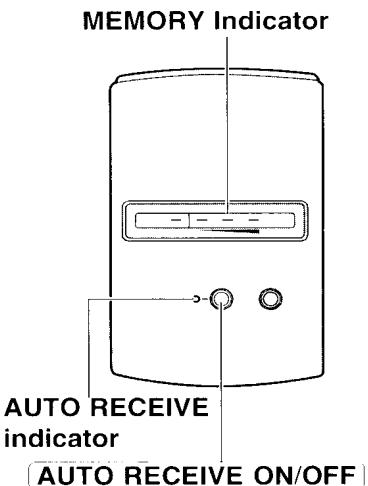
- Receives faxes without a PC.

Receiving faxes into memory

The following procedure allows your unit to receive faxes while your PC is turned off.

- 1** Press **AUTO RECEIVE ON/OFF**.
•The indicator lights.

- 2** When a call is received, the unit will answer after 4 rings* and receive faxes into memory.
 - The AUTO RECEIVE indicator light will flash as it receives data.
 - After reception has been completed, the MEMORY indicator will flash, indicating the number of faxes being stored. (If 10 or more messages are received, the indicator will stay lit.)
 - To view faxes or print them, follow "Sending faxes to your PC" on page 12.



*Default setting. See "Changing the number of rings" (page 11) to change this setting.

Checking memory being used

As memory is used, the MEMORY indicator lights will increase and when memory becomes full, the red indicator lights.

- Concerning the memory capacity, see page 19.
- The data in memory will not be erased even if the AC adaptor is removed.

Turning AUTO RECEIVE on from a remote location

1. Call your unit and wait for 20 rings.
 - The unit is turned on and ready to receive fax documents.
 - When a telephone answering machine or voice mail are in use, this feature is not active.

When you wish incoming faxes to be received directly to your PC, set AUTO RECEIVE on the PC/FAX Store to **off**, then follow your fax software application's instructions.

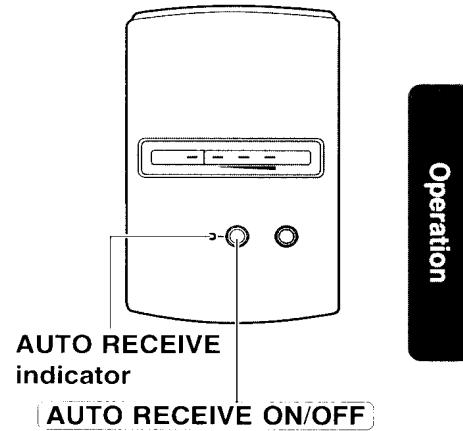
Recording voice messages and receiving faxes

If a telephone answering machine is connected to the unit, both voice messages and fax documents can be received.

1 Turn on the telephone answering machine. (Not included)

2 Press **AUTO RECEIVE ON/OFF** on the PC/FAX Store to light the indicator.

- When a voice call is received, the telephone answering machine will record the voice message.
- When a fax call is received, the PC/FAX Store will activate and store fax calls into memory.
- To listen to the recorded messages, follow the operating instructions of your telephone answering machine.



Note:

- The number of rings on the answering machine must be set lower than that of the PC/FAX Store (see page 5).

Receiving faxes into memory while AUTO RECEIVE is off

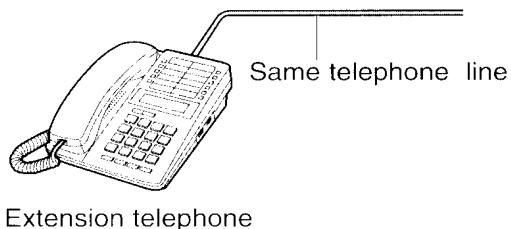
When you pick up the handset of the external telephone, if the call is a fax, press **AUTO RECEIVE ON/OFF**.

Receiving faxes into memory while running FAX application software on the PC

- Press **AUTO RECEIVE ON/OFF** on the PC/FAX Store to light the indicator.
- Set the auto receive mode on your FAX application software to off (Follow the operating instructions of your FAX application software).

Remote fax receiving using an extension phone

If you connect an extension telephone on the same line to which your unit is connected, you can make and answer voice calls or receive a fax call by using the extension telephone.



■ If you receive a voice call with the extension telephone:

1 Lift the handset and talk.

2 Replace the handset.

■ If you receive a fax call with the extension telephone:

1 Lift the handset.
(a slow beep is heard or no sound is heard.)

2 Press **[*** **9**] within 30 seconds after lifting the handset.

3 Hang up the handset.

4 The PC/FAX Store automatically starts receiving the document.

Note:

- If the extension telephones are connected to the same line, do not use the extension telephones during fax reception. Otherwise image quality will be affected.

Changing the number of rings

- 1** Press **AUTO RECEIVE ON/OFF** and **SEND TO PC** at the same time.

•The power and memory indicator light will be on, indicating the current setting of rings.

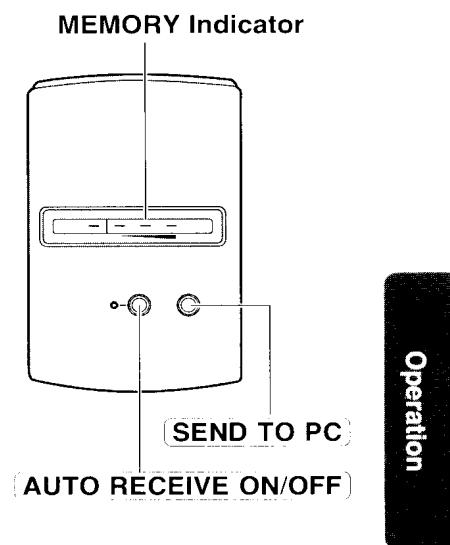
 one (1) ring

 four (4) rings
(Default setting)

 five (5) rings

- 2** Press **AUTO RECEIVE ON/OFF** repeatedly until the indicator light moves to the desired setting.

- 3** Press **SEND TO PC** to store the setting.



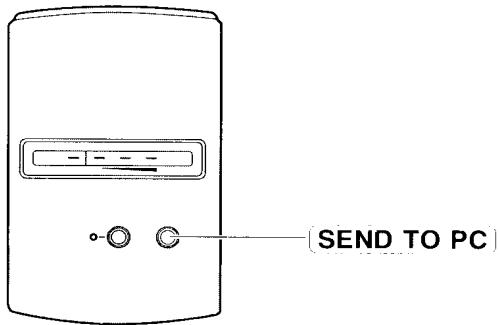
Note:

- When connected to a telephone answering machine, the number of rings on the PC/FAX Store must be set higher than that of the telephone answering machine (see page 5).
- The number of rings can only be changed when there are no faxes stored in memory.

Sending faxes to your PC

To send stored faxes from the PC/FAX Store to your PC, follow these steps.

- 1** Turn on your PC and activate your fax modem.
- 2** Manually receive documents using your fax software application.
The following are examples of how to use the PC/FAX Store with two popular FAX software applications. If other fax software applications are used, follow the instructions for those applications.
 - If you are using Delrina WinFax LITE with Windows 3.1, follow steps on page 13.
 - If you are using Microsoft Exchange With Windows 95, follow steps on page 14.
- 3** Press **SEND TO PC** on the PC/FAX Store.



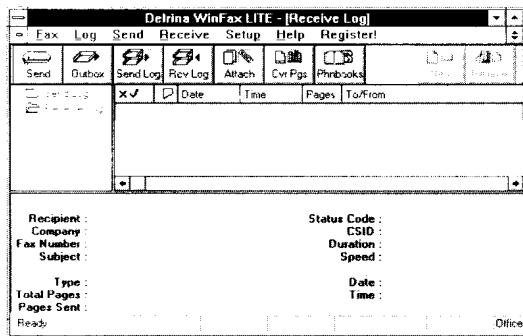
Note:

- After all faxes have been received by your PC, the memory will be cleared.
- To stop sending faxes to your PC, stop receiving at the PC side or remove the AC adaptor. All data in this unit is retained. When you send again, the data is sent from the beginning.
- A Journal report will be sent to your PC with each incoming faxes. Your PC will show the pages including the Journal report.

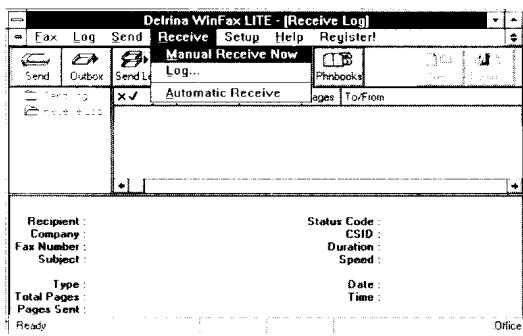
Fax modem and PC fax software with manual reception capabilities are required.

Using Delrina WinFax LITE (ver. 4.0) with Windows 3.1

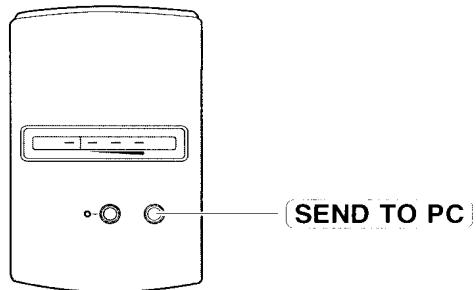
- 1** Turn on your PC and activate the WinFax LITE software application.



- 2** Click **Receive** in the WinFax LITE dialog box and click **Manual Receive Now**.



- 3** Press **SEND TO PC** on the PC/FAX Store.



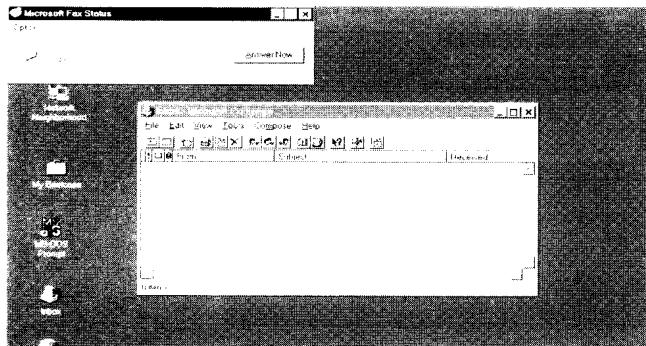
Operation

Using Microsoft Exchange with Windows 95

- 1 Turn on your PC and activate the Microsoft Exchange software application

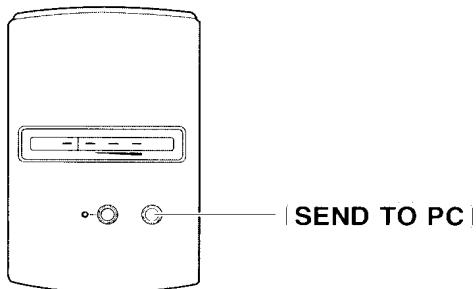


- 2 Click **fax icon** in the task bar.



- 3 Click **Answer Now** on the Microsoft Fax Status dialog box.

- 4 Press **SEND TO PC** on the PC/FAX Store.



Important safety instructions

When using this unit, basic safety precautions should always be followed to reduce the risk of fire, electric shock, or personal injury.

1. Read and understand all instructions.
2. Follow all warnings and instructions marked on this unit.
3. Unplug this unit from AC outlets before cleaning. Do not use liquid or aerosol cleaners. Use a damp cloth for cleaning.
4. Do not use this unit near water, for example, near a bath tub, wash bowl, kitchen sink, or the like.
5. Place this unit securely on a stable surface. Serious damage and/or injury may result if the unit falls.
6. Use only the power source marked on the unit. If you are not sure of the type of power supplied to your home, consult your local power company.
7. Do not place objects on the power cord. Install the unit where no one can step or trip on the cord.
8. Do not overload wall outlets and extension cords. This can result in the risk of fire or electric shock.
9. Never push any objects through slots in this unit. This may result in the risk of fire or electric shock. Never spill any liquid on the unit.
10. To reduce the risk of electric shock, do not disassemble this unit. When service is required, contact Panasonic Service. Opening or removing covers may expose you to dangerous voltages or other risks. Incorrect reassembly can cause electric shock when the unit is subsequently used.
11. Unplug this unit from the wall outlet and contact Panasonic Service when the following conditions occur:
 - A. When the power supply cord or plug is damaged or frayed.
 - B. If liquid has been spilled into the unit.
 - C. If the unit has been exposed to rain or water.
 - D. If the unit does not work normally by following the operating instructions. Adjust only controls covered by the operating instructions. Improper adjustment may require extensive repair.
 - E. If the unit has been dropped or physically damaged.
 - F. If the unit exhibits a distinct change in performance.
12. During thunderstorms, avoid using telephones except cordless types. There may be a remote risk of an electric shock from lightning.

