GBPPR 'Zine

Issue #121 / The Monthly Journal of the American Hacker / May 2014

"And... so what? Another long heart tugging article by the Times that says what exactly? None are any different since all feature the poor little urchin with a heart of gold, his rag tag but really harmless 'gang' and their hopes to 'get out' of the 'hood – haven't we seen this for centuries in print, on film and Broadway, call central casting, where is the news? What is the point, the message – are we supposed to feel sorry for Shamir that he is bored in New York City, that he can't seem to figure out how to use the subway to go a museum or library or study to finish school? That he just can't help himself from instigating conflict, and that the only topic of conversation he can possible muster is about sneakers and raps stars, still? Or that the adults in the neighborhood are hopelessly poor role models? What exactly is the call to action here? No longer subject to stop and frisk or outright racism or even particularly bad poverty, it seems what exactly is standing in his way to do better? Is this an effort at a Pulitzer–winning series to coax liberal guilt and even more resources for city programs to try change decades of poor culture and decisions? Well I'm not buying it."

––– Top–rated "Reader's Picks" comment from "ST" on the *New York Times* article "On the Brink in Brownsville."

(nytimes.com/2014/05/04/magazine/on–the–brink–in–brownsville.html)

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1. GENERAL

1.01 This practice describes the Network Switching Performance Measurement Plan (NSPMP) for 2-wire No. 1/1A ESS switches. The plan is designed to measure switching performance of end offices, including those offices having tandem traffic that is less than 50 percent of the total traffic. This plan may be used on a local basis to measure No. 1/1A ESS 4-wire HILO switches. The Centralized Results System (CRS) will calculate the total index only from the reported items.

1.02 The title for each figure includes a number(s) in parentheses which identifies the paragraph(s) in which the figure is referenced.

1.03 The performance indicators and measured components have been selected to indicate specific as well as overall office performance. Impact on the customer is carefully assessed.

1.04 Responsibility for the efficient functioning of the switching entity is jointly shared by network maintenance, network administration, and engineering forces. Generally, the performance of a switching entity is determined by how well the responsible forces are managed and how effectively they operate as a team. External factors, such as severe weather or equipment facility failures, on occasion, can be expected to cause depressed service levels for brief periods. However, a continuing efficient performance level remains the responsibility of the team.

2. OUTLINE

2.01 This plan is structured to critically evaluate switching equipment performance. The performance indicators and measured components are sufficiently sensitive to monitor and assess the switch's internal maintenance efforts and switching activity, to perform surveillance of external facilities, and to track customer service. Despite the impact of external factors, the combined efforts of the responsible groups are considered adequate to maintain a well functioning switching machine on a continuing basis.

2.02 Performance indicators and measured components have been defined as such to indicate their pertinence to the switching entity. Performance indicators provide a means of making early evaluations of possible adverse service trends. The measured components are intended to more directly measure the level of switching efficiency. The items comprising the measured components have been grouped under four categories. These are:

(1) Machine access

(2) Machine switching

(3) Billing

(4) Customer reports.

The measured components of (1), (2), and (3) are designed to measure technical factors of service within each broad category. Category (4) is a view of the service level as indicated by the customer.

2.03 The weighting of the components was accomplished based on the following considerations:

(a) Impact of failure on the customer

(b) Impact on revenue

(c) Severity of equipment failure or outage.

2.04 In addition to the measured components upon which the index is based, the plan also calls for certain performance indicators. These indicators are included principally for one or more of the following reasons:

(a) Indicators that assist in analyzing the cause of poor service as shown by a measured component

(b) Indicators that measure aspects of service failure beyond the scope of the measured components

(c) Indicators that identify potential service failure.

2.05 The plan includes two types of results reports: a detailed results report (Form EO-6421A) for use as the control group report and a results summary (Form EO-6421B). The detailed report is designed for single office (control group) reporting and should be limited to that use. The management summary is to be used to consolidate two or more single entity reports to any management level desired and for any time period of one or more months.

2.06 The detailed results and summary reports employ a results banding technique in which performance levels are grouped into four bands for each component of the plan and for the overall index.

Band	Index Level	Meaning
H	98.50-100.00	Higher than objective and possibly costly
O	95.50-98.49	Objective level
L	89.50-95.49	Lower than objective level
U	Below 89.50	Unsatisfactory level requiring immediate attention

2.07 The summary report provides management with two summaries:

(1) The number and percentage of offices by performance band for each measured component and the total index.

(2) The number of control groups which are beyond the threshold level in each performance indicator.

3. APPLICATION

3.01 The plan is fundamental in nature and will provide a general measurement of improving or deteriorating service. Proper application of this plan will assist management in identifying problem areas. Therefore, the plan is intended to isolate areas where management attention can be effectively focused.

3.02 Although some machine switching and billing functions are included in the component descriptions, there is no intent to provide complete descriptions of No. 1/1A ESS switches operation. Full description is included in Practice 966-100-100, No. 1 ESS General Descriptive Information; Practice 966-120-100, No. 1A ESS General Descriptive Information; and No. 1 ESS Switch Program Descriptions.

3.03 This plan calls for use of measured components and performance indicators. These items have been selected to serve several purposes. Some will be useful to local managers in predicting and/or in analyzing potential and actual areas of service difficulty. Some are indicative of conditions that may be related to service-affecting problems other than in the measured office. Still others will reflect problems affecting revenue. Some of these indicators have direct impact upon the quality of customer service; others are indirectly related. All of the numerous indicators necessary to provide complete and detailed analysis of switching performance quality have not been included. Those selected are considered among the most important. They were carefully selected as those which require constant monitoring and management attention.

3.04 There are many other indicators useful to managers in the detection of adverse service conditions or trends. They should be used in addition to those contained in the plan in the continuing identification and analysis of potential and actual trouble spots within the office.

3.05 Other indicators that are less representative of direct service effects yet are related to the troubles, problems, or conditions affecting service are available and must be used. These other indicators may sometimes prove to be more important than the indicators of this plan. If these supplemental indicators are neglected, managers may be unaware of impending service deterioration until results worsen. The proper approach is to be sensitive to all indicators.

3.06 The following is a list of items not directly measured by the plan. These items are indicative of the service provided by the control group and require constant attention. The list is not all-inclusive:

(a) E-to-E visitation rate

(b) Line scan count

(c) Audit failures

(d) Certain network failures

(e) Major alarms

(f) Incoming reorders

(g) Automatic identified outward dialing (AIOD) performance

(h) Cleanliness of the office

(i) Preventive maintenance backlog

(j) Line insulation test failures

(k) Percentage of engineered capacity

(l) Data validation

(m) Class-of-service balance

(n) Individual component busy hour performance

(o) Proper use of administration, maintenance, and provisioning methods and procedures

(p) Service circuit outage.

3.07 Although the administrative data requirements of this plan are restricted to busy hour periods, it is strongly advised that network administration personnel exercise judgment in obtaining and analyzing other hours and, where warranted, total day periods. Since many measured components and performance indicators relate average monthly performance for the total office or specific equipment items, continued analysis of equipment subgroups to identify trouble hot spots is suggested.

4. OBJECTIVE

4.01 This plan is designed to provide a measurement of the quality of customer service provided by a No. 1/1A ESS switch control group. It is also designed to reflect the quality of administration, maintenance, and engineering/provisioning efforts which relate to the measured service quality.

4.02 Measured components have been included for each of the four major categories—machine access, machine switching, billing, and customer reports. The measurements provide sufficiently sensitive reflections of the quality of service to the using customer. Performance indicators are designed to assist administration, maintenance, and engineering personnel charged with the responsibility for that service quality in predicting and/or in analyzing areas of service concern related to switching machine performance, and when required, in developing joint programs for corrective action.

4.03 Generally, the performance of a No. 1/1A ESS switch control group is related to the quality of administration, maintenance, and engineering efforts brought jointly to bear on that control group. This plan is designed to measure the service quality resulting from those efforts and to indicate the necessity of joint involvement by personnel charged with the different primary functional responsibilities.

5. INTERPRETATION AND USE OF RESULTS

5.01 The objective of the measured components of the plan is to represent actual failures or delays of the machine to properly complete a call or to provide accurate billing information. The performance indicators represent conditions that may seriously impact upon the machine's ability to perform its switching and billing functions satisfactorily.

5.02 The measured components and performance indicators in this plan are of several different types. Some measurements are obtained from machine counts of failures caused by equipment malfunction. This type of measurement usually represents a lost call and if so usually is followed by an attempt by the customer to reinitiate. Since regeneration also affects load-sensitive functions of the switching machine, the items of this type are critically indexed. Another type of measurement addresses blockage and delay experienced on equipment items which are engineered on a probability basis. With this type of measurement, it is expected and economical that a certain level of machine counts will be evaluated. The index levels and evaluation periods are designed to reflect this expected level of event occurrences. The customer trouble report category reflects central office customer line, equipment, and facility conditions that caused the customer to report a service failure.

5.03 Switching performance, as measured by this plan, is strongly dependent on the control of equipment failure rates, the availability of equipment for service, the administration of the available equipment, and the quality of work. There are few inherent reasons why the performance of an individual office, especially over long periods, should be appreciably different from the average performance

of large groups of offices.

5.04 Performance levels obtained through the use of this plan are not comparable to performance levels in other types of switching machines under other measurement plans. The index tables used in this plan are based on a scientific sample of No. 1/1A ESS switches. Therefore, the service provided by a given No. 1/1A ESS switch can only be compared to other No. 1/1A ESS switches.

5.05 Performance indicator threshold levels have been established at a point considered to be valid on a broad basis. There may be instances where this level is inappropriate for a particular control group. In those instances, more stringent thresholds may be established for local management purposes.

5.06 Management should pay particular attention to the trend of office results in the various components and performance indicators of the plan. Improvement in the performance of any one item should be directly related to the corrective action taken. This point is significant not only in evaluating the performance of an office but also in evaluating a particular course of action as being worth the required effort and cost in view of the results improvement. Worsening results indicate the need for a stepped-up pace or a different tactic in pursuing corrective action.

5.07 Objectives should be established in such a manner that they are meaningful to and attainable by the managers involved in accomplishing the goals. For this reason, managers responsible for the maintenance, administration, and engineering/provisioning should be involved in setting the objectives. An understanding of the interrelationship of the various functions is essential to attain overall satisfactory service levels. The plan is designed to foster this understanding.

5.08 While it may be argued that responsibility for the measured components of this plan should be assigned to functional groups or individuals who can exclusively control their performance, examination of the causes of any component failure reveals that such isolation is impossible. It is the intent of this plan that the interdependency of service on functional group contribution be recognized. In other words, the central office maintenance, network administration, and engineering/provisioning functional groups are equally responsible and should be held equally accountable for analysis and for concerted corrective action.

5.09 Intelligent management action is essential to effectively utilize this plan. Continuous diagnostic analysis must be employed to assure problem correction prior to service deterioration.

6. GENERAL INSTRUCTIONS

6.01 The service month to be used for this plan will be from the twenty-third of the month preceding the report month through the twenty-second of the report month (e.g., February report month begins January 23 and ends February 22).

6.02 Each control group will prepare one report (Form EO-6421A) monthly from the first full report month after cutover and thereafter.

6.03 Most of the data required for this plan are obtained from administrative maintenance registers or data system. ***Actual peg counts or mechanized data printouts shall be used.***

6.04 Rules for the inclusion (or exclusion) of administrative data, for the treatment of holiday data, and for the documentation of out-of-order conditions are as stated in Practice 780-350-060. Generally stated, these rules provide for the ***inclusion of all valid data for 5 business days each week during the report period regardless of the local conditions*** (e.g., storms, civil disturbances, impaired switching facilities, installation, or rearrangement activity). ***The only periods that may be excluded are those during which data are proven to be unavailable or inaccurate. Written documentation (Form EO-6429) of these conditions, jointly signed by administrative and maintenance personnel, is a requirement of this plan.***

6.05 The components and indicators for which data are obtained for "busy hour" measurements require a minimum of 15 days' valid busy hour data for each report month.