Useful Information

SAVE THESE INSTRUCTIONS

INSTALLATION:

1. Never install telephone wiring during a lightning storm.
2. Never install telephone jacks in wet locations unless the jack is specifically designed for wet locations.
3. Never touch uninsulated telephone wires or terminals unless the telephone line has been disconnected at the network interface.
4. Use caution when installing or modifying telephone lines.

WARNING:

To prevent the risk of fire or electrical shock, do not expose this product to rain or any type of moisture.

OTHER INFORMATION

- Keep the unit away from electrical noise-generating devices, such as fluorescent lamps and motors.
- The unit should be kept free from dust, high temperature, and vibration.
- The unit should not be exposed to direct sunlight.
- Do not place heavy objects on top of this unit.
- Do not touch the plug with wet hands.

FCC information

If required by the telephone company, inform them of the following.

- FCC Registration No.: (found on the bottom of the unit)
- Ringer Equivalence No.: (found on the bottom of the unit)
- The particular telephone line to which the equipment is connected.

This unit must not be connected to a coin operated line. If you are on a party line, check with your local telephone company.

Ringer Equivalence Number (REN):

This REN is useful in determining the quantity of devices you may connect to your telephone line and still have all of those devices ring when your telephone number is called. In most but not all areas, the sum of the REN's of all devices connected to one line should not exceed five (5.0). To be certain of the number of devices you may connect to your line, as determined by the REN, you should contact your local telephone company to determine the maximum REN for your calling area.

In the event that terminal equipment causes harm to the telephone network, the telephone

company should notify the customer, if possible, that service may be stopped. However, where prior notice is impractical, the company may temporarily cease service providing that they:

- a) Promptly notify the customer.
- b) Give the customer an opportunity to correct the problem with their equipment.
- c) Inform the customer of the right to bring a complaint to the Federal Communication Commission pursuant to procedures set out in FCC Rules and Regulations Subpart E of Part 68.

The Telephone Company may make changes in its communications facilities, equipment operations, or procedures where such action is reasonably required in the operation of its business and is not inconsistent with the rules and regulations in FCC Part 68. If such changes can be reasonably expected to render any customer terminal equipment incompatible with telephone company communications facilities, or require modification or alteration of such terminal equipment, or otherwise materially affect its use or performance, the customer shall be given adequate notice in writing, to allow the customer an opportunity to maintain uninterrupted service.

Useful Information

CAUTION:

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this device.

NOTE:

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there

is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Specifications

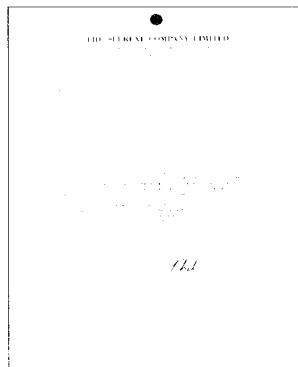
Memory Capacity:	KX-FB40: Approx. 40 page of faxes*
	KX-FB80: Approx. 80 page of faxes**
Modem Speed:	9600/7200/4800/2400 bps; Automatic Fallback
Operating Environment:	5 °C–35 °C (41 °F–95 °F), 20–80 % RH
Dimensions (W×D×H):	93×147×40 mm (3 ^{21/32} "×5 ^{13/16} "×1 ^{9/16} ")
Power Source:	Refer to the name plate on the bottom of the unit.
Power Consumption:	Reception: Approx. 6 W Standby: Approx. 4 W
Mass (weight):	Approx. 230 g (0.5 lbs.)

*512 KB memory. Actual number of pages depends upon the contents of the pages and the resolution. 40 page capacity based upon ITU-T (CCITT) Image No. 1 in standard resolution.

**1 MB memory. Actual number of pages depends upon the contents of the pages and the resolution. 80 page capacity based upon ITU-T (CCITT) Image No. 1 in standard resolution.

Useful Information

ITU-T (CCITT) Image No. 1



Note:

- Any details given in these instructions are subject to change without notice.
- The picture and illustrations in these instructions may vary slightly from the actual product.

Panasonic Warranty Policy

Panasonic Computer Peripheral Company ("PCPC") will repair or exchange your unit with a new or comparable rebuilt, reconditioned or reclaimed unit in exchange for the defective unit, free of charge, in the U.S.A. for (1) year from the date of original purchase in the event of a defect in materials or workmanship.

Panasonic Computer Peripheral Company
Division of Panasonic Communications & Systems Company
A Unit of Matsushita Electric Corporation of America
Two Panasonic Way, Secaucus, New Jersey 07094

Panasonic Sales Company
Division of Matsushita Electric of Puerto Rico, Inc.
San Gabriel Industrial Park, 65th Infantry Avenue KM. 9.5
Carolina, Puerto Rico 00630

Matsushita Electric Industrial Co., Ltd.
Central P.O. Box 288, Osaka 530-91, Japan

Printed in Japan

PFQX1119ZA KF0597E0 ④

Return Loss Bridge for the FM Radio Pirate

Overview

A *return loss bridge* is a wideband resistive bridge network which can be used to verify the impedance of coaxial cables, antennas, tuning stubs, filters, etc. It works by comparing an "unknown" impedance to a "known" impedance, which is usually 50 ohms in radio work. A DC voltage signal is generated which corresponds to the level of impedance mismatch between the "known" and "unknown" impedances. Generally, the higher the DC voltage output, the worst the impedance mismatch is. Return loss bridges are ideal for checking antenna systems as they are simple to build and have a very large RF bandwidth. The version documented here should be accurate from below 1 MHz to over 500 MHz. The common Standing Wave Ratio (SWR) meter which is normally used to verify an antenna system has a very *narrow* RF bandwidth, usually only accurately covering 50 MHz or so at a time.

From a Texscan RCB-3 Manual:

Return loss (reflection coefficient) bridges are broadband RF comparators. These devices develop a DC potential with respect to ground which is proportional to the degree of unbalance in the arms of the bridge circuit. The bridges provide DC isolation to prevent undesired loading of the circuitry by associated test equipment.

This particular return loss bridge will be based around an Analog Devices AD8307 logarithmic amplifier. It is designed to work from DC to over 500 MHz, and has a resolution of 92 dB. The AD8307 is a perfect choice for this project, as the AD8307's +**INPUT** and -**INPUT** differential inputs will do the majority of the work for us. The RF input will be split between these two ports using a simple resistive divider network, and any "unbalance" in the divider (when compared to 50 ohms) will be detected, amplified, and output by the AD8307. The AD8307 will output a DC voltage level between around 200 millivolts and 1.5 volts. This signal is then fed to a common PM-128 LCD voltage meter. The PM-128 is a very common display which is both low-cost (under \$10) and easily available from places like [JDR Microdevices](http://www.jdr.com) (www.jdr.com). The PM-128 LCD meter will need to be slightly modified to display a maximum of 2 volts. In its stock configuration, it can only display up to 200 millivolts. The modification involves adding two divider resistors, R_A and R_B . Resistor R_A should be changed to 300 kohms and resistor R_B should be changed to 2.7 megaohms. Try to use 1% metal-film resistors if you can. Also, the PM-128 LCD meter requires a separate 9 volt battery power supply, as the PM-128 needs to be isolated from the voltage source it is monitoring. A Dual-Pole, Dual-Throw (DPDT) power switch will be used to turn both the LCD meter and the return loss bridge on and off.

Operation

You'll need a tuneable RF signal generator and several common attenuator pads to operate the return loss bridge. For this pirate FM radio example, we'll use a Broadcast Warehouse PLL+ 1 watt exciter as the signal source and a commercial 60 dB attenuator. The 60 dB of attenuation may seem like a lot, knocking the 1 watt (+30 dBm) exciter RF signal down to a measly -30 dBm. But remember, the AD8307 logarithmic amplifier is a *very sensitive* device. Going overboard on attenuation (to a point) won't hurt the final readings. In fact, you'll want the final RF input signal to the return loss bridge to be under 1 milliwatt (0 dBm). The return loss bridge has an additional internal 10 dB of attenuation.

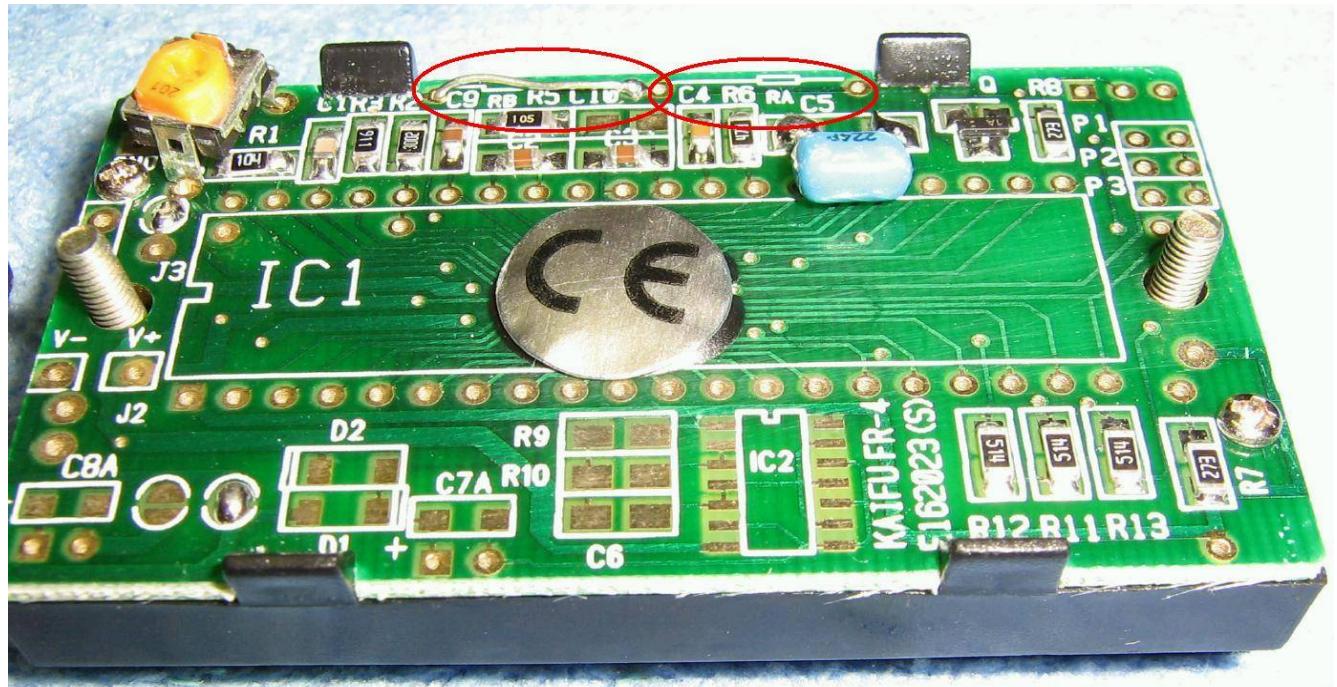
Operating the return loss bridge will go something like this:

1. Turn on the power to the return loss bridge. Note the baseline reading on the LCD meter. It should be reading around **230**. Ignore any decimal points for these readings.
2. Connect the RF signal source, tuned to the desired frequency for the antenna to be evaluated, to the **RF Input** jack of the return loss bridge. Be sure it is well attenuated to under 1 milliwatt (0 dBm).
3. Leave the **Unknown Impedance** jack open.
4. Note the LCD meter reading. This will be your *worst-case impedance mismatch* value.
5. Connect a pure resistive 50 ohm load to the **Unknown Impedance** jack.
6. Note the LCD meter reading. This will be your *best-case impedance match* value.
7. Remove the 50 ohm load from the **Unknown Impedance** jack and connect your antenna using a short length of low-loss coaxial cable. Be sure your antenna is isolated from any metal objects and from the RF signal source.
8. Note the LCD meter reading. You'll want to then tune the antenna until this value is near that of the *best-case impedance match* value. It will never be perfect, so don't spend all day doing it.

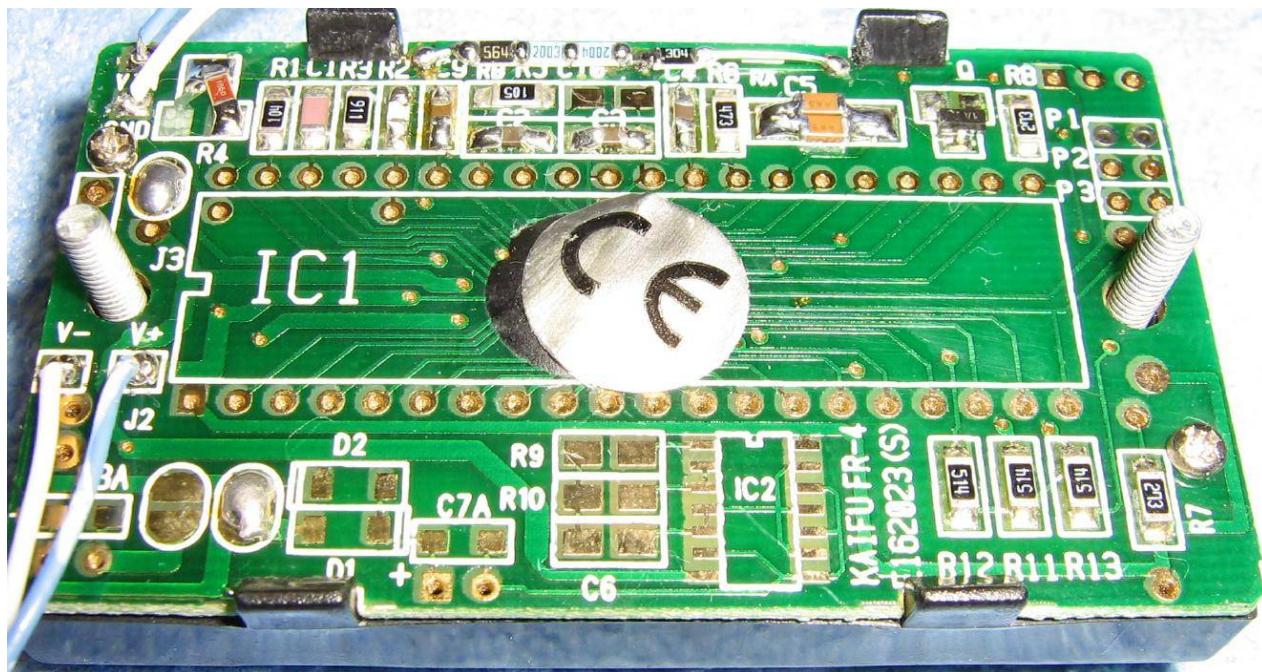
You may want to make up a set of 75 ohm, 100 ohm, 150 ohm, and 300 ohm resistive loads using standard 1/4 watt carbon-film resistors and some old RF connectors. If you connect these to the **Unknown Impedance** jack during the tune-up phase, you can then get a baseline reading of SWR ratios 1.5:1, 2:1, 3:1, and 6:1, respectively. Try to get your antenna's final SWR value below a ratio of 3:1.

Refer the *The ARRL Handbook for Radio Amateurs* for more detailed information on tuning and testing radio antennas.

Pictures



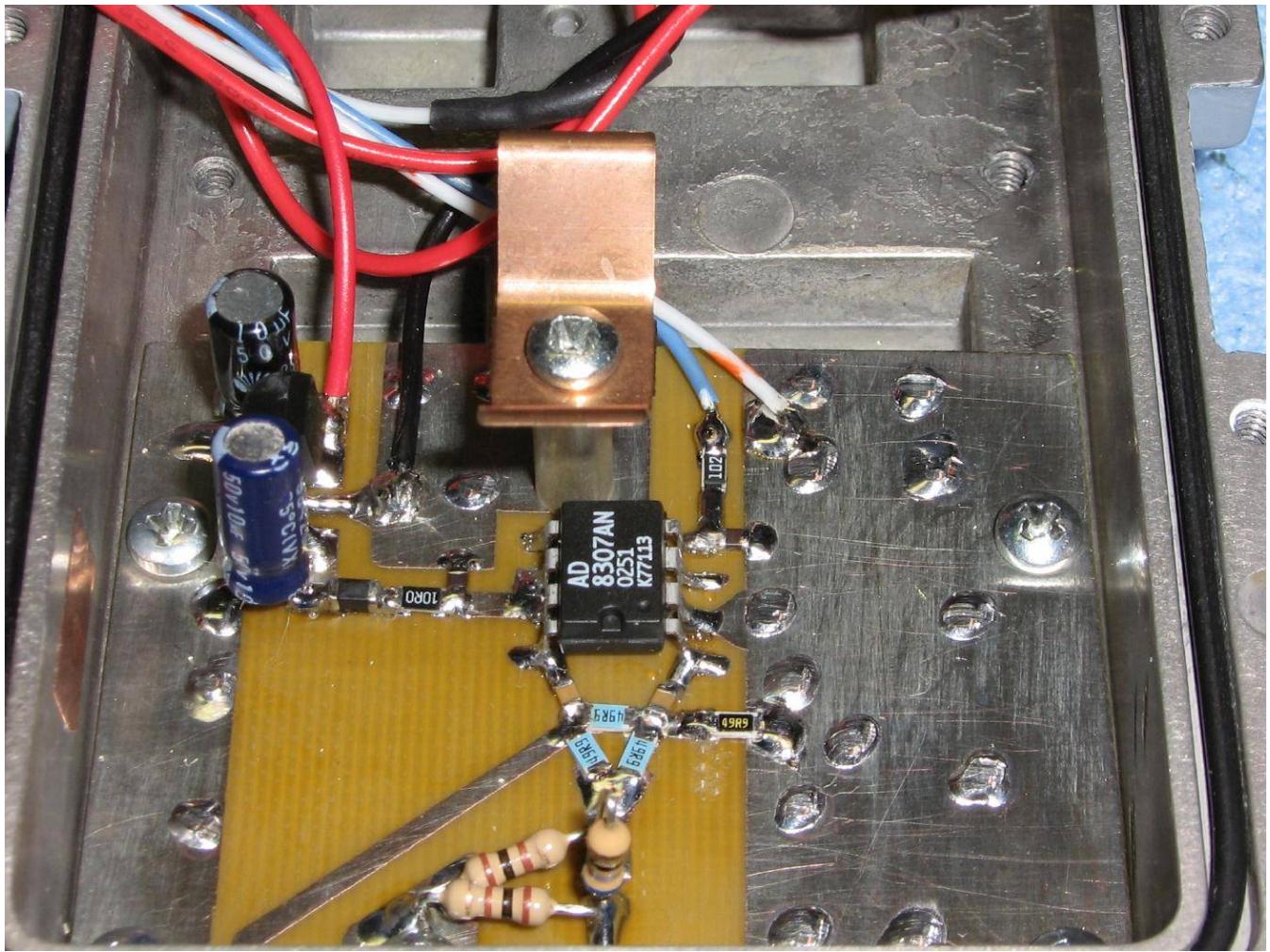
Rear view of a stock PM-128 LCD digital voltage meter. R_A is open and R_B is a wire jumper. The decimal place pads (P1, P2, P3) on the right are all open.



Rear view of a modified PM-128 LCD digital voltage meter, as used in this project. Resistor R_A is changed to 300 kohms and resistor R_B is changed to 2.7 megaohms. Several series surface-mount resistors were used to make the 2.7 megaohm resistor. Also, the potentiometer was removed and replaced with a 165 ohm resistor and the large, blue 0.22 μ F capacitor was replaced with two surface-mount 0.1 μ F capacitors in parallel. Leave the decimal place pads open.



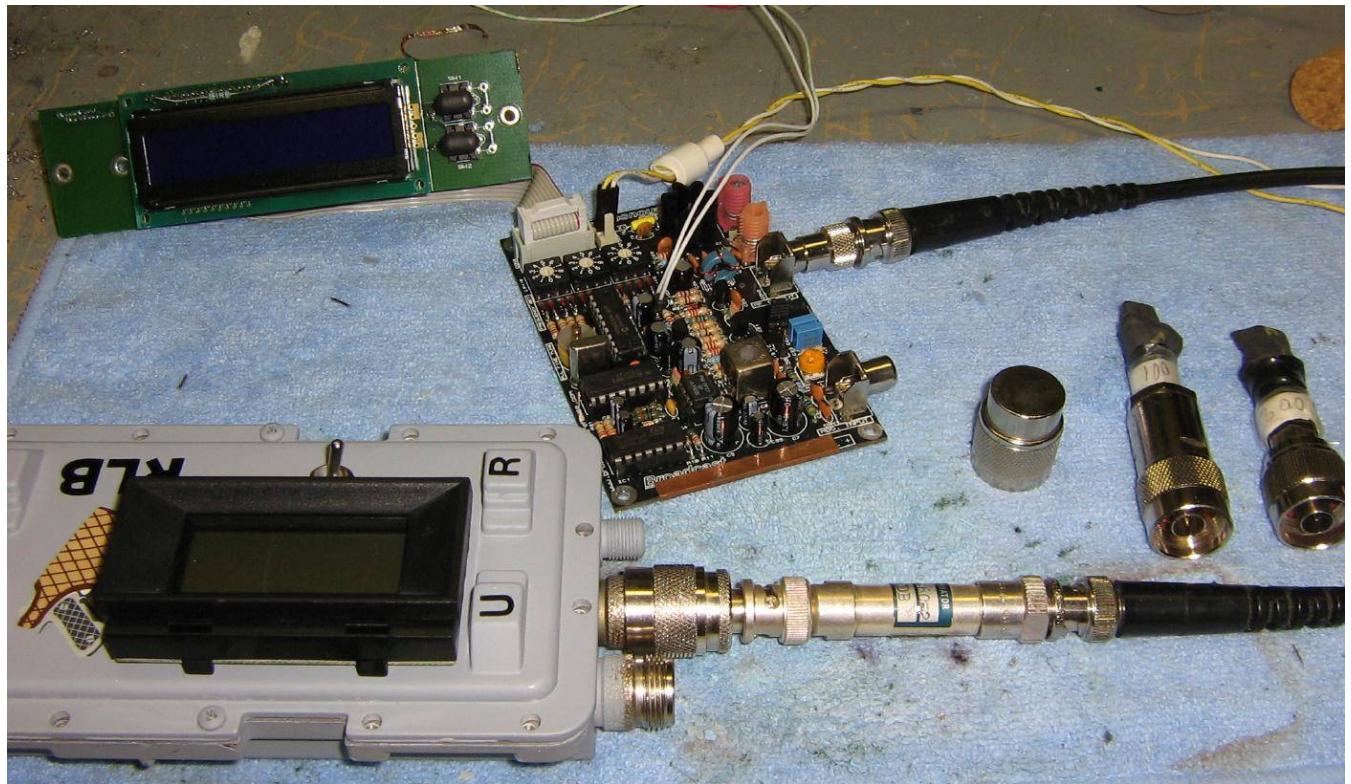
Internal overview. It's built into an old California Amplifier MMDS downconverter case. The middle N-connector is the **RF Input** and the top N-connector is the **Unknown Impedance** (antenna) connection. The two batteries power the return loss bridge circuit and the PM-128 meter.



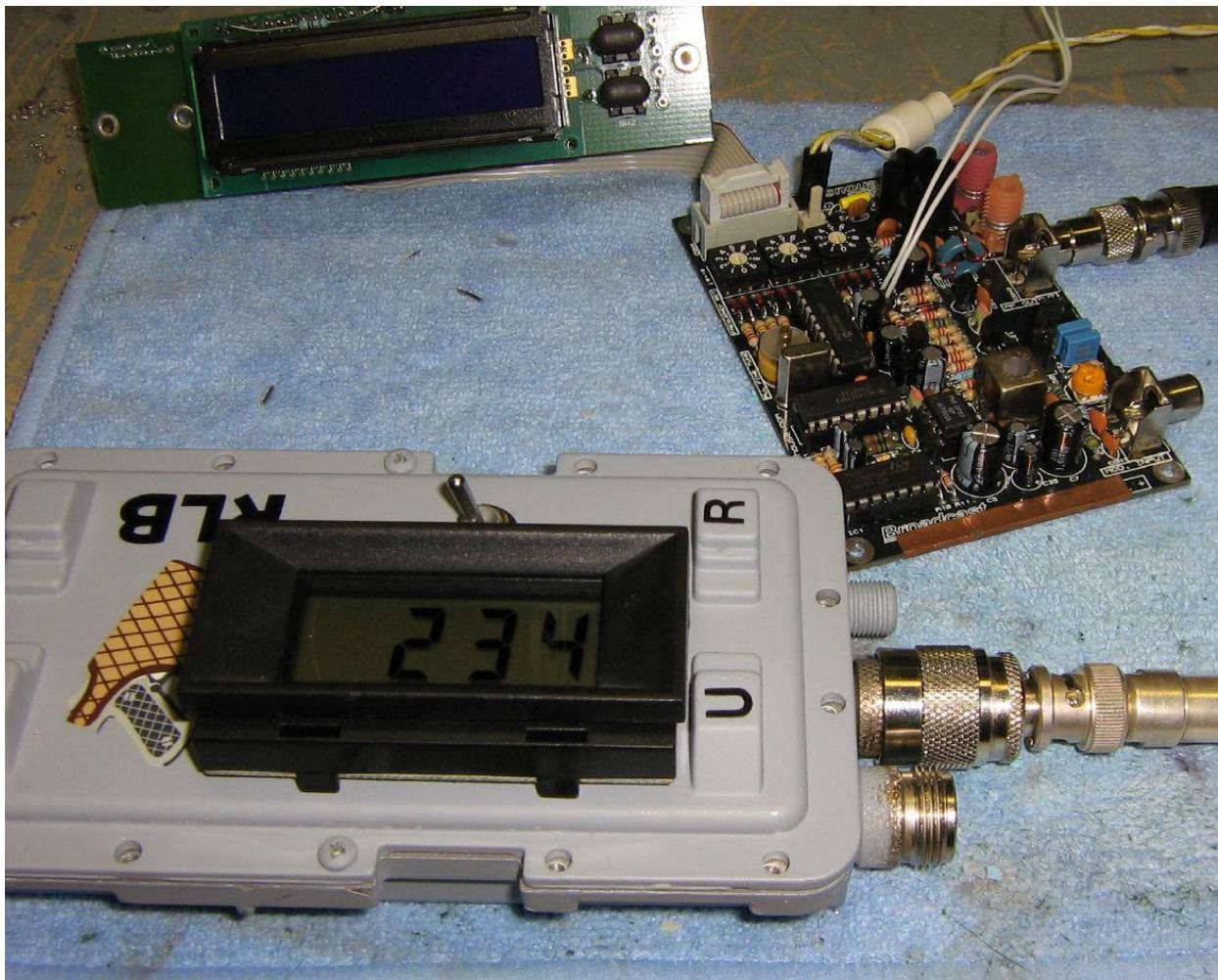
Close up view of the **RF Input** (bottom), the input 10 dB attenuator pad, the resistive bridge made up of 1% tolerance 49.9 ohm resistors, and the AD8307 logarithmic amplifier. The 78L05 voltage regulator and filter capacitors are to the left. Be sure your PC board is constructed with a good RF ground plane.