6.06 The following rules will apply when data are lost from maintenance registers which measure components or indicators 24 hours per day.

(a) All available valid data must be included in the results calculation regardless of the service conditions. Periods affected by events such as storms, civil disturbances, cable cuts, and switching machine emergency actions must be included.

(b) If a failure count or base count is lost for a certain time period (e.g., transmitter timeouts did not score for 2 days), the base data or failure count used to calculate that component or indicator must be excluded for the same time period.

(c) A day's data (normally 24 hours) will be considered valid if 85 percent of all peg counts between the hours of 0800 and 2400 are obtained.

(d) Data obtained for measurement purposes must contain valid data for 15 business days of the report month for any component or indicator.

6.07 If due to malfunction, error, or lack of register provisioning, results data for a measured component or a performance indicator are not available for the report period, the notation NAV shall be entered in the (1) Failures and Base column where appropriate and (2) Performance column of Form EO-6421A (Figure 1). The notation NAV is considered Band U or soft spot performance and will be reported as such on the control group report (EO-6421A) and Form EO-6421B (Figure 2). The notation N or NAV is acceptable.

6.08 The notation EMPTY shall be entered in the (1) Failures and Base columns where appropriate, (2) Performance column, and (3) Soft Spot or Band column of Form EO-6421A if the component is not applicable to the measured control group due to the design limitations or the generic or the feature is not installed. EMPTY is not considered Band U or soft spot performance. The notation E or EMP is an acceptable substitute for EMPTY.

6.09 Offices having more than one busy hour in which a measured component or performance indicator is to be calculated must compute the performance separately for each busy hour. The results reported on Form EO-6421A must be the lowest of the calculated index values or poorest performance.

Example: The office overflow component is measured during the dial tone speed busy hour. If the office has two dial tone speed busy hours, office overflow must be measured during each separate busy hour. The data for the hour with the lowest index value must be reported on Form EO-6421A.

6.10 Due to the importance of the NSPMP data used to measure the level of service rendered by an office, the district manager is designated as being responsible for the validity and integrity of the data reported.

6.11 Various administrative and maintenance printouts provide the data necessary in computing results for this plan. Table A contains a list of the measured components and performance indications along with the source printout for each. Downstream or remote data reporting and summarizing aids are encouraged.

6.12 Performance for those components and indicators which measure trouble conditions and customer reaction will be measured 24 hours a day for every day of the year. For those components and indicators which are design related and load sensitive, individually determined busy hour data will be reported in accordance with the material included in Sections 7 and 8.

6.13 Procedures for determining and changing busy hour periods shall be in accordance with instructions in Practice 780-200-031. The determination of busy hour periods shall be the responsibility of the network administration group.

6.14 Forms to be used for the compilation of register reading data and for the computation of applicable percentages and component indices shall be developed and prepared locally except as prescribed in the detailed instructions.

6.15 Daily printouts of data shall be kept for the current report month and the previous 3 months. The monthly printouts shall be retained for 1 year. Forms EO-6421A and EO-6421B shall be retained for at least 1 year. It is recommended that

a retention system similar to that described in the Practice 190-130-010, Stored Program Control System/Switching Control Center Control Maintenance Plan, be used. The printouts and reports should be filed in the appropriate month's folder and retained until the results for the same month of the following year replaced them.

6.16 Monthly reports should be submitted to the Operating Telephone Company (OTC) results organization at the earliest possible date, in accordance with local requirements.

6.17 For companies that use OTC Centralized Results System (CRS), a separate report should be entered into OTC-CRS monthly for each switching entity. The OTC-CRS will calculate and prepare all Forms EO-6421A and EO-6421B on a monthly, quarterly, and annual basis as required.

6.18 Forms EO-6421A, EO-6421B, and EO-6429 will be available through the local forms management organization.

7. PERFORMANCE INDICATORS

7.01 This section of the plan describes the performance indicators to be reported on Form EO-6421A (Figure 1). Included are brief descriptions of the components, the sources of the data to be gathered, the computation methods to be employed in preparing data for reporting at the control group level, and the applicable time periods for which data are to be gathered and summarized. This section also includes references to report forms and to detailed reference material that may serve to further describe data sources.

A. Machine Access

Customer Digit Receiver Overflow

7.02 This indicator is a count of the number of dial tone speed busy hours in which the customer digit receiver (CDR) groups overflowed to queue 5 percent or greater. The basis for the threshold is drawn from the provisioning standard. It follows that if the CDR groups are overflowing above the threshold level, dial tone delays could be experienced. These delays will not necessarily be of a duration over 3 seconds.

7.03 The cause of the overflow is an inadequacy of available CDR capacity due to underprovisioning, excessive outage, or an overload condition.

7.04 Data required for this indicator will be recorded for each average business day during the time consistent busy hour as determined for the dial tone speed busy hour measured component.

7.05 Each average business day, obtain CDR group peg counts for dial pulse (DP) and TOUCH-TONE® service groups and CDR common group overflows. Add the peg counts and subtract the overflows to derive adjusted CDR peg count. Calculate the percentage overflow (CDR common group overflows ÷ adjusted CDR peg count x 100).

7.06 In column C, enter the number of days in which the percentage of overflow (entries to queue) was 5 percent or greater.

Blocked Dial Tone

7.07 Blocked dial tone delay peg count, measurement code 087, scores after a predetermined program sequence (5 seconds of delay) when a line fails to receive dial tone due to line link network (LLN), trunk link network (TLN), or junctor blockage. The count is increased by one for every 4 seconds of additional time in the blocked dial tone queue. On the average, a blocked call will increment the counter seven times.

7.08 This indicator observed on a total day basis will indicate overloaded concentrators or ***hot spots*** which cannot be detected by the dial tone speed measured component.

7.09 Each average business day, the total day percent blocked dial tone delay will be computed as follows:

(a) Divide the blocked dial tone delay peg count by 7 to obtain the number of calls blocked.

(b) Divide the computed number of calls blocked by the total day originating peg count.

(c) Multiply the result by 100.

7.10 In column C, enter the number of days in which the blocked dial tone delay exceeded 0.04 percent.

Receiver Attachment Delay Recorder

7.11 This performance indicator is available for DP, revertive pulse (RP), and multifrequency (MF) receivers. It can be used to identify potential receiver overloads. In addition, it can identify variations within the hour which can be masked in hourly hundred call seconds (CCS) readings.

7.12 The measurement period should be selected by using the same guidelines recommended in Practice 780-200-031 for the dial tone speed busy hour selection. Each receiver type (MF, DP, and RP) should be treated separately. Receiver delay should be recorded for the individual receiver type in the time consistent (receiver type) busy hour which provides the greatest amount of delay.

7.13 The monthly results are computed as follows:

(a) Each average business day, compute the percentage of delay for each receiver type busy hour by dividing the delay peg count by test peg count and multiplying by 100.

(b) At the end of the report month, compute the month's average percentage of delay for each receiver type by adding the daily percentages and dividing the total by the number of daily percentages.

(c) In column C, place the highest calculated percentage.

B. Machine Switching

Cutoff Call Failures (1E7/1AE7 or Later)

7.14 Cutoff call failures are defined as abandoned stable calls. The associated counter is scored when a call in the talking state is dropped due to actions/causes not prompted by the talking parties.

7.15 The monthly results are computed as follows:

(a) In column A, enter the total month's cutoff call failures.

(b) In column B, enter the total month's originating plus incoming (O+I) calls in terms of 10,000.

(c) Divide column A by column B and enter the result in column C.

F-Scan Failures

7.16 An F-scan failure occurs when a network order cannot be executed due to missing hardware or erroneous equipment translation prevents the return of an "all seems well" scanner answer.

7.17 The monthly results are computed as follows:

(a) In column A, enter the total month's F-scan failures.

(b) In column B, enter the total month's originating plus incoming calls in terms of 10,000.

(c) Divide column A by column B and enter the results in column C.

Trunk Outage

7.18 Trunk outage is defined as a trunk not available for customer or operator access. This outage is expressed as the average normal business day outage hours per trunk per month and includes those trunks for which the office is designated control or assigned office as covered in Practice 660-400-010, Trunk Outage Results Plan.

7.19 In column C, enter the trunk service index for the report month as reflected on Form E-3994, Trunk Outage Results Summary.

Hardware Lost Calls

7.20 When a call is dropped or retried due to suspected trunk malfunction, the trunk is put on the trunk maintenance list and the hardware lost calls counter is incremented. Calls not completed or retried due to a time-out, a preemption, and certain trunk guard test failures will increment the hardware lost call counter if the trunk involved fails the subsequent diagnosis.

7.21 The monthly results are computed as follows:

(a) In column A, enter the total month's hardware lost calls.

(b) In column B, enter the total month's originating plus incoming calls, in terms of 10,000.

(c) Divide column A by column B, and enter the result in column C.

Load Balance

7.22 The loading of customer lines into a No. 1/1A ESS switch control group can have a distinct impact upon the quality of service rendered. The total traffic load carried by the load unit (concentrators) and the balanced application of that load bear upon the quality of dial tone speed, originating, and incoming service provided. The Load Balance Index (LBI) Plan is the measurement provided to indicate trends, identify superior performances, and point up opportunities for improvement in load balance administration of network central office line equipment. Practice 780-350-050 contains information regarding load balance indexing; Practice 231-070-740 outlines load balance procedures.

7.23 In column C of Form EO-6421A, enter the monthly LBI as reflected on Form E-6402, Load Balance Index, or the mechanized Form TL-721 (Traffic Unit Report). Control groups which are below 30 percent of engineered load capacity will not have an LBI. In these cases, enter EMPTY as described in paragraph 6.08.

Matching Loss

7.24 This indicator is a count of failures to match a talking path between the incoming trunk and the called line, or on a last trial failure to find a path between the trunk and a service circuit or the called line and a ringing circuit.

7.25 The procedures for determining the matching loss busy hour to be measured are as instructed in Practice 780-200-031.

7.26 The monthly results are taken directly from Form E-6183 (Item 13 - Weighted % ML-Total Month). Refer to Practice 780-350-060.

(a) In column C, enter the month's ***average percentage*** (Item 13 from Form E-6183).

Maintenance Interrupts

7.27 This indicator is a count of the number of times the base level program is interrupted for purposes of fault recognition. This indicator is considered to be a measure of the processor's ability to interact between hardware and software call processing and maintenance functions. Interrupts are usually accompanied by a printout on the maintenance TTY which aids in trouble identification. In addition, the hourly printout received from the same source provides the total number of interrupts.

7.28 The 24-hour total of maintenance interrupts is available on the plant measurement (PM01) printout or on a monthly basis from the PM02 printout.

7.29 Certain maintenance interrupts are deductible under specific situations. All interrupts caused by functions specified and quantified in the Equipment Test List (ETL) per Practice 231-001-013 can be deducted. The register for the interrupt to be affected shall be read immediately prior to and after the ETL work to determine the number of interrupts caused by the ETL. Interrupts not associated with the ETL are not deductible. For example, if the central control emergency action test is being conducted and a call store interrupt occurs, that call store interrupt is not deductible.

7.30 Certain equipment frame additions cause interrupts which are deductible. The register readings just prior to and just after such activity must be made to determine the interrupt count. Interrupts not associated with the growth addition are not deductible.

7.31 The number of interrupts to be expected, which is the number deductible, is specified in the growth method of procedures or in the 231-XXX-XXX series of AT&T Practices. If the interrupt count is greater than expected in the related practices or growth Method of Procedures (MOPs), work should be stopped immediately and steps taken to eliminate the trouble condition prior to processing. These excess interrupts are not to be deducted.

7.32 Each interrupt, including those deducted, can potentially affect service. This fact should be appreciated whenever any growth work or interrupt ETL work is being planned. It is expected that the responsible supervisor will require justification for all interrupts that are proposed for deduction. This justification will be documented on Form EO-6429 (Figure 3), submitted with Form EO-6421A (Figure 1), and signed by the central office supervisor, network administrator, and installation group supervisor, where appropriate. In addition, all work which generates interrupts will be scheduled out of the traffic busy period, preferably the least busy time of day.