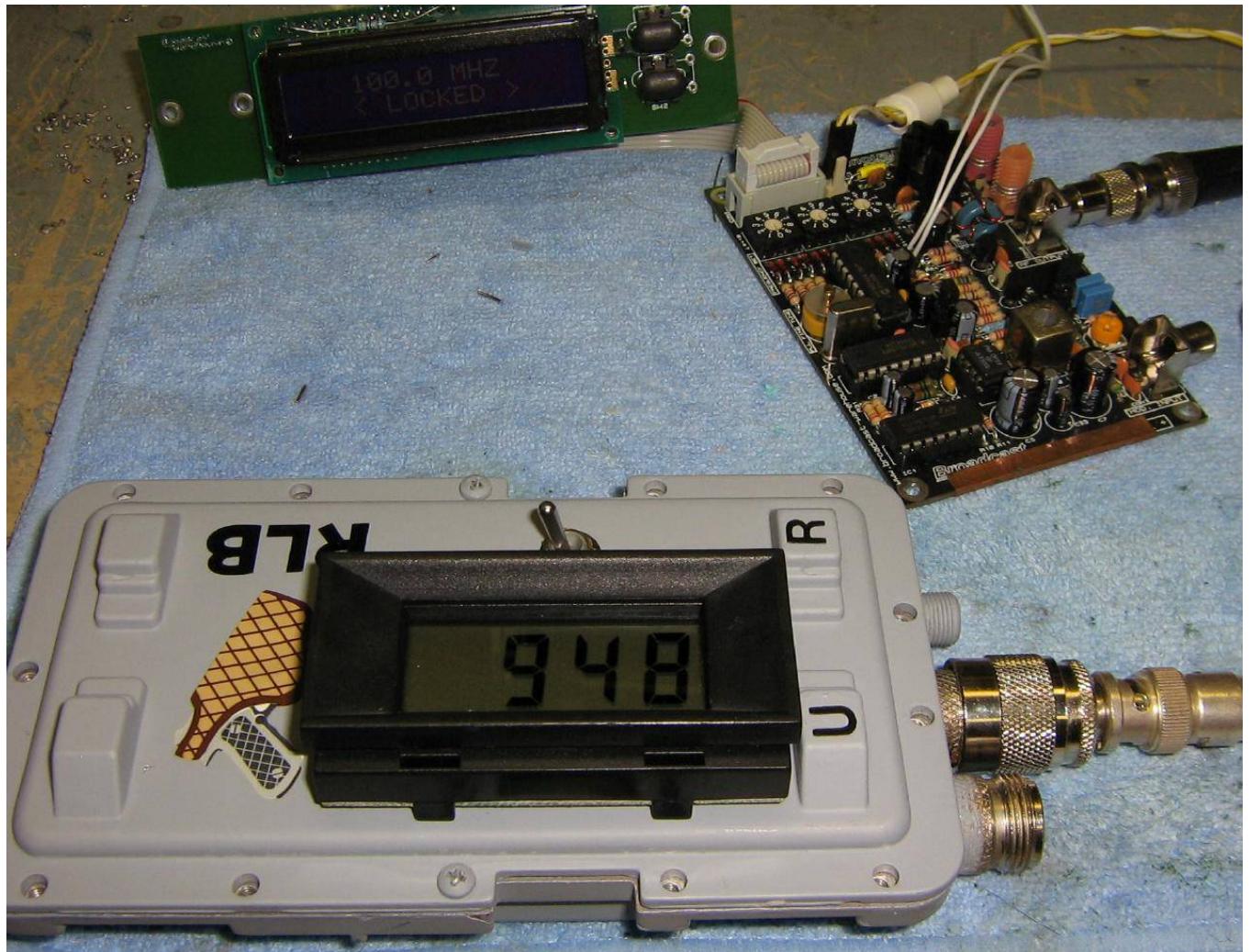
Outside case overview. Baseline reading on the meter. Yes, it is upside down. So?



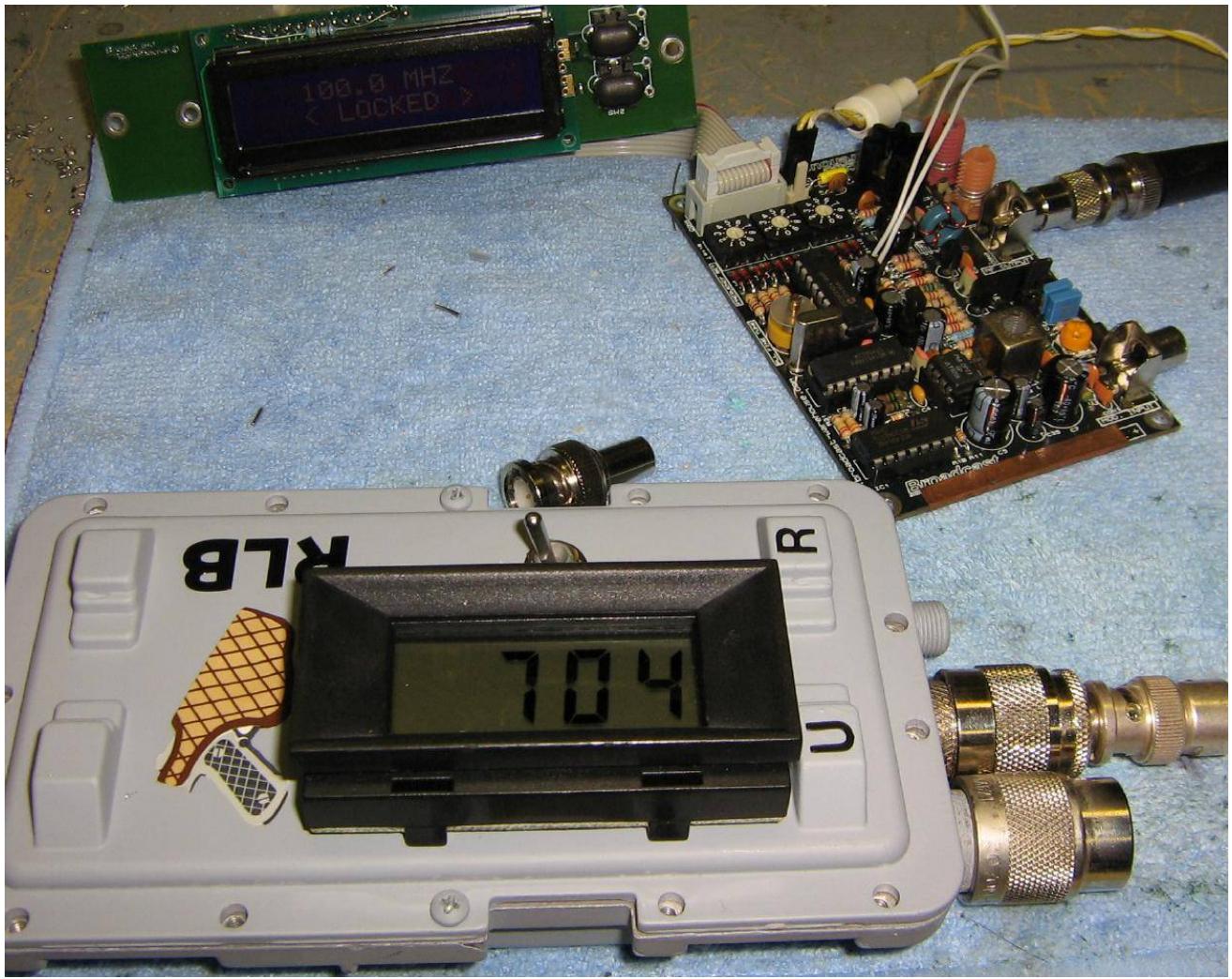
Test setup. The RF signal source is a Broadcast Warehouse PLL+ 1 watt exciter running through a single 60 dB attenuator. Several different value resistive loads are shown on the right.



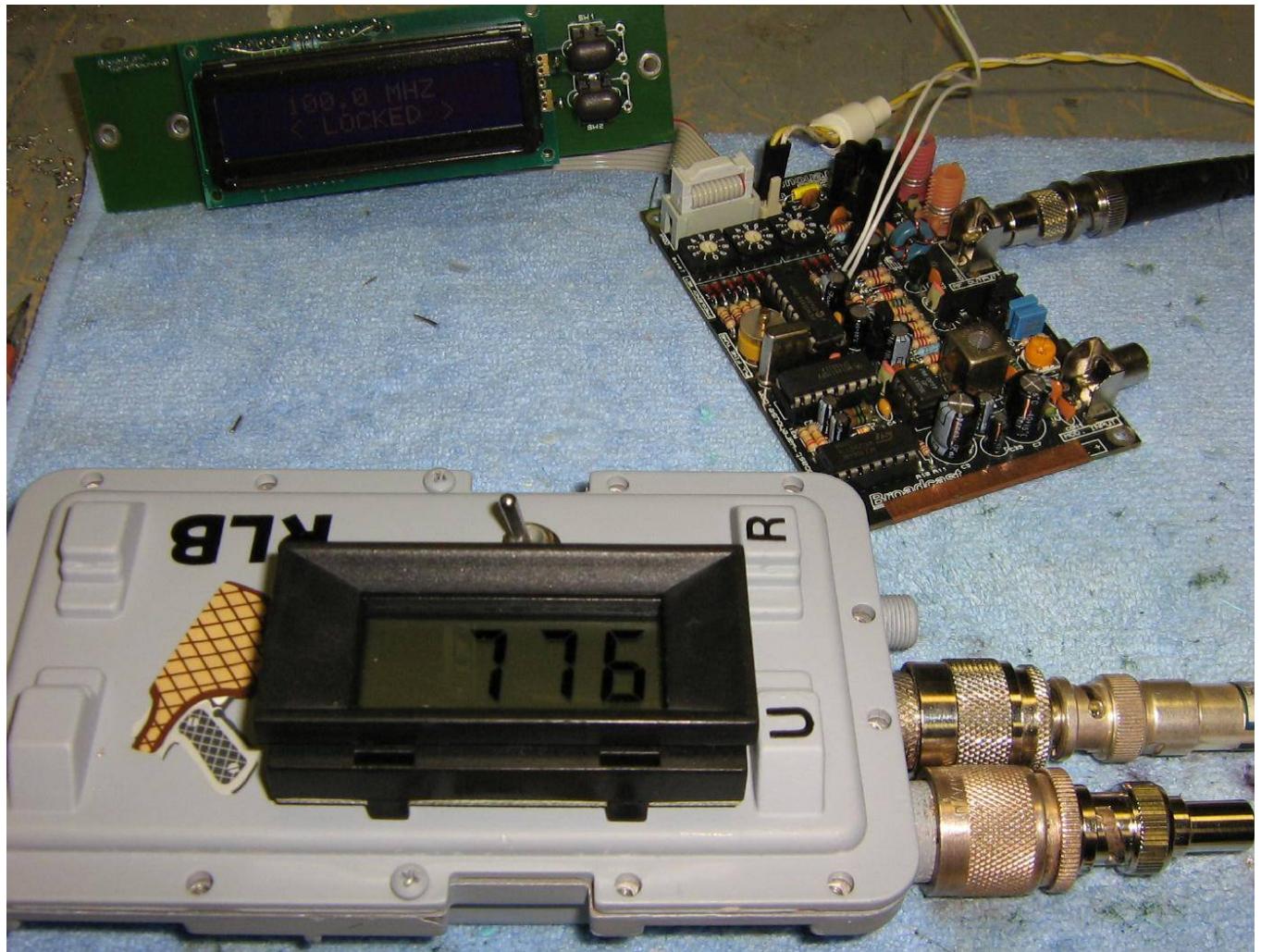
Test setup, baseline reading. The **Unknown Impedance** jack is left open and there is *no* RF signal input.