7.33 The monthly results are computed as follows:

(a) In column A, enter the total month's interrupts minus any allowable deductions as specified in Section 6.

(b) In column B, enter the total month's originating plus incoming call count, in terms of 10,000.

(c) Divide column A by column B, and enter the result in column C.

Emergency Action

7.34 This indicator is the number of times the emergency action (EA) program is called in to restore the system to stability. A detailed explanation of EA is contained in Practice 231-113-301.

7.35 The EAs are logged on Form E-5230 (see Practice 190-130-010). They are classified as planned and unplanned. For this NSPMP, all planned EAs are those required by office growth jobs and generic retrofits or updates, limited to those specified in a method of procedure (MOP) document or Program Change Sheet (PCS). Planned EAs do not include action of last resort (e.g., EA to return to old generic or EA when data mapping fails). All other EAs, whether induced manually or automatically by the processor, are considered to be unplanned. Form EO-6429 (Figure 3) will be completed to show authorized deductions.

7.36 In column C, enter on the appropriate line the total number of EAs.

Equipment Outage

7.37 This indicator is a count of outage hours during the normal business day (NBD) or abbreviated normal business day (ANBD) of items of equipment considered part of the central processor and the peripheral system communities as defined in Practices 231-120-302 (No. 1 ESS switch) and 231-300-015 (No. 1A ESS switch). Removal of equipment from service during busy periods will probably affect service and office reliability margins. Central processor equipment items are central control (CC), signal processor (SP), program stores (PSs), and call stores. Peripheral system items are central pulse distributor (CPDs), central equipment peripheral units (CE PUs), peripheral units (PUs), scanners, network and signal distributor controllers, peripheral unit bases (PUBs), automatic message accounting (AMAs), automatic identifier outward dialing (AIOD) units, and centrex data links.

(a) Regular NBD includes the period from 0900 to 2200 local time on weekdays (excluding Saturdays, Sundays, and holidays).

(b) The abbreviated NBD includes the period from 0900 to 1800 local time on weekdays (excluding Saturdays, Sundays, and holidays) and should only be used as instructed in Practice 201-114-001.

7.38 Equipment outage for the equipment listed in paragraph 7.37 is summarized and reported programmatically as NBD or ANBD outage on the No. 1/1A ESS switch daily PM01 printout under the title of NBD TOT O/S or ANBD TOT O/S. The figures shown in this part of the PM01 are in CCS busy intervals and will be converted to hours and tenths of hours of outage during the calculation of results as described in paragraph 7.40.

7.39 Adjustments to the outage figures reported on the PM01 can be made under the following circumstances:

(a) When new equipment is added to the office, it must be grown into its appropriate community. From the time it is added to the system until acceptance testing is completed

and it is actually placed into service, outage time will be recorded for the new unit(s) as part of the PM01 TOT O/S. The NBD or ANBD outage time for applicable growth equipment can be manually recorded and deducted from the total failure figure using Form E-4256 as described in Practice 201-114-001.

(b) Centrex data links that are installed in the office but not being used for subscriber service will normally fail midnight diagnostics and appear on the out-of-service list. This will add to the PM01 TOT O/S figure. The NBD or ANBD outage for this equipment can be manually recorded and deducted from the outage failure rate using Form E-4256 per Practice 201-114-001.

7.40 The monthly results for equipment outage are computed as follows:

(a) Combine the NBD or ANBD TOT O/S figures from the PM01 to determine the month failure (outage) figure in CCS samples.

(b) Divide this figure by 36 to convert the failure rate into hours of outage.

(c) Subtract any deductible outage hours recorded on Form E-4256 for this office. Record the results in column A (failures).

(d) Enter the total count of each equipment item listed in paragraph 7.37 as base data in column B.

(e) Divide column A by column B and enter the result in column C.

Trunk-to-Trunk Path Memory Overflow

7.41 This indicator is the percentage of overflow on the trunk-to-trunk path memory (TTM) registers. It should be used to measure the office capability to switch trunk-to-trunk traffic. When a register is not available, the system queues and the call cannot be completed until a register is available.

7.42 Since these overflows occur most frequently during the incoming call or tandem call busy hours, the data necessary for calculating this indicator should be recorded for these two busy hours.

7.43 The monthly results are computed as follows:

(a) Each ANBD, compute the percentage of TTM overflow for the incoming call and tandem call busy hours by dividing the TTM overflow by TTM peg count and multiplying by 100.

(b) At the end of the report month, separately compute the month's ***average percentage of*** TTM overflow for each busy hour by adding the daily percentages and dividing the total by the number of daily percentages.

(c) In column C, enter the month's ***average percentage*** for the hour with the highest percentage overflow.

C. Billing

AMA Register Overflows

7.44 This indicator measures the percentage of overflow on the AMA registers during the time consistent busy hour as determined by the AMA register busy hour CCS readings on an ANBD. This indicator can aid in assessing the adequacy of customer billing capacity and is an indicator of potential or actual lost revenues since detail billed calls affected by AMA register overflows are routed to reorder.

7.45 Busy hour data must be collected daily using office count 147, 13-word AMA register peg count; office count 196, 9-word AMA register peg count; office count 318, 18-word AMA register peg count; office count 195, 13-word AMA register overflow count; office count 199, 9-word AMA register overflow count; office count 320, 18-word AMA register overflow count.

7.46 The monthly results are computed as follows:

(a) Each ANBD, compute the percentage of overflow for each type of AMA register during the AMA register busy hour by dividing the AMA register overflow by AMA register peg count and multiplying by 100.

(b) At the end of the report month, separately compute the month's ***average percentage of AMA register overflow for each group by adding the daily percentages and dividing the total by the number of daily percentages.***

(c) In column C, enter the month's ***average percentage*** for the group having the highest percentage of overflow.

D. Customer Reports

Code 8-Found OK

7.47 This performance indicator includes all customer trouble reports including Remote Switching Systems (RSS) which result in disposition Code 8. Disposition code 8 is defined in Practice 660-169-013.

7.48 Code 8 reports should be obtained from the Trouble Report Evaluation Analysis Tool No. 2 (TREAT 02). Code 8 Network Customer Services subcode 080X and 089X should be subtracted. The 080X and 089X subcodes apply when reports result from inaccurate or incomplete data base information for data base driven services.

7.49 The monthly results are computed as follows:

(a) In column A, enter the total month's code 8 reports (HOST + RSS).

(b) In column B, enter the total working lines as of the first day of the reporting month (HOST + RSS), divided by 100. Average working lines must be used if a change of more than 500 lines occurs during the report month.

Note: Working lines are the total working line terminations (cable pairs) out-side the central office, e.g., working lines in the Computer System for Main Frame Operations (COSMOS) or F1 facility in Loop Maintenance Operations system (LMOS).

(c) Divide column A by column B and enter the result in column C.

8. MEASURED COMPONENTS

8.01 This section of the plan describes the measured components to be reported on Form EO-6421A (Figure 1). Included are brief descriptions of the components, the sources of the data to be gathered, the computation methods to be employed in preparing data for reporting at the control group level, and the applicable time periods for which data are to be gathered and summarized. This section also includes references to report forms and to detailed reference material, which may serve to further describe data sources.

A. Machine Access

Dial Tone Speed

8.02 The dial tone speed result is a measurement of the machine's capability to provide dial tone with 3 seconds during the busy hour. It is used as the primary measurement component evaluating the capability of providing originating customer service. The No. 1/1A ESS switches' dial tone speed tests are generated over existing idle customer lines. The originations and encountered delays score registers by class of service (dial pulse or TOUCH-TONE service). The number of dial tone speed tests and corresponding delays by class of service as specified in translations are printed on the quarter-hour schedule and the hourly schedule. There would normally be 225 test calls each quarter hour and 900 for the total hour. However, due to certain overloads and phase actions which defer dial tone speed tests, this figure can vary.

8.03 The procedures for determining the busy hour to be measured and for gathering and summarizing the data are as currently instructed in Practice 231-070-580.

(a) In column F, enter the month's average accumulated percentage of delay (Item 21) from Form E-4372. This item is provided for information only and is not used in developing the component index.

(b) In column H, enter the month's total adjusted index points earned (Item 27) from Form E-4372.

Receiver Overflow

8.04 This component is the percentage of incoming calls which overflowed the incoming receiver groups and offered the call to queue. This includes MF, DP, and TOUCH-TONE service/DP, RP receivers. It is a measure of the ability of incoming trunks to seize an incoming receiver. The data for this component will be obtained during the originating plus incoming busy hour.

8.05 Bylink register groups should not be included in the receiver overflow component.

8.06 The monthly results are computed as follows:

(a) In column F, enter the total months MF, DP, TOUCH-TONE service/DP, and RP receiver overflow peg count for the originating plus incoming busy hour.

(b) In column G, enter the total MF, DP, TOUCH-TONE service/DP, and RP receiver peg count for the originating plus incoming busy hour.

(c) Divide column F by column G and enter the result, expressed as a percentage, in column H.

$$H = [(F/G) \times 100]$$

Line Restore Verify Failures

8.07 A restore verify test is performed on each line at call completion to ensure that the line ferrod has been reconnected to the subscriber loop. Failure to restore this supervision may prohibit the line for originating calls. This type of failure is not detectable through the dial tone speed measurement. It should be noted that restore verify is canceled by certain traffic overloads.

8.08 Since a line restore verify failure may represent a customer out of service, it is most important that these failures be investigated and corrected. The usual causes of line restore verify failures are service order assignment errors, line ferrod switch contact failures, and certain types of PBX equipment malfunctions.

8.09 The monthly results are computed as follows:

(a) In column F, enter the total month's restore verify failures.

(b) In column G, enter the total month's originating plus incoming calls, in terms of 10,000.

(c) Divide column F by column G, and enter the result in column H.

B. Machine Switching

Transmitter Time-outs

8.10 A transmitter time-out is a condition which occurs when a pulse transmitting circuit fails for any reason to complete its function. Transmitter time-outs on direct inward dialing (DID) trunk groups terminating on customer premise equipment (CPE) may be deducted. The associated base count (outgoing calls) of these trunk groups must also be deducted. Form EO-1567 (Figure 4) is provided to record adequate documentation reflecting the failure and base counts that were deducted per respective DID trunk group. Form EO-1567 should be retained as directed in paragraph 6.15.

8.11 A total monthly count of outgoing trunk timeouts and outgoing calls is provided on the PM02/PM04 printouts.

8.12 The monthly results are computed as follows:

(a) In column F, enter all time-outs charged for the month.

(b) In column G, enter the total month's outgoing calls peg count plus outgoing tandem peg count in terms of 10,000.

(c) Divide column F by column G and enter the result in column H.

Office Overflow

8.13 This component is a count of calls routed to regular and common overflow tone trunks. It will also include calls routed to route indexes 0180 through 0184 where provided. Any overflows on these route indexes must be subtracted from the

regular or common overflow tone trunk peg count before computing the office overflow component. This measurement plan assumes the regular overflow tone trunks ***do not*** overflow to the common overflow tone trunks. If the regular overflow tone trunks overflow to the common overflow tone trunks, duplicate scorings will occur.

8.14 This measurement should be recorded for the ANBD during the highest time consistent busy hour based on originating plus incoming peg count.

Note: If the control group is equipped with common control switching arrangement (CCSA) trunk groups or equivalent (i.e., trunk group size is dictated by customer purchase of trunks) or choke network (mass calling/media stimulated) trunk groups, the overflows on these trunk groups should be deducted from the total office overflow scorings and total originating peg count before computing the office overflow component.

8.15 Compute the monthly results as follows:

(a) In column F, enter the total month's busy hour peg count for regular plus common overflow tone trunks and peg counts for RI 0180, 0181, 0182, RI 0183 and/or RI 0184 minus any overflows on these route indexes. ([Reg OVFL PC + COM OVFL PC] + [RI 0180 PC + RI0181 PC + RI 0182 PC + RI 0183 PC + RI 0184 PC] - [RI 0180 OVFL + RI 0181 OVFL + RI 0182 OVFL + RI 0183 OVFL + RI 0184 OVFL])=F.

(b) In column G, enter the total month's originating plus incoming busy hour peg count in the total column.

(c) Divide column F by column G and enter the result, expressed as a percentage, in column H.

H = [F/G) x 100]

False Cross and Ground and Supervisory Scan Failures

8.16 These failures indicate the encountering of faulty paths with the networks. The presence of faulty paths has a direct bearing on the efficient use of system real time and network capacity. The effect of having unusable paths is detrimental to both the processor capacity and the network capacity. In addition, path setup failures in certain stages of some calls will cause the customer's call to fail, resulting in reorder tone, return to dial tone, or call failure with no tone. Prompt correction of failure conditions is recommended.

8.17 As each failure occurs, a printout is produced on the maintenance TTY identifying the entire path that failed. An hourly printout is available from the same source which lists the quantity of failures by each type. The PM01 printout will furnish daily totals for this component.

8.18 The monthly results are computed as follows:

(a) In column F, enter the total month's false cross and ground (FCG) and supervisory scan failures.

(b) In column G, enter the total month's originating plus incoming call count, in terms of 10,000.

(c) Divide column F by column G, and enter the result in column H.

Receiver Time-outs

8.19 A receiver time-out occurs whenever a pulse receiving circuit cannot complete its function. Network blockage and partial dials are excluded. This failure can be caused by the receiving office, the sending office, or the interconnecting facility. This measurement excludes incoming DP time-outs due to the high incidence of subscriber-caused permanent signal and partial dial incoming time-outs.

8.20 Offices with nonbylink incoming DP traffic must calculate an adjusted total incoming peg count as follows:

(a) Compute the percentage of non-DP traffic by dividing the non-DP (RP + MF receiver peg count) by the total receiver peg count (DP + RP + MF). This computation must be based on a minimum 7 consecutive day, 24-hour study to be conducted at least annually.

(b) Multiply the total month's incoming calls peg count by the calculated percentage of non-DP receiver peg count.

8.21 The incoming trunk time-outs counter is used in reporting this component. A monthly total of time-outs is available on the PM02/PM04 printouts.

8.22 The monthly results are computed as follows:

(a) In column F, enter all time-outs charged for the month.

(b) In column G, enter the total month's incoming calls peg count.

(c) Divide the column F by the column G and enter the result in column H.

C. Billing

Lost Billing

8.23 This component measures the No. 1/1A ESS switch machine's ability to properly record AMA information on AMA magnetic tape. Reporting of this component is separated in two two categories: (1) equipment failures, and (2) partial and cancel charges. Equipment failures include both the equipment outage (code 211) and equipment failures (code 212) in Practice 201-900-700, Pre-Billing Failure Performance Reporting. Partial (code 224) and cancel (code 222) charges include magnetic tape recorded messages for which all (canceled) or part (partial) of the charges must be canceled due to AMA recording errors. All data for this component will be supplied by the AMA data processing group.

8.24 The monthly results are reported as follows:

(a) In column F, enter the total month's AMA equipment failures and partial and cancel charges on their respective lines.

(b) On the line designated Lost Billing, enter the sum total of equipment failures and partial and cancel charges.

(c) In column G, enter the total month's message volume in terms of 100,000.

(d) Divide column F by column G and enter result in column H.

D. Customer Reports

Customer Trouble Reports, Codes 5 Equipment

8.25 This component includes those customer trouble reports including Remote Switching Systems (RSS) which result in disposition code 5, excluding distributing frame troubles, line translations errors codes 0525 and 0526 and network customer service report codes 050X and 059X. Practice 660-100-013 defines disposition code 5. Obtain the total customer trouble report code 5 equipment from the TREAT 02 report.

8.26 The monthly results are computed as follows:

(a) In column F, enter the total month's equipment code 5s (HOST + RSS).

(b) In column G, enter the total working lines as of the first day of the report month (HOST + RSS), in terms of 100. Average working lines must be used if a change of more than 500 working lines occurs during the report month.

Note: Working lines are the total working line terminations (cable pairs) outside the central office, e.g., working lines in the COSMOS or F1 facility in LMOS.

(c) Divide column F by column G, and enter the result in column H.

9. PREPARATION OF FORM EO-6421A

9.01 This section includes results data prepared by both administration and maintenance personnel. Therefore, it is recommended that: (a) Form EO-6421A be prepared jointly, (b) all developed input be prepared jointly, and (c) all developed input data be retained in one location as described in Section 6. Organizational structures or geographic locations may dictate alternative methods of report preparation. If so, Form EO-6421A should be used to transmit the maintenance and/or administrative data to a locally arranged report preparation point. For companies on OTC-CRS, CRS will perform all calculations necessary

for preparation of Form EO-6421A and will subsequently provide the final report.

9.02 All decimal figures recorded in the performance columns of Form EO-6421A shall be rounded to two places after the decimal point. Round upward if the third digit is five or greater, round down if the third digit is less than five, e.g., 0.005 = 0.01, 0.096 = 0.10, 0.094 = 0.09, 0.003 = 0.00, and so on.

9.03 The following subparagraphs define the column headings for the performance indicators section of Form EO-6421A (Figure 1).

(a) **Column A - Failures:** Entries in this column include register scorings or average of the number of times an event or failure occurred within the defined time frame during the report period or the amount of outage experienced during the period. Enter NAV or EMPTY, when applicable, according to instructions in Section 6 of this plan.

(b) **Column B - Base Data:** Entries in this column are individually described in instructions in Sections 7 and 8 of this plan. Certain entries will be in terms of 10,000 (shown to two places after the decimal). This is computed by dividing the appropriate total count, by 10,000 as prescribed. Enter NAV or EMPTY, when applicable, according to instructions in Section 6 of this plan.

(c) **Column C - Performance:** Entries in this column are the integers, ratios, or percentages developed as prescribed in Sections 7 and 8 of this plan. These should be compared to entries in column D threshold level. Enter NAV or EMPTY, when applicable, according to the instructions in Section 6 of this plan.

(d) **Column D - Threshold Level:** Entries in this column are obtained from the Threshold Level Table included in Section 11.

(e) **Column E - Soft Spot:** The numeral one is entered in this column when the indicator performance is worse than the threshold level or the data are NAV for the report period. EMPTY is entered when the office is not equipped.

9.04 The following subparagraphs define the column headings for the measured components section of Form EO-6421A.

(a) **Column F - Failures:** Entries in this column include register scorings of the number of times an event or failure occurred within the defined time frame during the report period, the number of observed failures, and the number of reports. Enter NAV or EMPTY, when applicable, according to the instructions in Section 6 of this plan.

(b) **Column G - Base Data:** Entries in this column include data which are used as the divisor to determine performance ratios or percentages. Certain entries are in terms of 100,000 or 10,000 or 100 (shown to two places after the decimal). This is computed by dividing the appropriate total count by 100,000 or 10,000 or 100 as prescribed. Enter NAV or EMPTY, when applicable, according to the instructions in Section 6 of this plan.

(c) **Column H - Performance:** Entries in this column are the ratios or percentages (rounded to two places after the decimal) developed by dividing data entries in column F by base data entries in column G. Enter NAV or EMPTY, when applicable, according to the instructions in Section 6 of this plan.

(d) **Column J - Component Index:** Entries in this column are obtained from the appropriate index table.

(e) **Column K - Index Points:** Entries in this column are obtained from the appropriate index table.

(f) **Column L - Band:** Entries in this column are the appropriate band (H, O, L, or U) for each component index:

Band H - 98.50 - 100

Band O - 95.50 - 98.49

Band L - 89.50 - 95.49

Band U - Less than 89.50 or NAV.

9.05 All lines on Form EO-6421A are defined in Sections 7 and 8 or are self-explanatory except for the following:

(a) **Line 17:** In column C, enter the total number of performance indicators applicable to the measured control group (including NAVs). In column E, enter the total number of soft spots (1).

(b) **Line 29 - Total Points:** In column K, enter the total points.

(c) **Line 30 - Maximum Available Points:** Enter the total maximum points of all components for which results are measured. Exclude EMPTY and NAV components.

(d) **Line 31 - Total Index:** Divide line 29 by line 30 and enter the result, expressed as a percentage ([L29/L30] x 100 = L31).

10. PREPARATION OF FORM EO-6421B

10.01 Form EO-6421B is a summary report and provides all management echelons with a summary of the switching performance of the No. 1/1A ESS switch offices within their areas of responsibility. For companies on OTC-CRS, all EO-6421B reports are prepared by CRS.

10.02 The form provides two summaries of results information:

(1) The number and percentage of offices by index band in each measured component

(2) The number of offices beyond threshold in each performance indicator

10.03 All data recorded on Form EO-6421B (except percentage calculations) are taken directly from the represented EO-6421A reports. Percentage should be rounded to one decimal place.

10.04 The Form EO-6421B serves combinations:

(a) Multioffice, single month

(b) Multimonth, single office

(c) Multioffice, multimonth.

10.05 The following subparagraphs define the column headings of Form EO-6421B and provide the source data locations on Form EO-6421A:

(a) **Column A:** Enter the number of control groups measured in each component.

(b) **Column B:** Enter the number of office month reports.

(c) **Columns C Through F:** Enter the number and percentage of control groups in the appropriate band column for each component from column L on Form EO-6421A.

(d) **Lines 21 and 23, # Office Months:** Enter the number of office report months in each of the performance indicators from column E of Form EO-6421A.

(e) **Lines 22 and 24, # Soft Spot:** Enter the number of office months in which soft spot performance was experienced from Forms EO-6421A, column E.

11. THRESHOLDS AND INDEX TABLES

11.01 This section contains a list of threshold levels for the performance indicators. Tables B through K contain the measured component index tables to be used to complete the monthly Form EO-6421A.

Performance Indicators

Machine Access	Threshold
Customer Receiver Digit Overflow	1

Blocked Dial Tone	8
Machine Access	**Threshold**
Receiver Attachment Delay	0.20
Machine Switching	**Threshold**
Cutoff Call Failure	0.15
F-Scan Failures	0.65
Trunk Outage	95.00
Hardware Lost Calls	22.00
Load Balance Index	90.00
Matching Loss	1.80
Maintenance Interrupts	0.40
Emergency Actions (unplanned)	0.00
Common Equipment Outage	0.60
Trunk-to-Trunk Path Memory Overflow	0.01
Billing	**Threshold**
AMA Register Overflows	0.01
Customer Reports	**Threshold**
Code 8-Found OK	0.10

12. NSPMP INTEGRITY REVIEW

12.01 This section describes a method to review the No. 1/1A ESS switch NSPMP source data and completion accuracy. To provide accurate end results, the data used must be tested from its source through all phases of processing. It is recommended that results for 3 prior months be reviewed.

A. Objective

12.02 The integrity review provides a method of evaluation the No. 1/1A ESS switch NSPMP to ensure its accuracy and reliability.

12.03 This integrity review is designed to identify problems in the following areas:

(a) ESS register assignments

(b) Mechanized systems, such as Engineering and Administrative Data Acquisition System (EADAS) and Network Operations Report Generator (NORGEN), Switching Control Center System (SCCS) and other downstream processors, such as Traffic Data Administration System (TDAS) and Central Office Equipment Reports (COER)

(c) Administration of manual data collecting procedures

(d) Accuracy of Control Group Report (EO-6421A) and Summary Results (EO-6421B) Forms

(e) Retention of all documents and data used to compile No. 1/1A ESS switch indices.

B. Limitation

12.04 Figures 5 through 8 may be used independently or in any combination based on the type of review desired; however, data collection checks should be completed before any data testing is attempted.