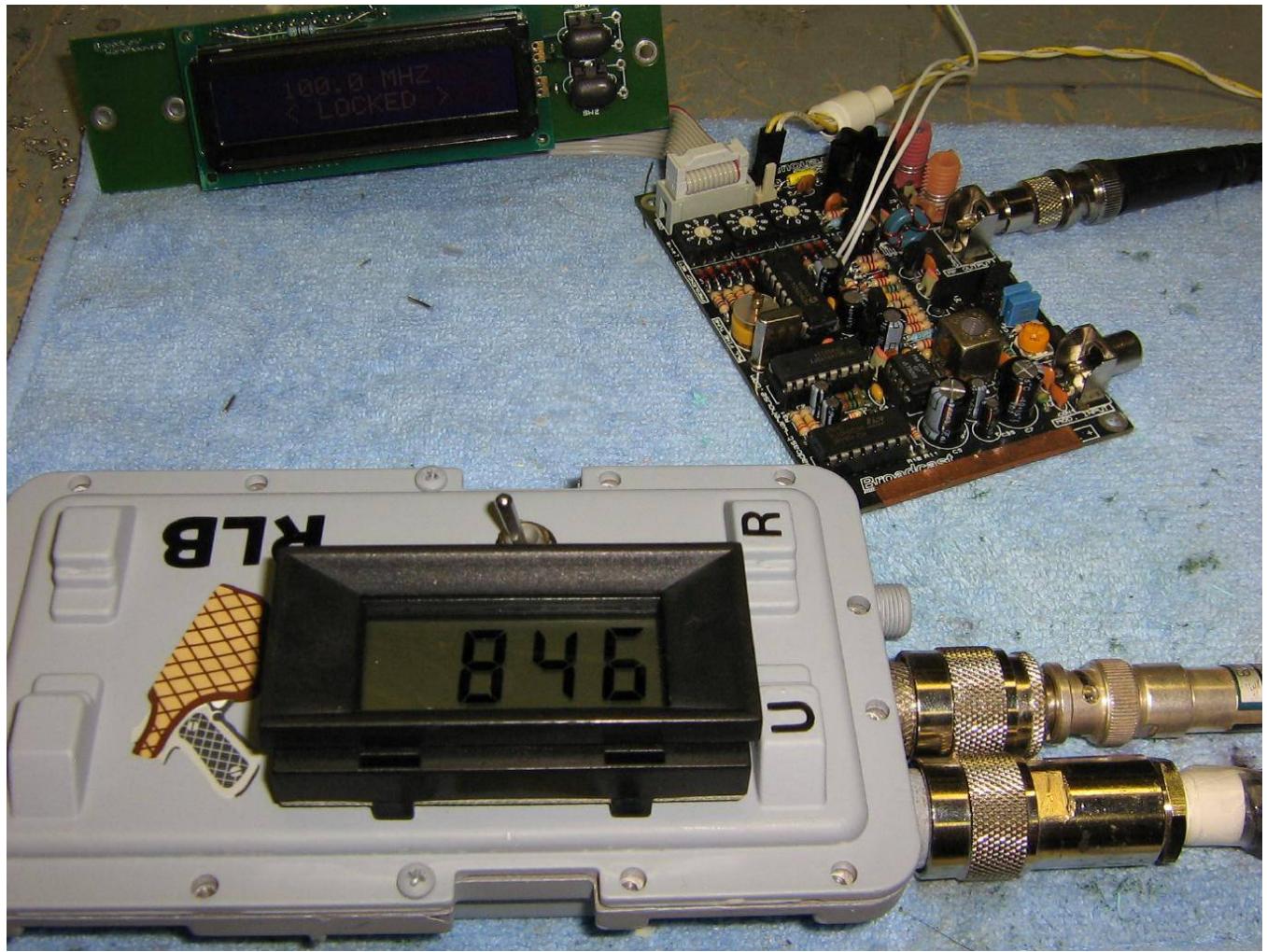
Test setup, worst-case reading. The 100 MHz RF signal source is now operating and the **Unknown Impedance** jack is left open.



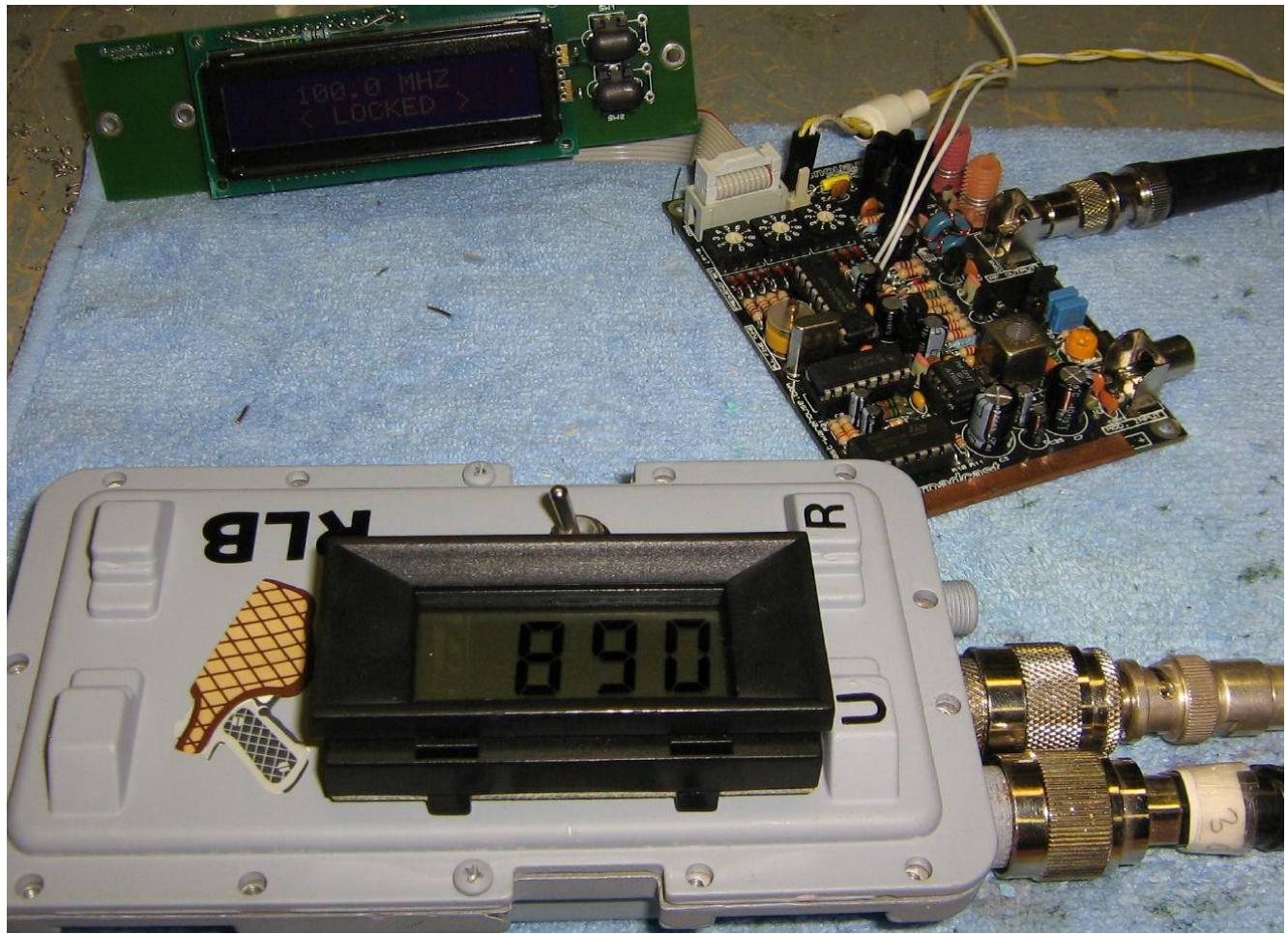
Test setup, best-case reading. The **Unknown Impedance** jack is connected to a pure resistive 50 ohm load.



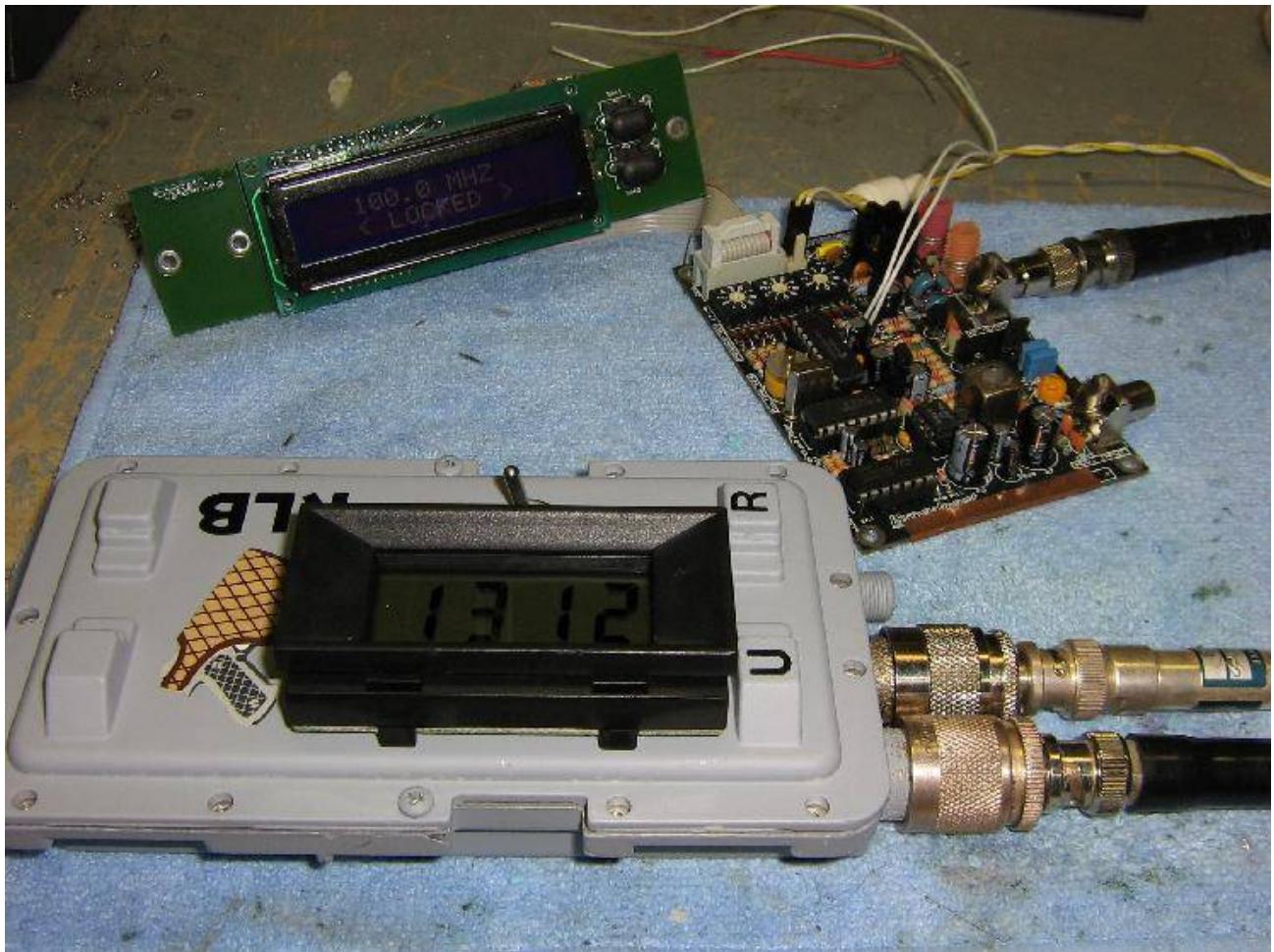
Test setup, 1.5:1 SWR reading. The **Unknown Impedance** jack is connected to a pure resistive 75 ohm load.