12.05 Some of the source data collected from a No. 1/1A ESS switch is not used directly to compile service results. This source data is used for trunking forecasts, engineering capacities, etc.

Even through this source data is not directly part of Form EO-6421A (Control Group Report), it may affect service and must be covered in the data collection and data testing portions of the review.

12.06 This review method will assist management in identifying engineering, administration and maintenance problems that distort the accuracy of the No. 1/1A ESS switch NSPMP.

12.07 This review is designed to be effectively used to review all or part of the switching control center. It can also be used by local office supervision to identify trouble.

12.08 This review applies to 2-wire No. 1/1A ESS switch offices which perform an "end office" function (offices used less than 50 percent as tandem switches).

C. Data Collection

12.09 The No. 1/1A ESS switch data registers are the primary source of data used for the NSPMP. Data is collected from these registers on a quarter hour, hourly, daily, and weekly basis by teletypewriter or data polling circuits.

12.10 Systems such as EADAS/NORGEN, COER, SCCS, and TDAS are some of the downstream data processors in use today. All source data for NSPMP must cover the same time frame, from the 23rd of the month to the 22nd of the following month.

12.11 ESS Switch Register Verification: A method of assuring that data is properly collected is as follows (Figure 5).

(a) Check the latest telephone company order and parameter data assembler (PDA) listing against both the hourly traffic schedule (H schedule) and the continuous traffic schedule (C schedule). Make sure all required registers are assigned. If using NORGEN, check only for annual register verification.

(b) When were all the registers last verified? All registers must be verified annually. Use TRF-VFY-LIST message. See Practice 231-070-515 for correct assignments.

(c) Dump traffic matrix printout (mechanized assignment processing [MAP]). Is collect time correct for all schedules?

12.12 Manual Collection: A method of assuring that data is properly collected is as follows (Figure 5):

(a) Data from the PM01 should match daily entries on Forms E-5230, E-10623, or equivalent (control records). The total of all the PM01s may not exactly agree to the PM02 but should be extremely close.

(b) Fifteen days of valid busy hour entries are required for each component per report period. Refer to paragraph 6.05.

(c) Dump emergency action (EA) save area and verify lines 12 and 13 of Form EO-6421A. Planned EAs must be documented.

(d) Verify equipment count on line 14, column B, of Form EO-6421A. See Table K to reconstruct equipment count, if necessary.

12.13 Mechanized Data Collection: A method of assuring that data is properly collected is as follows (Figure 5):

(a) The NORGEN requires six office assignment files—entity, data collection device (DCD) master, parameters, thresholds, trunk control, and message class. Output and verify as needed per EADAS/NORGEN messages.

(b) The EADAS requires one channel definition file per office — output and verify.

(c) Verify office description file used for COER. See Practice 231-070-555.

(d) Review TDAS data collection reports such as TP816 and TP801.

(e) Review EADAS abort errors.

(f) Review SCCS reports.

12.14 The latest telephone company order and PDA listing should be checked against H and C schedules.

D. Verification of Form EO-6421A

12.15 Figure 6 provides a guideline to determine the accuracy of Form EO-6421A. It assumes that all source data is correct and is used only to determine if the source data is transcribed to Form EO-6421A; correctly and that the computations are correct.

12.16 The following items are valid source documents and may be used all or in part for service results:

- PM01, Daily Plant Measurement Printout
- PM02, Monthly Plan Measurement Printout
- H Schedule, Hourly Traffic Schedule
- C Schedule, Continuous Traffic Schedule
- TC15, Quarter-Hour Traffic TTY Printout
- E-3994, Trunk Outage Report Form
- EADAS/NORGEN NSPMP Report
- Pre-Billing Failure Performance Reporting, Practice 201-900-700
- TREAT-02 Report Repair Service Bureau Report (Trouble Evaluation and Analysis Tool)
- E-5230, E-10623, or equivalent control records
- Locally designed reports from No. 2 Switching control Center System (SCCS) minicomputer
- SCCS forms when on generic SC7 or later.

E. Data Verification and Testing

12.17 The mechanized system used to process No. 1/1A ESS switch data contains built-in programs for data verification and testing. These programs verify against office data files that are input manually. The office data files should be verified before attempting to validate or test processed data.

12.18 After checking office data files, mechanized results may yet appear to be out of range; if so, compute manually from raw data and compare results.

12.19 Mechanized Verification and Testing: Figure 7 provides the following guide for verifying and testing data:

(a) Review EADAS/NORGEN exception reports. Reports may be generated because of wrong threshold or range rather than ESS switch trouble.

(b) The NORGEN NSPMP report computes daily results for lines 1, 2, 3, 10, 15, 16, 20, 21, and 24 of Form EO-6421A and should match monthly results.

(c) Review daily and monthly data reliability reports from COER.

(d) Obtain data reliability test failure log and exception report. Look for components that fail and that are repetitively unflagged.

(e) Review daily reports from any mechanized systems (i.e., SCCS) to ensure that cumulative totals match the monthly summary.

12.20 Manual Tests: Figure 7 provides the following guide for verifying and testing data:

(a) Refer to Sections 7 and 8 and check computation of all items for which direct register read out is not available, such as customer digit receiver overflow, receiver attachment delay recorder (RADR), and AMA overflow.

(b) Check Form E-3994 (trunk outage results summary) to validate data for line 4, column 6 (Practice 660-400-010).

(c) Check ETL Practice 231-001-013. Completion of system evaluation during the time frame under review should result in deductible interrupts. Form EO-6429 (record of test failure deductions) must be used to document deductible interrupts.

(d) Line 12, column A, may have outage hours for growth frames deducted, if documented on Form E-4256 (equipment outage). Obtain latest normal business day (NBD) or abbreviated normal business day (ANBD) study, PM01, must specify the same type day.

(e) Check the PDA listing to see what size AMA registers are available. If all three sizes are available, line 14 must be computed manually since EADAS/NORGEN will not handle three sizes.

(f) If coin control failures are high with no overflow on the trunk group, check PDA listing for number of coin control registers. The quantity of registers must be one less than the number of trunks in a coin control group in order to overflow.

(g) Was overflow from certain trunk groups such as DID and CCSA deducted and documented?

(h) Dial pulse receiver time-outs may not score correctly. Verify that Broadcast Warning Message 80-262 is applied correctly including appropriate trunk class code changes.

(i) Investigate repeated soft spot and low band items.

(j) Review printout for 0 through 80 audits indicating No. 1/1A ESS switch register trouble. Audit runs print daily at 0200 hours but input message TC-work-set 0233 will request audits on a demand basis.

(k) Review TOC01 messages. Network tests such as false cross ground and restore verify should not be inhibited.

F. Record Retention

12.21 Figure 8 provides a guideline for checking results reporting and record retention.

12.22 All forms, both standard and locally developed, printouts, and/or other documentation used in the preparation of results data reported on Forms EO-6421A and EO-6421B shall be retained for 1 year. It is recommended that a retention file system similar to that described in Practice 190-130-010, Stored Program Control Systems (SPCS) - Switching Control Center (SCC) Controlled Maintenance Plan, be used.

12.23 The following items require a 1-year retention:

- PM02, Monthly Plant Measurement Printout
- EO-6421A, Control Group Report
- EO-6429, Record of Test Failure Deductions
- E-4256, Equipment Outage
- E-3994, Trunk Outage
- TREAT-02 Report
- Control Record
- MOPs associated with EA phases and interrupts deducted from index
- NSPMP Reports, e.g., EADAS
- Tickets and logs
- Record of trunk groups qualifying for deductible office overflow
- Record of trunk groups qualifying for deductible office overflow
- Record of trunk groups qualifying for deductible receiving time-outs
- Record of total equipment count in line 14 of Form EO-6421A. (A sample is provided in Table K.)

G. Interpretation and Use of Review Results

12.24 The problems that are identified by use of this review cover many areas of responsibilities where no one individual or group is responsible for the resolution. Cooperation among involved force groups is necessary to resolve both machine and administrative problems. This cooperation will produce a beneficial impact on service and results.

12.25 The prime responsibility of the reviewer is to:

- Determine if the instructions in the NSPMP are followed correctly
- Ensure that the data used to compute the index are valid
- Ensure that supporting documents are maintained for review purposes.

12.26 Results of the review must be discussed in detail with local supervision of the control group involved. If corrective action is needed, it should be agreed to and implemented at this time. An official report should then be filled with follow-up to ensure that corrective actions are completed.

BR 231-001-005
Issue 5, December 1985

(Insert Your Company Logo)

No. 1/1A ESS*
Network Switching Performance Measurement Plan

EO-6421A (10-85)

Office	District	Division	Manager
Area	Company	Month	Year

Performance Indicators

		A	B		C	D	E	
		Failures	Base Item	Data	Performance	Threshold	Soft Spot	
Machine Access								
1	CDR Overflow					1.00		1
2	Blocked Dial Tone					8.00		2
3	RADR					0.20		3
Machine Switching								
4	Cutoff Call Failures		O + I PC/10K			0.15		4
5	F - SCAN Failures		O + I PC/10K			0.65		5
6	Trunk Outage					95.00		6
7	Hardware Lost Calls		O + I PC/10K			22.00		7
8	Load Balance					90.00		8
9	Matching Loss					1.80		9
10	Maint. Interrupts		O + I PC/10K			0.40		10
11	E.A. Planned							11
12	E.A. Unplanned					0.00		12
13	Equipment Outage		Total Equip.			0.60		13
14	Trunk To Trunk Memory Overflow					0.01		14
Billing								
15	AMA Register Overflow					0.01		15
Customer Reports								
16	Code 8		Wkg. Lns/100			0.10		16
17				Total Indicators		Total Soft Spots		17

Measured Components

		Max. Points	F Failures	G Base Item	G Data	H Performance	J Component Index	K Index Points	L Band	
Machine Access										
18	Dial Tone Speed	10								18
19	Receiver Overflow	5		Rec PC BH						19
20	Restore Verify Failures	5		O + I PC/10K						20
Machine Switching										
21	Transmitter Timeouts	10		OGT PC/10K						21
22	Office Overflow	15		O + I BH PC						22
23	FCG & Supv. Failures	15		O + I PC/10K						23
24	Receiver Timeouts	10		Inc PC/10K						24
Billing										
25	Equipment Failures									25
26	Partial & Cancel Charges									26
27	Lost Billing	10		Msgs/100K						27
Customer Reports										
28	Code 5 Equipment	20		Wkg. Lns/100						28
29						Total Points				29
30						Max. Available Points				30
31						Total Index				31

Remarks

* Trademark Of AT&T Technologies

Figure 1 - Example of Form EO-6421A (6.07, 7.01, 8.01, 9.03)

(Insert Your Company Logo)

No. 1/1A Network Switching Performance Measurement Plan Office Summary

EO-6421B (9-85)

Office	District	Division	Manager
Area	Company	Month	Year

Measured Components

	Measured Component	Weight	A Total No. Of Offices	B Total No. Of Office Month Reports	C No. And % Of Office Month Reports By Index Band H 100-98.50	D O 98.49-95.50	E L 95.49-89.50	F U <89.50	
	Machine Access								
1	Dial Tone	10							1
2	Speed		% Of Total						2
3	Receiver	5							3
4	Overflow		% Of Total						4
5	Restore Verify	5							5
6	Failures		% Of Total						6
	Machine Switching								
7	Transmitter	10							7
8	Timeouts		% Of Total						8
9	Office	15							9
10	Overflow		% Of Total						10
11	FCG & Supv.	15							11
12	Failures		% Of Total						12
13	Receiver	10							13
14	Timeouts		% Of Total						14
	Billing								
15	Lost	10							15
16	Billing		% Of Total						16
	Customer Reports								
17	Code 5 Equipment	20							17
18			% Of Total						18
19	**Total Index**	100							19
20			% Of Total						20

Performance Indicators

		G	H	J	K	L	M	N	O	
		Machine Access			**Machine Switching**					
		CDR Overflow	**Blocked Dial Tone**	**RADR**	**Cut-Off Call Flr.**	**F SCAN Flr.**	**Trunk Outage**	**Hdw Lost Calls**	**Load Bal.**	
21	No. Office Months									21
22	No. Soft Spots									22
		P	**Q**	**R**	**S**	**T**	**U**	**V**	**W**	
								Billing	**Cust. Rpts.**	
		Match Loss	**Maint. Int.**	**E A Planned**	**E A Unplanned**	**Equip. Outage**	**Trunk To Trunk Mem. Overflow**	**AMA Reg. Ovfl.**	**Code 8**	
23	No. Office Months									23
24	No. Soft Spots									24

Remarks

Figure 2 - Example of Form EO-6421B (6.07)

(Insert Your Company Logo)

Network Switching Performance Measurement Plan Record Of Deductions

EO-6429 (6-85)

Central Office	Type	District

1. All **Test Failure** Deductions Must Meet The Following Conditions:
   A. A Prior-To-The Fact Method Of Procedure (MOP) Covering The Specific Work Which Caused The Scorings Must Have Been Signed By The Installation Supervisor, Network Administrator And The Central Office Supervisor.
   B. The Conditions Which The Installation Forces Introduced, And Which Caused The Scoring Of The Failure Counters, Did Not Cause Service Failure Beyond That Specified In The MOP.
   C. The Failure Counter Scorings To Be Deducted Are Documented On This Form, And With Printouts And/Or Memory Records Where Appropriate.
   D. Test Failures Resulting From ETLs Must Have Occurred In Number And Character Specified In The Appropriate ETL.
2. All Deductions **Other Than Test Failures** Must Have Occurred As Specified In The Appropriate Measurement Plan.

Scoring Date	MOP No.	ETL BSP Test No.	Register/Counter Designation / Measurement Plan And Paragraph Or Part No.	Pre-Testing Reading	Post-Test Reading / Base Counts Deducted	Total Test Scorings / Failure Counts Deducted

Remarks

I (We) Certify That The Deductions Recorded Above Met The Conditions Specified.

Installation Supervisor	Tel. Co. C.O. Supervisor	Tel. Co. Network Administrator	Date

Figure 3 - Example of Form EO-6429 (7.35)

(Insert Your Company Logo)

EO-1567 (8-85)

Network Switching Performance Measurement Plan Record Of Transmitter Timeout And Stuck Sender Deductions

Office	District	Division	Manager
Area	Company	Month	Year

All Deductions Must Meet The Following Conditions:

A. The Trunk Groups Must Be A Direct Inward Dialing (DID) Trunk Group.
B. The Trunk Groups Must Terminate On Customer Premise Equipment (CPE).
C. The Associated Base Count (Outgoing Call Peg Count) Of These Trunk Groups Should Also Be Deducted.
D. All Deductions Must Be Documented On Form EO-1567.

Date Of Deduction	Trunk Group No.	Customer Name (CPE)	No. Of Tran. Timeout Or Stuck Sender Deductions	Base Peg Count Deductions

Figure 4 - Example of Form EO-1567 (8.10)

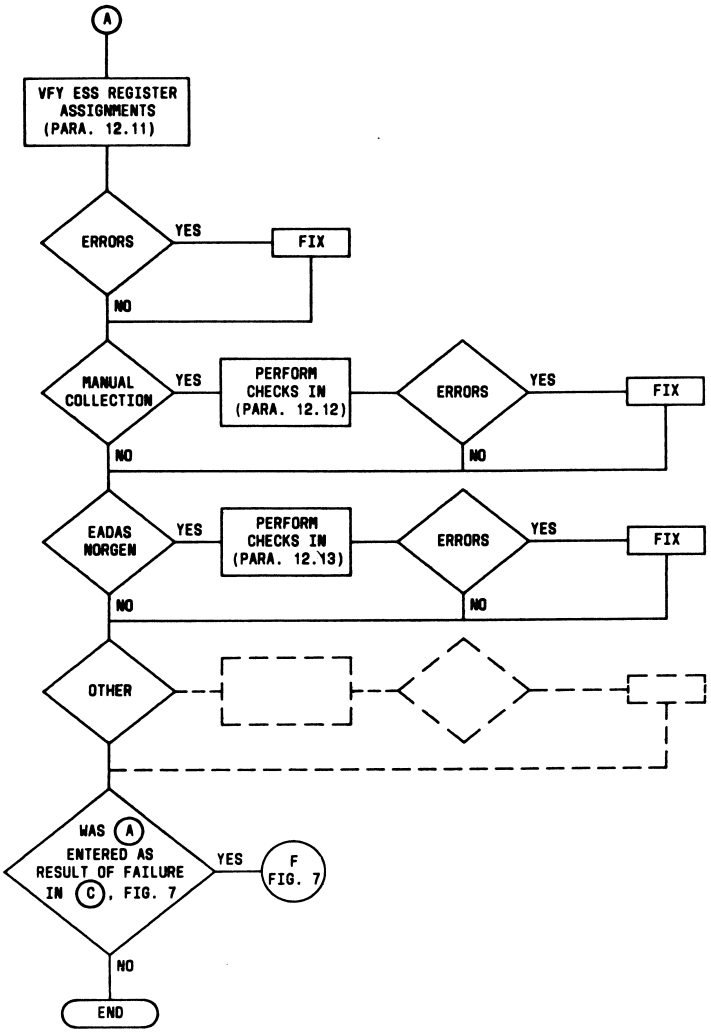

Figure 5 - Data Collection Flowchart (12.04, 12.11, 12.12, 12.13)

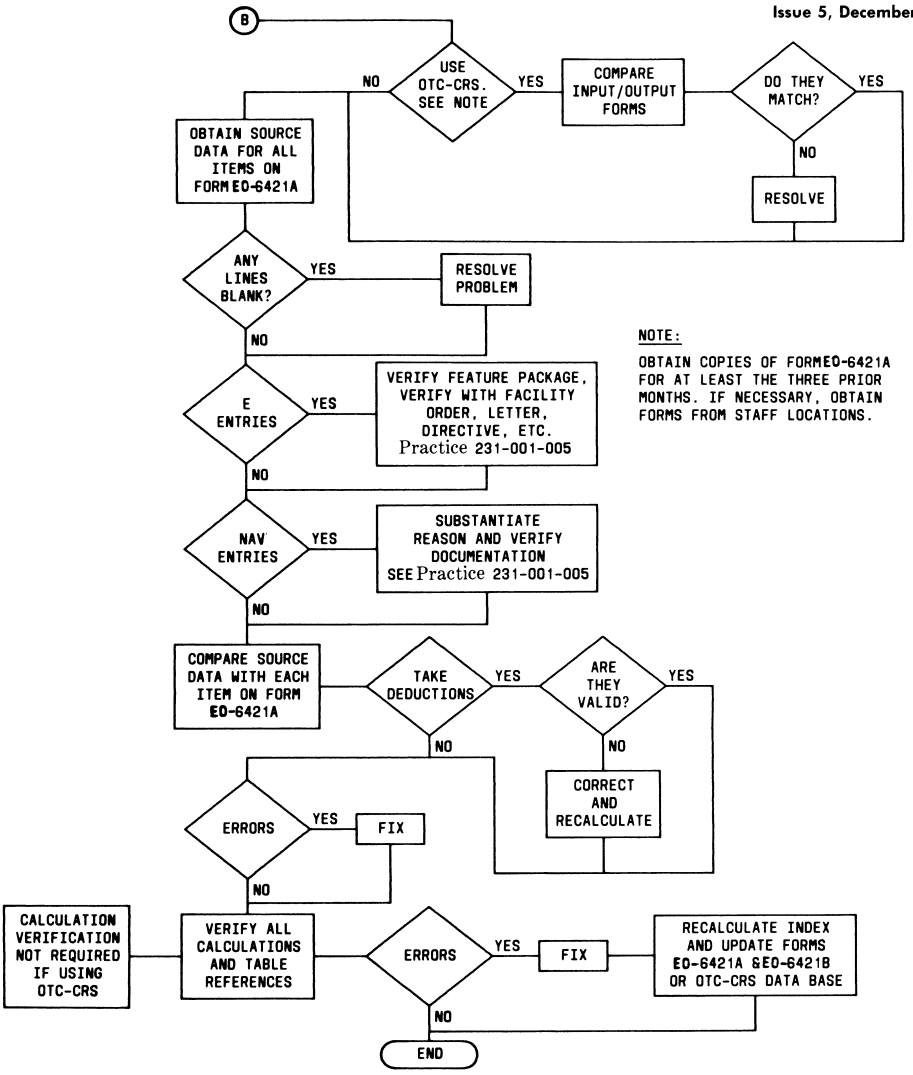

Figure 6 - Example of Form EO-6421A Verification Flowchart (12.04, 12.15)

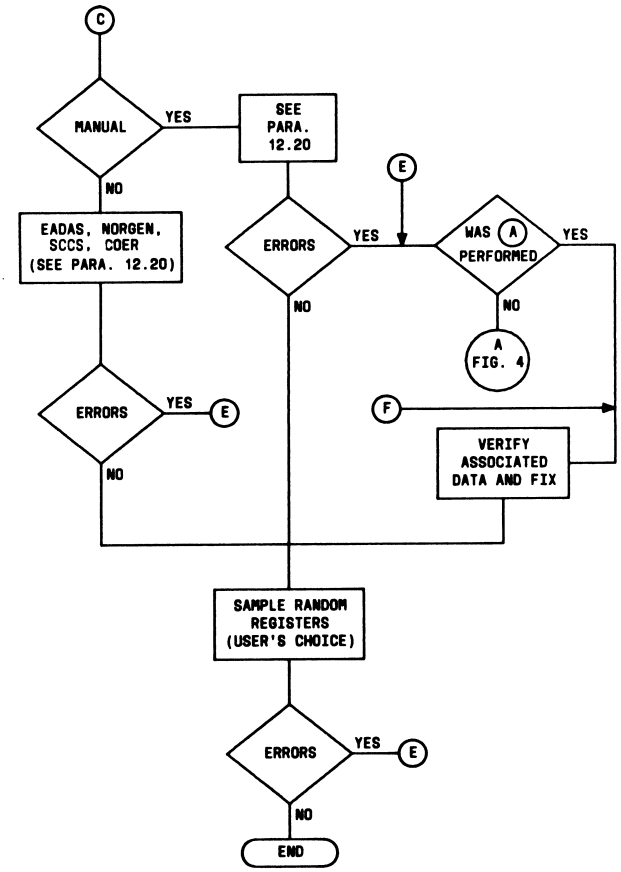

Figure 7 - Data Verification and Testing Flowchart (12.04, 12.19, 12.20)

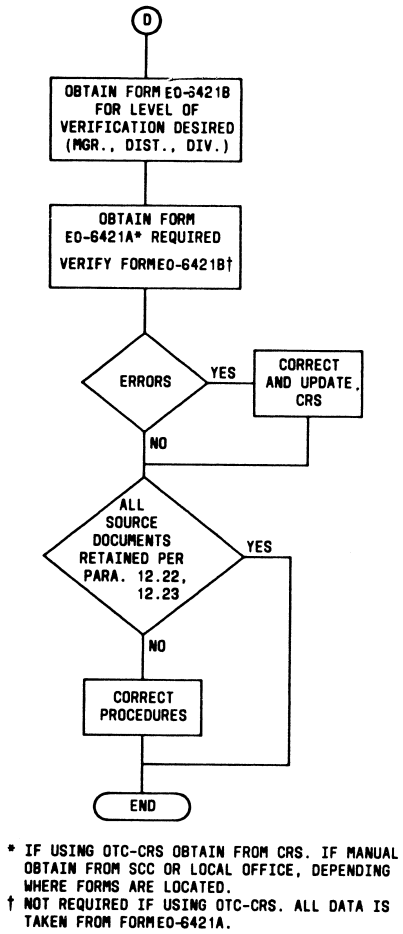

Figure 8 - Results Reporting and Record Retention Flowchart (12.04, 12.21)