Test setup, 2:1 SWR reading. The **Unknown Impedance** jack is connected to a pure resistive 100 ohm load.



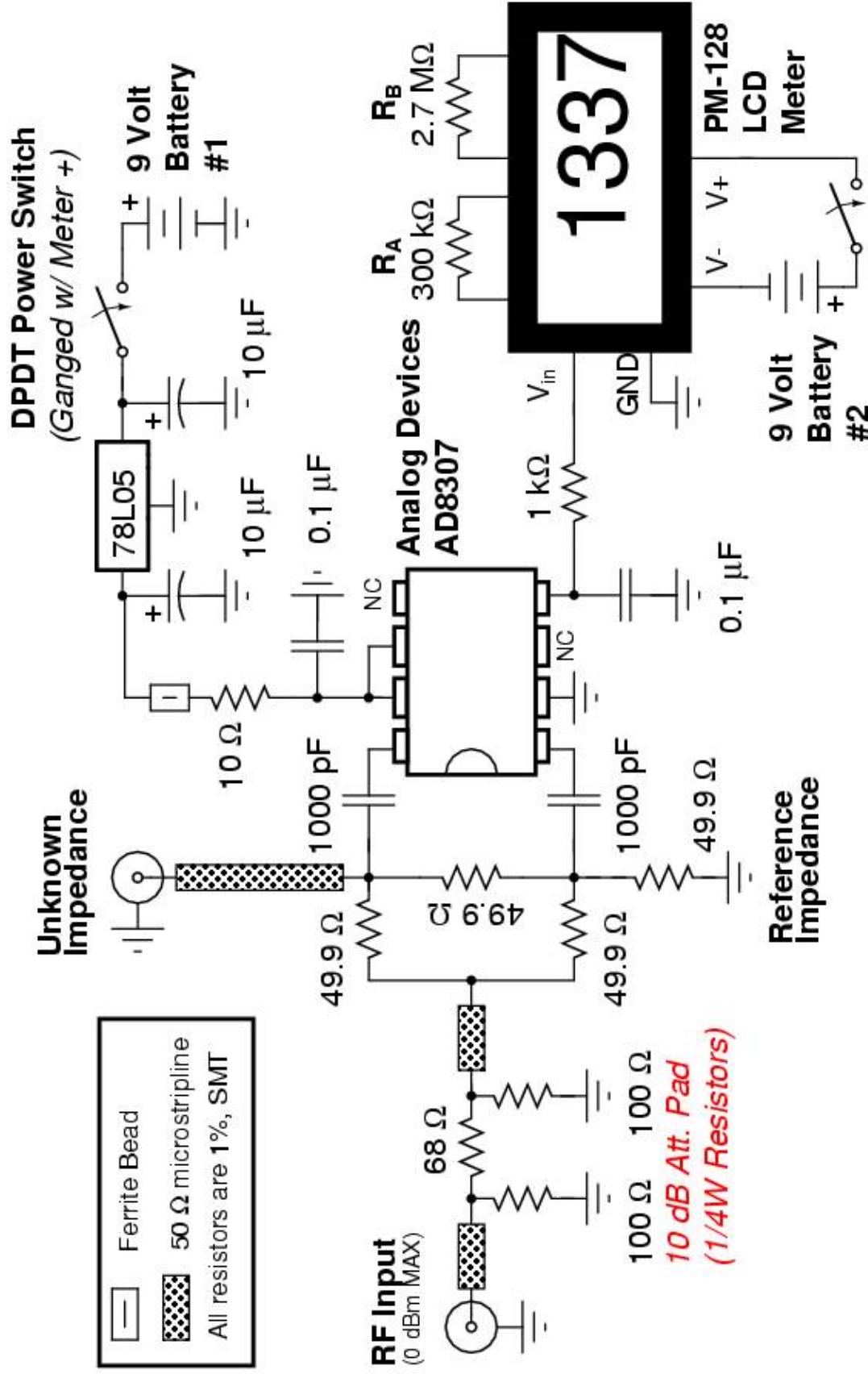
Test setup, 6:1 SWR reading. The **Unknown Impedance** jack is connected to a pure resistive 300 ohm load.



Test setup, with a "rubber ducky" antenna of unknown value connected. Note how the meter reading is *worse* than the worst-case reading. This is because the return loss bridge is only meant to determine a *resistive* impedance mismatch. In real life, antennas will have resistive, capacitive, and inductive impedance mismatches. You'll need one of those fancy MFJ antenna analyzers to measure those values.

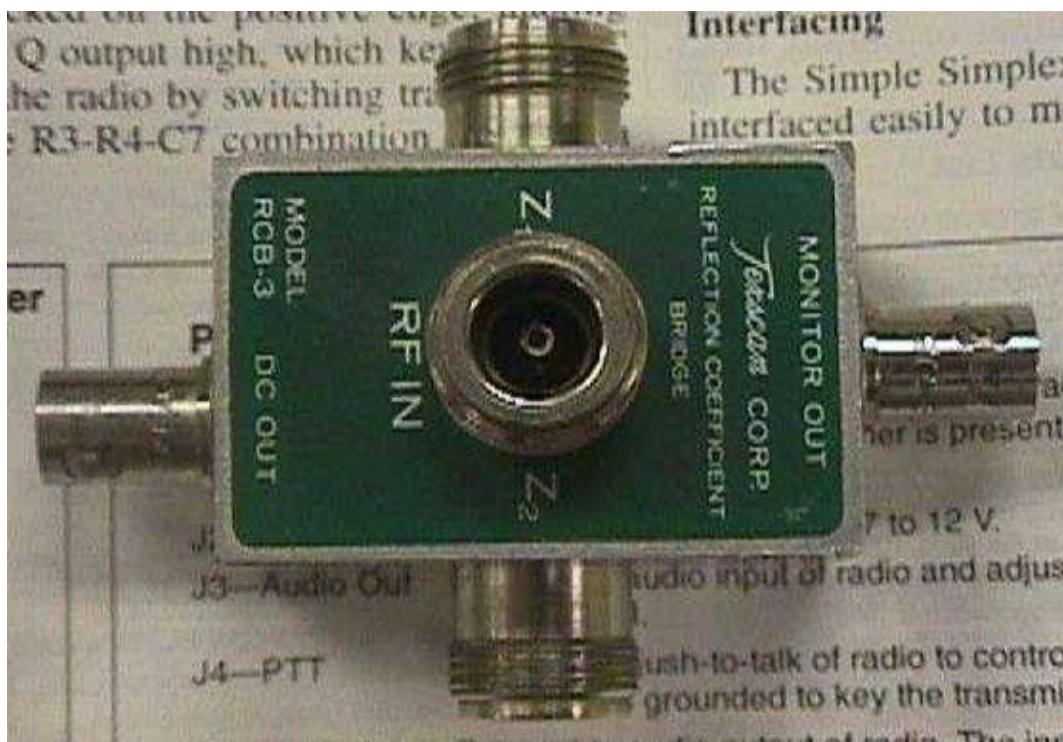
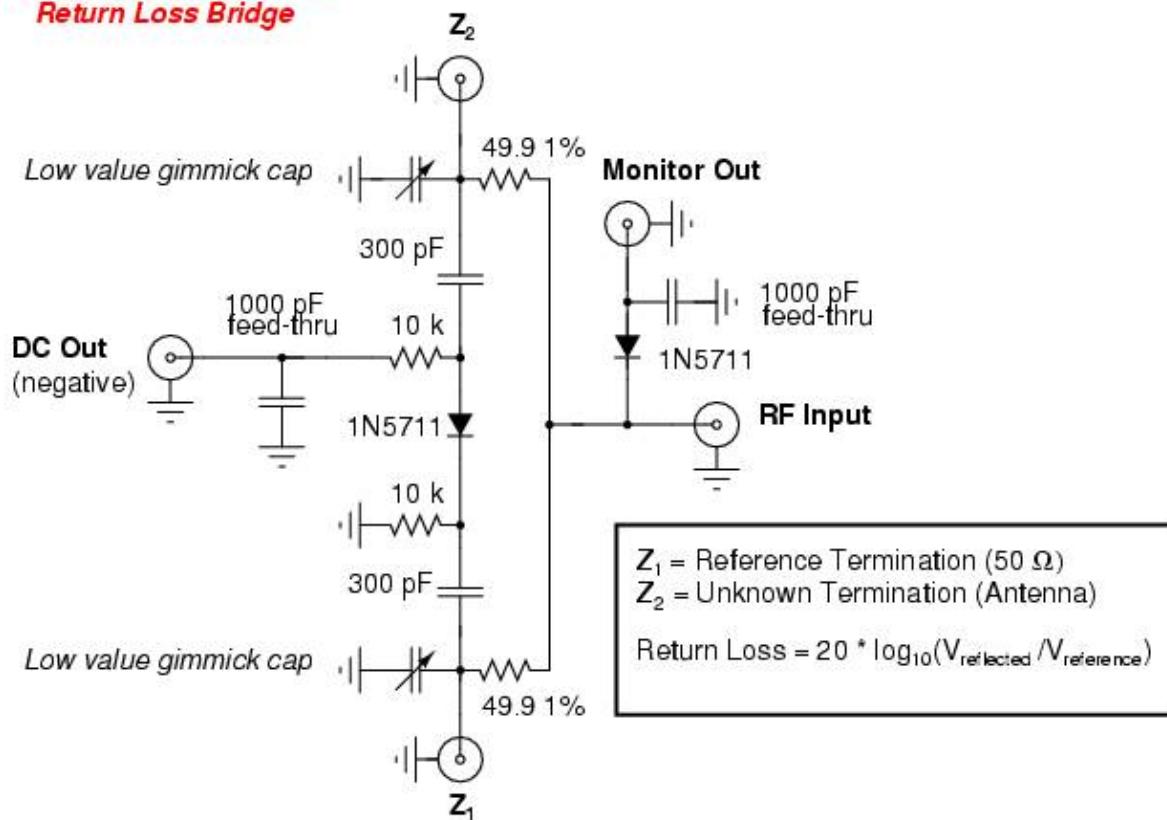
Return Loss Bridge for the FM Radio Pirate

Schematic



Texscan RCB-3

Return Loss Bridge

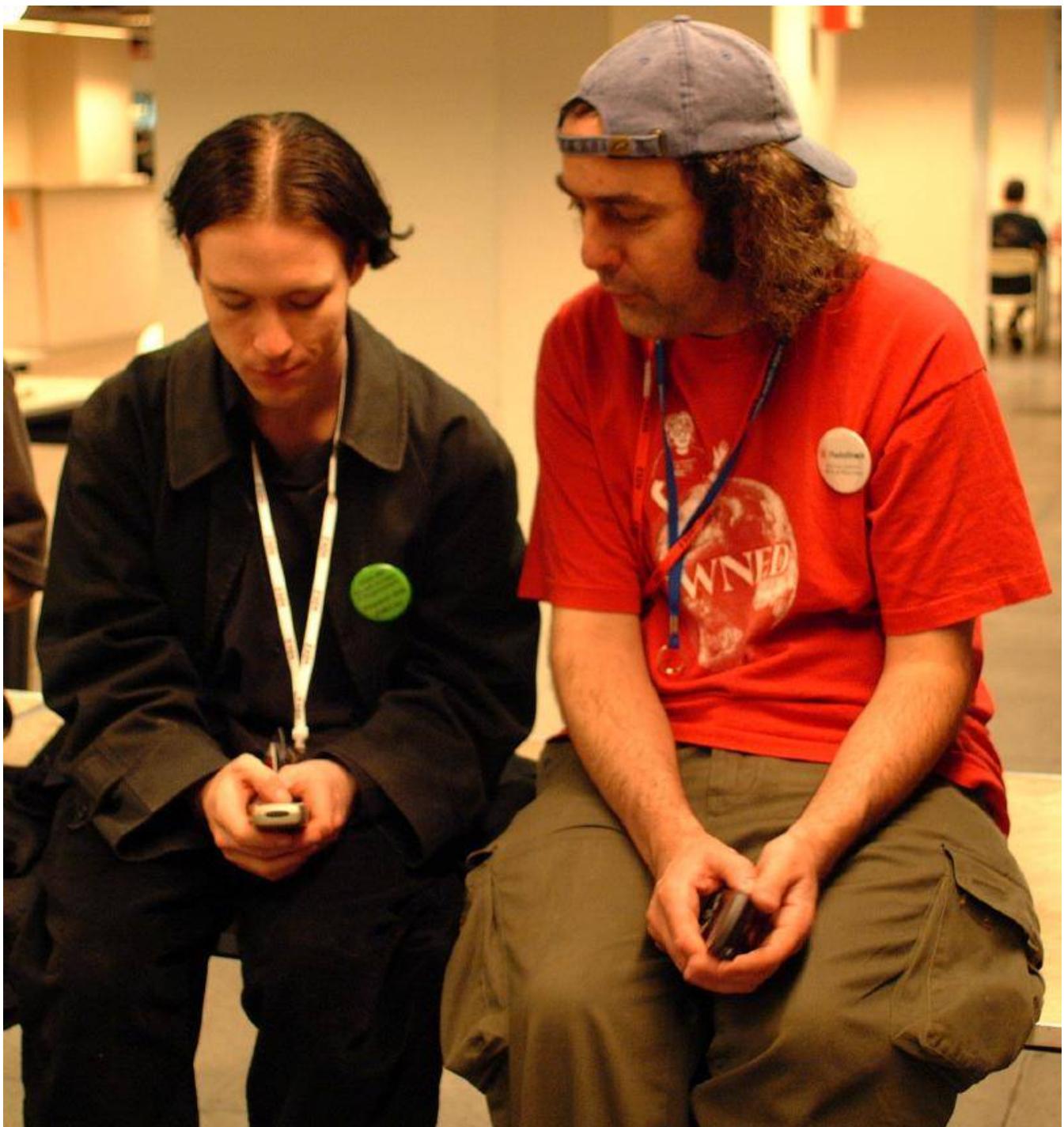


Texscan RCB-3 return loss bridge case overview.

Standing Wave Ratio to Return Loss

SWR	Return Loss (dB)	Reflected Power (%)	Transmission Loss (dB)
1.00	∞	0.000	0.0000
1.01	46.1	0.005	0.0002
1.02	40.1	0.01	0.0005
1.03	36.6	0.02	0.001
1.04	34.1	0.04	0.002
1.05	32.3	0.06	0.003
1.06	30.7	0.08	0.004
1.07	29.4	0.12	0.005
1.08	28.3	0.14	0.007
1.09	27.3	0.18	0.008
1.10	26.4	0.23	0.01
1.15	23.1	0.49	0.02
1.20	20.8	0.82	0.04
1.25	19.1	1.2	0.05
1.30	17.7	1.7	0.07
1.35	16.5	2.2	0.10
1.40	15.6	2.8	0.12
1.45	14.7	3.4	0.15
1.50	14.0	4.0	0.18
1.55	13.3	4.8	0.21
1.60	12.6	5.5	0.20
1.65	12.2	6.2	0.27
1.70	11.7	6.8	0.31
1.75	11.3	7.4	0.34
1.80	10.9	8.2	0.37
1.85	10.5	8.9	0.40
1.90	10.2	9.6	0.44
1.95	9.8	10.2	0.47
2.00	9.5	11.0	0.50
2.10	9.0	12.4	0.57
2.20	8.6	13.8	0.65
2.30	8.2	15.3	0.73
2.40	7.7	16.6	0.80
2.50	7.3	18.0	0.88
2.60	7.0	19.5	0.95
2.70	6.7	20.8	1.03
2.80	6.5	22.3	1.10
2.90	6.2	23.7	1.17
3.00	6.0	24.9	1.25
3.50	5.1	31.0	1.61
4.00	4.4	36.0	1.93
4.50	3.9	40.6	2.27
5.00	3.5	44.4	2.56
6.00	2.9	50.8	3.08

Bonus



End of Issue #27



Any Questions?

Editorial and Rants

Native Indians with European DNA. Hmm... You won't be reading that in a public school book!

Skeleton's DNA Could Shed Light on American Migrations

November 17, 2000 – *From: www.abcnews.go.com*

The Associated Press

Vanlue, Ohio – The discovery of prehistoric tools from an Ohio cave is one of several finds that has scientists questioning the identity of settlers thought to have moved in 11,000 years ago.

A just completed excavation of Sheriden Cave in Wyandot County, 100 miles southwest of Cleveland, revealed tools made from flaked stone and bone. The items are scheduled to go on display next year at the Cleveland Museum of Natural History.

Kent State University archaeologist Kenneth Tankersley, who led the excavation over the past four years, said definite answers won't come until someone finds an Ice Age skeleton and the DNA is tested.

Rare Genetic Link to Europe

Disagreement swirls around the timing of their arrival, the nature of their migration, how fast they moved across the landscape and their relationship to contemporary Native Americans, he said.

Some scientists think that the earliest colonizers could have started out somewhere in Europe, not in Asia as previously thought. That idea is rooted in a rare genetic link called haplogroup X – DNA passed down through women that dates back more than 30,000 years.

Recent genetic samples from remains in Illinois show that the rare European DNA was around centuries before European exploration. Today, haplogroup X is found in about 20,000 American Indians.

To some researchers, its presence suggests the Mongolian ancestors of most American Indians were latecomers. Genetic tests show the DNA is completely absent from East Asian and Siberian populations.

That could dispel the more than half-century old notion that humans migrated across a land bridge from Siberia at the end of the Ice Age, made stone tools and hunted while moving south.

Archaeologists since 1996 have found genetic indications of several migrations, along with evidence that people came from Polynesia, regions near Japan and even western Europe.

Skeleton Has Scientists Jumpy

"Frankly, it makes me nervous," Smithsonian Institution anthropologist Stephen Loring said of the idea that the first Americans during the Ice Age were of European ancestry.

"It's a heretical argument, and some people, unfortunately, will use it to assert the cultural superiority of Europeans. But it's a good theory that needs to be tested."

Tankersley and Brian Redmond, head of archaeology at the Cleveland Natural History Museum, have been seeking clues about the first colonizers from the cave, which is hidden 50 feet below cornfields.

"To find human remains of that age, 11,000 years old, is really, really rare, and I don't think there are any in that cavern. We would have found them," Redmond said. But he added, "Who knows what may turn up in the future. We're certain it was a camping area."

Farmers and landowners fear they could be tied up in litigation by preservationists and Indian tribes if old bones are disturbed.

"We know of places where you could probably find human remains up here," said Keith Hendricks, a Hancock County sheriff's deputy whose family owns the sinkhole where the Ice Age relics have been recovered. "But the problem is you'd be opening a Pandora's box. It's a sensitive issue."

*Unbelievable. You work hard to buy an iPod, and then it's *your* fault you are murdered by some third-world twig eater.*

Murder Shocks Brussels While PM and Cardinal Blame Victims

April 19, 2006 – From: www.brusselsjournal.com

By Paul Belien

Last Wednesday Joe Van Holsbeeck, 17 years of age, was murdered in Brussels Central Station. He was stabbed five times in the heart by North African youths. They demanded that he

give them his MP3 player. When Joe refused he was savagely murdered. The atrocity happened during the evening rush hour on a crowded platform. Though there were hundreds of people on the platform, no-one interfered – perhaps because many people do not notice what is happening around them on a crowded, noisy and busy platform where passengers are rushing to catch their trains.

Joe's murderers escaped and have not yet been traced. The murderers were filmed, however, by security cameras. Today, one week later, the Brussels police released the pictures. The police say they are looking for two youths aged between 16 and 18 years old. Joe's murder has shocked the Belgians. For an entire week the police, the authorities and most of the media have tried to downplay the fact that the killers are Muslim youths. Prime Minister Guy Verhofstadt and Cardinal Godfried Danneels addressed the indignation, but gave it a spin of their own. How was it possible for such an atrocity to take place in a crowd with no-one interfering, they asked. Both Verhofstadt and Danneels said that Joe was a victim of "indifference in Belgian society." "Where were you last Wednesday at 4 pm?!" the Cardinal asked the congregation in Brussels Cathedral during his Easter sermon on Sunday. The Cardinal blamed the murder on the materialism and greed of Western society "where people get killed for an MP3 player."

Belgian citizens realize, however, that the murder has nothing to do with "indifference in Belgian society," but everything with a group of North African youths terrorizing Brussels and the "indifference" of the authorities to eradicate this scourge. Last January five Moroccan youths slit the throat of a 16 year old black boy and left him to bleed to death because he refused to buy a cell phone they had stolen. The murderers have not yet been found. Some Belgians doubt whether Joe's murderers will ever be found, and if so, how long they will have to serve. In 1998 Patrick Mombaerts, a 32 year old electrician, was murdered by a Moroccan youth who was after his money. The murderer spent only seven months in jail because he was a minor at the time of the murder. The Moroccan thugs do not care about life and they are used to slitting throats – a procedure they get to practise on sheep from a very young age.

Cardinal Danneels' disgraceful response, blaming Joe's murder on the indifference and the materialism of the Belgians, is symptomatic for the attitude of the Belgian establishment, who invariably blame the crime on the victims rather than the criminals. Jean-Marie Dedecker, a senator for Verhofstadt's Liberal Party, writes in an op-ed article today that the first thing the police officers who investigated the murder wanted to know was whether Joe had made "racist remarks" whilst refusing to hand over his MP3 player. In Belgium, the senator says,

"you will sooner get punished for riding a bike without the lights on than for stealing a bike. [...] Policemen look the other way in order to avoid being accused of racism – because nothing is more detrimental to their career – and also to signal that they hold no prejudices. They behave in exactly the opposite way when they suspect decent citizens of some misdemeanour."

Equally harsh for Cardinal Danneels, one of the leftists amongst the "princes of the church," was journalist Luc van Balberghe on his blog:

The cardinal did not condemn the culprits. He made no reference whatever to the policy makers who allowed things to get so bad. Instead, he launched an attack on the whole of society. A totally unjustified attack: that society is thoroughly fed up with the dominance of murdering, thieving and raping Vikings from North Africa, and is not responsible for it.

"Where were you on Wednesday at [4 o' clock!]" the cardinal asked, pointing his

aged finger in the air. I am not accountable to someone who has contributed absolutely nothing to our society, who has looked on and allowed his own church to disintegrate and thereby surrendered a considerable part of our culture, our rules and values. [...]

Where was he himself, that Wednesday at [4 o' clock]? Would he have pitched his lonely strength against a gang whose number increases exponentially at one whistle and who have no regard for a man's life? Has he not seen the interviews with Magreb youths on TV? "Terrible? Well, people die every day...," one of the vermin said on TV. You could see him think: another infidel dog less! [...]

"Where was I, on Wednesday at [4 o' clock]?" Well, here is my answer: it's none of your business, old faggot! But I ask you the same question: where were you when the laws were passed that allowed the killing of innocent children (abortion) and the slaughtering of the terminally ill (euthanasia)?

Meanwhile, yesterday, a Belgian court sentenced Daniel Féret, the leader of the Belgian anti-immigrant party Front National, to 250 hours of public service "helping immigrants to integrate." Féret, a 61 year old medical doctor and a member of the Brussels regional parliament, was found guilty of publishing racist pamphlets. He will face 10 months in jail if he does not accept the ruling. The Brussels Appeals Court has also barred him from standing for election for the next 10 years. The FN's webmaster, Georges-Pierre Tonnelier, was fined and also banned from public office.

In 2003 the FN won 5.6% of the vote in Wallonia, the French-speaking southern part of Belgium. A recent poll indicates that it attracts 9.4% of potential Walloon voters today.

You won't be hearing this from Boyfucker and the Gay Pedo Posse at Horny Old Pedophiles Everywhere #6!

ACLU Data Collection Methods Lead to Charges of Hypocrisy

December 18, 2004 – *From: www.sfgate.com*

By Stephanie Strom

The American Civil Liberties Union is using sophisticated technology to collect a wide variety of information about its members and donors in a fund-raising effort that has ignited a bitter debate over its leaders' commitment to privacy rights.

Some board members say the extensive data collection makes a mockery of the organization's frequent criticism of banks, corporations and government agencies for their practice of accumulating data on people for marketing and other purposes.

The issue has attracted the attention of the New York attorney general, who is looking into whether the group violated its promises to protect the privacy of its donors and members.

"It is part of the ACLU's mandate, part of its mission, to protect consumer privacy," said Wendy Kaminer, an ACLU board member. "It goes against ACLU values to engage in data-mining on people without informing them. It's not illegal, but it is a violation of our values. It is hypocrisy."

The organization has been shaken by infighting since May, when the board learned that Anthony Romero, its executive director, had registered the ACLU for a federal charity drive that required it to certify that it would not knowingly employ people whose names appeared on government terrorism watch lists.

A day after the New York Times disclosed its participation in late July, the organization withdrew from the charity drive and has since filed a lawsuit with other charities to contest the watch list requirement.