TABLE A - Measured Components and Performance Indicators Data Source Printouts

Component or Indicator	Source Printout
Customer Digit Receiver Overflow	H Schedule
Blocked Dial Tone	D Schedule
Receiver Attachment Delay	TC 15
Percent Reorder/No Circuit (RO/NC)	PM01 (future)
Hardware Lost Calls	PM01/PM02
Cutoff Call Failures	PM01
Incoming Matching Loss	H Schedule
F-Scan Failures	PM01 (future)
Maintenance Interrupts	PM01/PM02
Trunk-to-Trunk Path Memory Overflow	H Schedule
AMA Register Overflows	H Schedule
Dial Tone Speed	TC 15
Receiver Overflow	H Schedule
Line Restore Verify Failures	PM01/PM02
Transmitter Time-outs	TC 24A, PM01/PM02/PM04
Office Overflow	H Schedule
False Cross and Ground and Supervisory Scan Failures	PM01/PM02
Receiver Time-outs	PM01/PM02/PM04
Equipment Outage	PM01/PM02/E-4256

TABLE B - Dial Tone Speed Measured Component Index Table

Performance Range			Component Index	Index Points	Performance Range			Component Index	Index Points
35.00	—	34.98	100.00	10.00	29.33	—	29.27	72.00	7.20
34.97	—	34.79	99.50	9.95	29.26	—	29.19	71.00	7.10
34.78	—	34.61	99.00	9.90	29.18	—	29.12	70.00	7.00
34.60	—	34.42	98.50	9.85	29.11	—	29.05	69.00	6.90
34.41	—	34.24	98.00	9.80	29.04	—	28.98	68.00	6.80
34.23	—	34.06	97.50	9.75	29.97	—	28.92	67.00	6.70
34.05	—	33.88	97.00	9.70	28.91	—	28.85	66.00	6.60
33.87	—	33.70	96.50	9.65	28.84	—	28.79	65.00	6.50
33.69	—	33.52	96.00	9.60	28.78	—	28.72	64.00	6.40
33.51	—	33.35	95.50	9.55	28.71	—	28.66	63.00	6.30
33.34	—	33.17	95.00	9.50	28.65	—	28.60	62.00	6.20
33.16	—	32.99	94.50	9.45	28.59	—	28.54	61.00	6.10
32.98	—	32.82	94.00	9.40	28.53	—	28.48	60.00	6.00
32.81	—	32.65	93.50	9.35	28.47	—	28.42	59.00	5.90
32.64	—	32.47	93.00	9.30	28.41	—	28.37	58.00	5.80
32.46	—	32.30	92.50	9.25	28.36	—	28.31	57.00	5.70
32.29	—	32.13	92.00	9.20	28.30	—	28.26	56.00	5.60
32.12	—	31.96	91.50	9.15	28.25	—	28.20	55.00	5.50
31.95	—	31.79	91.00	9.10	28.19	—	28.15	54.00	5.40
31.78	—	31.63	90.50	9.05	28.14	—	28.10	53.00	5.30
31.62	—	31.46	90.00	9.00	28.09	—	28.04	52.00	5.20
31.45	—	31.31	89.50	8.95	28.03	—	27.99	51.00	5.10
31.30	—	31.19	89.00	8.90	27.98	—	27.94	50.00	5.00
31.18	—	31.08	88.50	8.85	27.93	—	27.84	48.00	4.80
31.07	—	30.98	88.00	8.80	27.83	—	27.73	46.00	4.60
30.97	—	30.89	87.50	8.75	27.72	—	27.62	44.00	4.40
30.88	—	30.80	87.00	8.70	27.61	—	27.51	42.00	4.20
30.79	—	30.72	86.50	8.65	27.50	—	27.40	40.00	4.00
30.71	—	30.65	86.00	8.60	27.39	—	27.28	38.00	3.80
30.64	—	30.58	85.50	8.55	27.27	—	27.16	36.00	3.60
30.57	—	30.51	85.00	8.50	27.15	—	27.03	34.00	3.40
30.50	—	30.44	84.50	8.45	27.02	—	26.90	32.00	3.20
30.43	—	30.38	84.00	8.40	26.89	—	26.76	30.00	3.00
30.37	—	30.32	83.50	8.35	26.75	—	26.61	28.00	2.80
30.31	—	30.26	83.00	8.30	26.60	—	26.46	26.00	2.60
30.25	—	30.21	82.50	8.25	26.45	—	26.30	24.00	2.40
30.20	—	30.15	82.00	8.20	26.29	—	26.12	22.00	2.20
30.14	—	30.10	81.50	8.15	26.11	—	25.93	20.00	2.00
30.09	—	30.05	81.00	8.10	25.92	—	25.73	18.00	1.80
30.04	—	29.99	80.50	8.05	25.72	—	25.50	16.00	1.60
29.98	—	29.95	80.00	8.00	25.49	—	25.23	14.00	1.40
29.94	—	29.85	79.00	7.90	25.22	—	24.90	12.00	1.20
29.84	—	29.76	78.00	7.80	24.89	—	24.42	10.00	1.00
29.75	—	29.67	77.00	7.70	24.41	—	23.75	8.00	0.80
29.66	—	29.58	76.00	7.60	23.74	—	23.06	6.00	0.60
29.57	—	29.50	75.00	7.50	23.05	—	22.36	4.00	0.40
29.49	—	29.42	74.00	7.40	22.35	—	21.64	2.00	0.20
29.41	—	29.34	73.00	7.30	BELOW		21.64	0.00	0.00

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TABLE C - Receiver Overflow Measured Component Index Table

Performance Range	Component Index	Index Points	Performance Range	Component Index	Index Points
0.00 — 0.10	100.00	5.00	7.87 — 7.97	72.00	3.60
0.11 — 0.47	99.50	4.97	7.98 — 8.08	71.00	3.55
0.48 — 0.82	99.00	4.95	8.09 — 8.18	70.00	3.50
0.83 — 1.14	98.50	4.92	8.19 — 8.28	69.00	3.45
1.15 — 1.44	98.00	4.90	8.29 — 8.38	68.00	3.40
1.45 — 1.73	97.50	4.87	8.39 — 8.48	67.00	3.35
1.74 — 2.00	97.00	4.85	8.49 — 8.58	66.00	3.30
2.01 — 2.26	96.50	4.82	8.59 — 8.67	65.00	3.25
2.27 — 2.51	96.00	4.80	8.68 — 8.76	64.00	3.20
2.52 — 2.75	95.50	4.77	8.77 — 8.85	63.00	3.15
2.76 — 2.99	95.00	4.75	8.86 — 8.94	62.00	3.10
3.00 — 3.21	94.50	4.72	8.95 — 9.03	61.00	3.05
3.22 — 3.43	94.00	4.70	9.04 — 9.11	60.00	3.00
3.44 — 3.65	93.50	4.67	9.12 — 9.19	59.00	2.95
3.66 — 3.85	93.00	4.65	9.20 — 9.28	58.00	2.90
3.86 — 4.06	92.50	4.62	9.29 — 9.36	57.00	2.85
4.07 — 4.25	92.00	4.60	9.37 — 9.44	56.00	2.80
4.26 — 4.45	91.50	4.57	9.45 — 9.52	55.00	2.75
4.46 — 4.63	91.00	4.55	9.53 — 9.60	54.00	2.70
4.64 — 4.82	90.50	4.52	9.61 — 9.67	53.00	2.65
4.83 — 5.00	90.00	4.50	9.68 — 9.75	52.00	2.60
5.01 — 5.17	89.50	4.47	9.76 — 9.83	51.00	2.55
5.18 — 5.32	89.00	4.45	9.84 — 9.90	50.00	2.50
5.33 — 5.46	88.50	4.42	9.91 — 10.05	48.00	2.40
5.47 — 5.58	88.00	4.40	10.06 — 10.20	46.00	2.30
5.59 — 5.70	87.50	4.37	10.21 — 10.36	44.00	2.20
5.71 — 5.81	87.00	4.35	10.37 — 10.52	42.00	2.10
5.82 — 5.92	86.50	4.32	10.53 — 10.69	40.00	2.00
5.93 — 6.02	86.00	4.30	10.70 — 10.86	38.00	1.90
6.03 — 6.12	85.50	4.27	10.87 — 11.04	36.00	1.80
6.13 — 6.21	85.00	4.25	11.05 — 11.22	34.00	1.70
6.22 — 6.30	84.50	4.22	11.23 — 11.42	32.00	1.60
6.31 — 6.39	84.00	4.20	11.43 — 11.62	30.00	1.50
6.40 — 6.47	83.50	4.17	11.63 — 11.83	28.00	1.40
6.48 — 6.56	83.00	4.15	11.84 — 12.05	26.00	1.30
6.57 — 6.64	82.50	4.12	12.06 — 12.28	24.00	1.20
6.65 — 6.71	82.00	4.10	12.29 — 12.53	22.00	1.10
6.72 — 6.79	81.50	4.07	12.54 — 12.80	20.00	1.00
6.80 — 6.86	81.00	4.05	12.81 — 13.09	18.00	0.90
6.87 — 6.93	80.50	4.02	13.10 — 13.41	16.00	0.80
6.94 — 7.00	80.00	4.00	13.42 — 13.78	14.00	0.70
7.01 — 7.14	79.00	3.95	13.79 — 14.22	12.00	0.60
7.15 — 7.27	78.00	3.90	14.23 — 14.80	10.00	0.50
7.28 — 7.40	77.00	3.85	14.81 — 15.55	8.00	0.40
7.41 — 7.52	76.00	3.80	15.56 — 16.37	6.00	0.30
7.53 — 7.64	75.00	3.75	16.38 — 17.29	4.00	0.20
7.65 — 7.75	74.00	3.70	17.30 — 18.36	2.00	0.10
7.76 — 7.86	73.00	3.65	ABOVE 18.36	0.00	0.00