The group's new data collection practices were implemented without the board's approval or knowledge and were in violation of the ACLU's privacy policy at the time, according to Michael Meyers, vice president of the organization and a frequent internal critic. He said he had learned about the new research by accident Nov. 7 during a meeting of the committee that is organizing the group's Biennial Conference in July.

He objected to the practices, and the next day, the privacy policy on the group's Web site was changed. "They took out all the language that would show that they were violating their own policy," Meyers said. "In doing so, they sanctified their procedure while still keeping it secret."

New York Attorney General Eliot Spitzer appears to be asking the same questions. In a Dec. 3 letter, his office informed the ACLU that it was conducting an inquiry into whether the group had violated its promises to protect the privacy of donors and members.

Emily Whitfield, a spokeswoman for the ACLU, said the organization was confident that its efforts to protect donors' and members' privacy would withstand any scrutiny. "The ACLU certainly feels that data privacy is an extremely important issue, and we will of course work closely with the state attorney general's office to answer any and all questions they may have," she said.

Robert Remar, a member of the board and its smaller executive committee, said he did not think data collection practices had changed markedly. He recalled that the budget included more money to develop donors but said he did not know the specifics.

Remar said he did not know until this week that the organization was using an outside company to collect data or that collection had expanded from major donors to those who contribute as little as \$20. "I don't know the details of how they do it, because that's not something a board member would be involved in," he said.

The process is no different than using Google for research, he said, emphasizing that the data firm hired by the ACLU, Grenzebach Glier & Associates, had a contractual obligation to keep information private.

Many nonprofit groups collect information about their donors to help their fund-raising, using technology to figure out people's giving patterns, net worth, health and other details that assist with more targeted pitches.

Because of its strong commitment to privacy rights, however, the ACLU has avoided the most modern techniques, according to minutes of its executive committee from three years ago. "What we did then wasn't very sophisticated because of our stance on privacy rights," said Ira Glasser, Romero's predecessor.

Glasser, who stepped down in 2001, said the organization had done some basic data collection on major donors and a ZIP code analysis of its membership for an endowment campaign while he was

there. He said it had done research on Lexis/Nexis and might have looked at SEC filings.

Daniel Lowman, vice president for analytical services at Grenzebach, said that the software the ACLU is using, Prospect Explorer, combed a broad range of publicly available data to compile a file with such things as an individual's wealth, holdings in public corporations, other assets and philanthropic interests.

Meyers said he had learned on Nov. 7 that the ACLU's data collection practices went far beyond what was done previously.

"If I give the ACLU \$20, I have not given them permission to investigate my partners, who I'm married to, what they do, what my real estate holdings are, what my wealth is and who else I give my money to," he said.

Who do you think those Eurosavages are going to ask for help? Who do you think is going to tell them to fuck off?

Gadhafi: Islam Taking Over Europe

May 3, 2006 – From: www.worldnetdaily.com

Islam will take over Europe without violent force within a few decades, said Libyan Leader Moammar Gadhafi in a speech aired on the Arab satellite network Al Jazeera.

"We have 50 million Muslims in Europe," Gadhafi said. "There are signs that Allah will grant Islam victory in Europe without swords, without guns, without conquests. The 50 million Muslims of Europe will turn it into a Muslim continent within a few decades."

If Turkey is added to the European Union, the Libyan leader said, Europe will have another 50 million Muslims.

Albania, a Muslim-majority country, and Bosnia, which is half Muslim, also appear to be on their way to EU membership.

"Europe is in a predicament, and so is America," Gadhafi said. "They should agree to become Islamic in the course of time, or else declare war on the Muslims."

Excerpts of Gadhafi's speech, broadcast April 10, were translated by the Middle East Media Research Institute, or MEMRI. A video clip of the speech can be viewed online.

Gadhafi emphasized Muslims view Muhammad the prophet not only of the Arabs or Muslims but "of all people."

"He superseded all previous religions," Gadhafi said. "If Jesus were alive when Muhammad was sent, he would have followed him. All people must be Muslims."

He said Christians believe Muhammad is not their prophet because their holy texts "are forged and call for hatred."

"The so-called Old Testament and New Testament are neither Old Testament nor New Testament because both testaments were superseded, and they are forged," he said. "They were written by hand hundreds of years after Jesus."

Gadhafi continued: "In the Bible there are things that are inappropriate for both Jesus and Moses. If we want to mend the state of humanity, and live in a global village, because of the globalization, we must search for the true Bible, because the Bible that exists today is a forgery. Today's Bible does not mention Muhammad, whereas our Lord's Bible mentions Muhammad repeatedly."

Joseph Farah's G2 Bulletin reported in December 2003 Gadhafi provided al-Qaida with chemical and biological weapons of mass destruction before changing heart and agreeing to destroy his arms program.

A Day Without An Illegal Immigrant

May 1, 2006 – *From: [article.nationalreview.com](#)*

By Tom Tancredo

What would a day without illegal aliens really be like? Let's try to imagine it.

On May 1, millions of illegal aliens working in meat-processing plants, construction, restaurants, hotels, and other "jobs Americans won't do" are supposed to stay home from work to show the importance of their labor to our nation's economy. Doubtless, there will be some inconvenience if that happens, but there is another side to the story that is not being reported.

We are talking about illegal aliens, not mere "immigrants." If *legal immigrants* stopped working for a day, we would miss the services of physicians, nurses, computer programmers, writers, actors, musicians, entrepreneurs of all stripes, and some airline pilots...as well as the CEO of Google. That would be more than an inconvenience, but it won't happen because legal immigrants are not out marching angrily for rights that are already protected by our courts.

But if *illegal aliens* all took the day off and were truly invisible for one day, there would be some plusses along with the mild inconveniences.

Hospital emergency rooms across the southwest would have about 20-percent fewer patients, and there would be 183,000 fewer people in Colorado without health insurance.

OBGYN wards in Denver would have 24-percent fewer deliveries and Los Angeles's maternity-ward deliveries would drop by 40 percent and maternity billings to Medi-Cal would drop by 66 percent.

Youth gangs would see their membership drop by 50 percent in many states, and in Phoenix, child-molestation cases would drop by 34 percent and auto theft by 40 percent.

In Durango, Colorado, and the Four Corners area and the surrounding Indian reservations, the methamphetamine epidemic would slow for one day, as the 90 percent of that drug now being brought in from Mexico was held in Albuquerque and Farmington a few hours longer. According to the sheriff of La Plata County, Colorado, meth is now being brought in by ordinary illegal aliens as well as professional drug dealers.

If the "Day-Without-an-Immigrant Boycott" had been held a year earlier on May 8, 2005, and illegal alien Raul Garcia-Gomez had stayed home and did not work or go to a party that day, Denver police officer Donnie Young would still be alive and Garcia-Gomez would not be sitting in a Denver jail awaiting trial.

If the boycott had been held on July 1, 2004, Justin Goodman of Thornton, Colorado, would still be riding his motorcycle and Roberto Martinez–Ruiz would not be in prison for killing him and then fleeing the scene while driving on a suspended license.

If illegal aliens stayed home – in Mexico, Guatemala, Brazil, and 100 other countries – the Border Patrol would have 3,500 fewer apprehensions (of the 12,000 who try each day).

Colorado taxpayers would save almost \$3,000,000 in one day if illegals do not access any public services, because illegal aliens cost the state over \$1 billion annually according to the best estimates. Colorado's K–12 school classrooms would have 131,000 fewer students if illegal aliens and the children of illegals were to stay home, and Denver high schools' dropout rate would once again approach the national norm.

Colorado's jails and prisons would have 10–percent fewer inmates, and Denver and many other towns would not need to build so many new jails to accommodate the overcrowding.

Our highway patrol and county sheriffs would have far fewer DUI arrests and there would be a dramatic decline in rollovers of vanloads of illegal aliens on I–70 and other highways.

On a Day Without an Illegal Immigrant, thousands of workers and small contractors in the construction industry across Colorado would have their jobs back, the jobs given to illegal workers because they work for lower wages and no benefits. (On the other hand, if labor unions continue signing up illegal workers, no one will be worrying about Joe Six-Pack's loss. Sorry, Joe, but you forgot to tell your union business agent that your job is as important as his is.)

If it fell on a Sunday, Catholic Churches in the southwestern states might have 20–percent fewer parishioners at Mass if all illegals stayed home, but they would be back next Sunday, so the bishop's job is not in danger. The religious leaders who send people to the marches and rallies will never fear for their jobs, because illegal aliens need their special "human–rights" advocacy and some priests and nuns seem especially devoted to that cause. The fact that most Catholics disagree with the bishops' radicalism doesn't seem to affect their dedication to undermining the rule of law.

All of this might be a passing colorful episode in the heated national debate over immigration policy if it weren't for an odd coincidence: The immigration–enforcement agency responsible for locating and deporting illegal aliens is also taking the day off today. Of course, they didn't call it a boycott. It is just (non)business as usual.

Myths and Lies of Illegal Immigration

January 4, 2004 – From: theamericanresistance.com

By Kathy McKee

Because the pro-illegal alien lobby has a bottomless pit of money and can hire PR people to spin (and fabricate) anything any way, there are an undue number of myths and lies that the public (and many politicians) has bought into. The *FACTS* are:

1. It is *NOT* racist to call these people "illegal aliens." In fact, "illegal aliens" is the only term used in federal laws and regulations to describe criminals (and they *ARE* criminals) who come into our country illegally. They are not illegal immigrants, not undocumented immigrants, not migrant workers, and not day laborers – they're ILLEGAL ALIENS.

2. Mexico is *NOT* a poor country. It has the fifth richest economy in the world, and by sending its teeming masses to our country, that status keeps on rising. Mexico has more resources per square mile than the U.S. and plenty of money to take care of its own people. Why should the taxpayers of this country subsidize Mexico's corruption?
3. Illegal aliens are *NOT* necessarily coming here to work. Lou Dobbs recently reported that 33 percent of our prison population is now comprised of non-citizens. Plus, 36 to 42 percent of illegal aliens are on welfare. So, for a good proportion of these people, the American dream is crime and welfare, not coming here to work.
4. Illegal aliens are *NOT* doing work Americans won't do. What jobs won't Americans do? In most states, Americans still clean their own houses, do their own landscaping, clean hotel rooms, work in restaurants and fast food places, paint houses, *DO CONSTRUCTION WORK*, work in airports, etc. – just like we have the past 200 years before "our" government allowed these people to invade our country. There are 18 million Americans who cannot find a job, so illegal aliens who are coming here to work do so at peril to American workers.
5. Illegal aliens absolutely do not contribute more than they cost. Certainly the millions in prison and on welfare aren't contributing a dime to our economy, and the ones who are working often are paid in cash with no deductions for taxes at all. The ones who use fraudulent social security numbers and qualify to pay taxes and social security have so many deductions for dependents that they pay little if any taxes. We have seen them pay less than \$100 in taxes and get back \$4,000 refunds (thanks to earned income tax credits and multiple dependents). The Center for Immigration Studies estimates that the average Mexican illegal alien costs U.S. taxpayers a whopping \$55,000 each. Some bargain, eh?
6. The economy does *NOT* depend on illegal aliens. Sure, greedy CEOs (making \$50 to \$150 *MILLION* a year) and business owners depend on illegal aliens, but due to #3, #4 and #5 above, the only thing illegal aliens are contributing to is the collapse of our economy and making the rich richer.
7. Without illegal aliens, the price of agricultural products and other goods and services will *NOT* soar. The definitive study on this subject is the University of Iowa's "How Much Is That Tomato?" The study concludes that 'since labor is such a small component of the end-price of agricultural products (which includes price to the growers, transportation costs, processing/storage costs, grocers' profit, etc.), using minimum wage workers instead of illegal aliens would increase prices of agricultural products by approximately 3 percent in the summer and 4 percent in the winter ... hardly the making of \$10 heads of lettuce, \$25 hamburgers, \$1,000 per night Days Inn hotel rooms like the pro-illegal alien lobby claims.'
8. Consumers are *NOT* benefiting from lower labor costs. Again, it's CEOs and business owners who benefit from taxpayer subsidies for their illegal alien workers. The Big Three automakers say they moved so many jobs to Mexico because their labor costs are 80 percent less than in America. Anybody notice the price of new cars spiraling downward under NAFTA?

So, before you believe the prevalent pack of lies perpetuated by the illegal alien lobby, which makes billions off this government-sanctioned criminal activity, ask yourself who's saying this garbage and look at what they have to gain. Citizens Against Illegal Immigration, just like Protect Arizona NOW, is an all-volunteer, totally grass-roots organization of citizens who are making nothing and have nothing personal to gain from their efforts to fight this corruption. Whose side are you on, and what are *YOU* doing to save your state and country from this evil?





Kill All Mexicans





This is what it should look like.