TABLE D - Restore Verify Failures Measured Component Index Table

Performance Range	Component Index	Index Points	Performance Range	Component Index	Index Points
0.00 — 0.03	100.00	5.00	3.25 — 3.28	72.00	3.60
0.04 — 0.13	99.50	4.97	3.29 — 3.32	71.00	3.55
0.14 — 0.23	99.00	4.95	3.33 — 3.36	70.00	3.50
0.24 — 0.33	98.50	4.92	3.37 — 3.40	69.00	3.45
0.34 — 0.43	98.00	4.90	3.41 — 3.44	68.00	3.40
0.44 — 0.53	97.50	4.87	3.45 — 3.48	67.00	3.35
0.54 — 0.63	97.00	4.85	3.49 — 3.52	66.00	3.30
0.64 — 0.73	96.50	4.82	3.53 — 3.55	65.00	3.25
0.74 — 0.83	96.00	4.80	3.56 — 3.59	64.00	3.20
0.84 — 0.93	95.50	4.77	3.60 — 3.62	63.00	3.15
0.94 — 1.03	95.00	4.75	3.63 — 3.66	62.00	3.10
1.04 — 1.13	94.50	4.72	3.67 — 3.69	61.00	3.05
1.14 — 1.23	94.00	4.70	3.70 — 3.72	60.00	3.00
1.24 — 1.33	93.50	4.67	3.73 — 3.76	59.00	2.95
1.34 — 1.43	93.00	4.65	3.77 — 3.79	58.00	2.90
1.44 — 1.53	92.50	4.62	3.80 — 3.82	57.00	2.85
1.54 — 1.63	92.00	4.60	3.83 — 3.85	56.00	2.80
1.64 — 1.73	91.50	4.57	3.86 — 3.88	55.00	2.75
1.74 — 1.83	91.00	4.55	3.89 — 3.91	54.00	2.70
1.84 — 1.93	90.50	4.52	3.92 — 3.94	53.00	2.65
1.94 — 2.03	90.00	4.50	3.95 — 3.97	52.00	2.60
2.04 — 2.12	89.50	4.47	3.98 — 4.00	51.00	2.55
2.13 — 2.19	89.00	4.45	4.01 — 4.03	50.00	2.50
2.20 — 2.25	88.50	4.42	4.04 — 4.09	48.00	2.40
2.26 — 2.31	88.00	4.40	4.10 — 4.15	46.00	2.30
2.32 — 2.36	87.50	4.37	4.16 — 4.21	44.00	2.20
2.37 — 2.41	87.00	4.35	4.22 — 4.27	42.00	2.10
2.42 — 2.46	86.50	4.32	4.28 — 4.34	40.00	2.00
2.47 — 2.50	86.00	4.30	4.35 — 4.40	38.00	1.90
2.51 — 2.54	85.50	4.27	4.41 — 4.47	36.00	1.80
2.55 — 2.58	85.00	4.25	4.48 — 4.54	34.00	1.70
2.59 — 2.62	84.50	4.22	4.55 — 4.62	32.00	1.60
2.63 — 2.65	84.00	4.20	4.63 — 4.70	30.00	1.50
2.66 — 2.69	83.50	4.17	4.71 — 4.78	28.00	1.40
2.70 — 2.72	83.00	4.15	4.79 — 4.87	26.00	1.30
2.73 — 2.75	82.50	4.12	4.88 — 4.96	24.00	1.20
2.76 — 2.78	82.00	4.10	4.97 — 5.06	22.00	1.10
2.79 — 2.81	81.50	4.07	5.07 — 5.16	20.00	1.00
2.82 — 2.84	81.00	4.05	5.17 — 5.28	18.00	0.90
2.85 — 2.87	80.50	4.02	5.29 — 5.41	16.00	0.80
2.88 — 2.90	80.00	4.00	5.42 — 5.56	14.00	0.70
2.91 — 2.95	79.00	3.95	5.57 — 5.75	12.00	0.60
2.96 — 3.00	78.00	3.90	5.76 — 6.03	10.00	0.50
3.01 — 3.05	77.00	3.85	6.04 — 6.43	8.00	0.40
3.06 — 3.10	76.00	3.80	6.44 — 6.83	6.00	0.30
3.11 — 3.15	75.00	3.75	6.84 — 7.23	4.00	0.20
3.16 — 3.19	74.00	3.70	7.24 — 7.63	2.00	0.10
3.20 — 3.24	73.00	3.65	ABOVE 7.63	0.00	0.00

TABLE E - Transmitter Time-Outs Measured Component Index Table

Performance Range	Component Index	Index Points	Performance Range	Component Index	Index Points
0.00 — 0.22	100.00	10.00	26.09 — 26.43	72.00	7.20
0.23 — 1.17	99.50	9.95	26.44 — 26.77	71.00	7.10
1.18 — 2.09	99.00	9.90	26.78 — 27.11	70.00	7.00
2.10 — 3.00	98.50	9.85	27.12 — 27.43	69.00	6.90
3.01 — 3.89	98.00	9.80	27.44 — 27.75	68.00	6.80
3.90 — 4.77	97.50	9.75	27.76 — 28.07	67.00	6.70
4.78 — 5.63	97.00	9.70	28.08 — 28.37	66.00	6.60
5.64 — 6.48	96.50	9.65	28.38 — 28.67	65.00	6.50
6.49 — 7.31	96.00	9.60	28.68 — 28.96	64.00	6.40
7.32 — 8.13	95.50	9.55	28.97 — 29.25	63.00	6.30
8.14 — 8.93	95.00	9.50	29.26 — 29.54	62.00	6.20
8.94 — 9.73	94.50	9.45	29.55 — 29.82	61.00	6.10
9.74 — 10.51	94.00	9.40	29.83 — 30.09	60.00	6.00
10.52 — 11.29	93.50	9.35	30.10 — 30.36	59.00	5.90
11.30 — 12.05	93.00	9.30	30.37 — 30.63	58.00	5.80
12.06 — 12.80	92.50	9.25	30.64 — 30.89	57.00	5.70
12.81 — 13.54	92.00	9.20	30.90 — 31.14	56.00	5.60
13.55 — 14.27	91.50	9.15	31.15 — 31.40	55.00	5.50
14.28 — 15.00	91.00	9.10	31.41 — 31.65	54.00	5.40
15.01 — 15.71	90.50	9.05	31.66 — 31.90	53.00	5.30
15.72 — 16.42	90.00	9.00	31.91 — 32.14	52.00	5.20
16.43 — 17.06	89.50	8.95	32.15 — 32.38	51.00	5.10
17.07 — 17.61	89.00	8.90	32.39 — 32.62	50.00	5.00
17.62 — 18.10	88.50	8.85	32.63 — 33.10	48.00	4.80
18.11 — 18.54	88.00	8.80	33.11 — 33.59	46.00	4.60
18.55 — 18.95	87.50	8.75	33.60 — 34.10	44.00	4.40
18.96 — 19.34	87.00	8.70	34.11 — 34.61	42.00	4.20
19.35 — 19.70	86.50	8.65	34.62 — 35.15	40.00	4.00
19.71 — 20.04	86.00	8.60	35.16 — 35.70	38.00	3.80
20.05 — 20.37	85.50	8.55	35.71 — 36.28	36.00	3.60
20.38 — 20.68	85.00	8.50	36.29 — 36.87	34.00	3.40
20.69 — 20.98	84.50	8.45	36.88 — 37.49	32.00	3.20
20.99 — 21.27	84.00	8.40	37.50 — 38.13	30.00	3.00
21.28 — 21.55	83.50	8.35	38.14 — 38.81	28.00	2.80
21.56 — 21.82	83.00	8.30	38.82 — 39.52	26.00	2.60
21.83 — 22.08	82.50	8.25	39.53 — 40.28	24.00	2.40
22.09 — 22.33	82.00	8.20	40.29 — 41.08	22.00	2.20
22.34 — 22.58	81.50	8.15	41.09 — 41.95	20.00	2.00
22.59 — 22.82	81.00	8.10	41.96 — 42.91	18.00	1.80
22.83 — 23.06	80.50	8.05	42.92 — 43.97	16.00	1.60
23.07 — 23.29	80.00	8.00	43.98 — 45.20	14.00	1.40
23.30 — 23.73	79.00	7.90	45.21 — 46.70	12.00	1.20
23.74 — 24.16	78.00	7.80	46.71 — 48.82	10.00	1.00
24.17 — 24.57	77.00	7.70	48.83 — 51.70	8.00	0.80
24.58 — 24.96	76.00	7.60	51.71 — 54.73	6.00	0.60
24.97 — 25.35	75.00	7.50	54.74 — 57.93	4.00	0.40
25.36 — 25.72	74.00	7.40	57.94 — 61.35	2.00	0.20
25.73 — 26.08	73.00	7.30	ABOVE 61.35	0.00	0.00

TABLE F - Office Overflow Measured Component Index Table

Performance Range	Component Index	Index Points	Performance Range	Component Index	Index Points
0.00 — 0.07	100.00	15.00	4.77 — 4.82	72.00	10.80
0.08 — 0.23	99.50	14.92	4.83 — 4.88	71.00	10.65
0.24 — 0.39	99.00	14.85	4.89 — 4.94	70.00	10.50
0.40 — 0.54	98.50	14.77	4.95 — 5.00	69.00	10.35
0.55 — 0.70	98.00	14.70	5.01 — 5.06	68.00	10.20
0.71 — 0.85	97.50	14.62	5.07 — 5.11	67.00	10.05
0.86 — 1.00	97.00	14.55	5.12 — 5.17	66.00	9.90
1.01 — 1.15	96.50	14.47	5.18 — 5.22	65.00	9.75
1.16 — 1.30	96.00	14.40	5.23 — 5.28	64.00	9.60
1.31 — 1.45	95.50	14.32	5.29 — 5.33	63.00	9.45
1.46 — 1.59	95.00	14.25	5.34 — 5.38	62.00	9.30
1.60 — 1.74	94.50	14.17	5.39 — 5.43	61.00	9.15
1.75 — 1.88	94.00	14.10	5.44 — 5.48	60.00	9.00
1.89 — 2.03	93.50	14.02	5.49 — 5.53	59.00	8.85
2.04 — 2.17	93.00	13.95	5.54 — 5.57	58.00	8.70
2.18 — 2.31	92.50	13.87	5.58 — 5.62	57.00	8.55
2.32 — 2.45	92.00	13.80	5.63 — 5.67	56.00	8.40
2.46 — 2.59	91.50	13.72	5.68 — 5.71	55.00	8.25
2.60 — 2.73	91.00	13.65	5.72 — 5.76	54.00	8.10
2.74 — 2.86	90.50	13.57	5.77 — 5.80	53.00	7.95
2.87 — 3.00	90.00	13.50	5.81 — 5.84	52.00	7.80
3.01 — 3.12	89.50	13.42	5.85 — 5.89	51.00	7.65
3.13 — 3.22	89.00	13.35	5.90 — 5.93	50.00	7.50
3.23 — 3.32	88.50	13.27	5.94 — 6.02	48.00	7.20
3.33 — 3.40	88.00	13.20	6.03 — 6.10	46.00	6.90
3.41 — 3.47	87.50	13.12	6.11 — 6.19	44.00	6.60
3.48 — 3.54	87.00	13.05	6.20 — 6.29	42.00	6.30
3.55 — 3.61	86.50	12.97	6.30 — 6.38	40.00	6.00
3.62 — 3.67	86.00	12.90	6.39 — 6.48	38.00	5.70
3.68 — 3.73	85.50	12.82	6.49 — 6.58	36.00	5.40
3.74 — 3.79	85.00	12.75	6.59 — 6.69	34.00	5.10
3.80 — 3.84	84.50	12.67	6.70 — 6.80	32.00	4.80
3.85 — 3.89	84.00	12.60	6.81 — 6.92	30.00	4.50
3.90 — 3.94	83.50	12.52	6.93 — 7.04	28.00	4.20
3.95 — 3.99	83.00	12.45	7.05 — 7.17	26.00	3.90
4.00 — 4.04	82.50	12.37	7.18 — 7.30	24.00	3.60
4.05 — 4.08	82.00	12.30	7.31 — 7.45	22.00	3.30
4.09 — 4.13	81.50	12.22	7.46 — 7.60	20.00	3.00
4.14 — 4.17	81.00	12.15	7.61 — 7.78	18.00	2.70
4.18 — 4.21	80.50	12.07	7.79 — 7.97	16.00	2.40
4.22 — 4.26	80.00	12.00	7.98 — 8.19	14.00	2.10
4.27 — 4.34	79.00	11.85	8.20 — 8.46	12.00	1.80
4.35 — 4.41	78.00	11.70	8.47 — 8.86	10.00	1.50
4.42 — 4.49	77.00	11.55	8.87 — 9.41	8.00	1.20
4.50 — 4.56	76.00	11.40	9.42 — 9.98	6.00	0.90
4.57 — 4.63	75.00	11.25	9.99 — 10.56	4.00	0.60
4.64 — 4.69	74.00	11.10	10.57 — 11.16	2.00	0.30
4.70 — 4.76	73.00	10.95	ABOVE 11.16	0.00	0.00

TABLE G - FCG and Supervisor Failures Measured Component Index Table

Performance Range	Component Index	Index Points	Performance Range	Component Index	Index Points
0.00 — 0.35	100.00	15.00	10.21 — 10.34	72.00	10.80
0.36 — 0.67	99.50	14.92	10.35 — 10.46	71.00	10.65
0.68 — 0.99	99.00	14.85	10.47 — 10.59	70.00	10.50
1.00 — 1.31	98.50	14.77	10.60 — 10.71	69.00	10.35
1.32 — 1.62	98.00	14.70	10.72 — 10.83	68.00	10.20
1.63 — 1.94	97.50	14.62	10.84 — 10.95	67.00	10.05
1.95 — 2.25	97.00	14.55	10.96 — 11.06	66.00	9.90
2.26 — 2.56	96.50	14.47	11.07 — 11.17	65.00	9.75
2.57 — 2.87	96.00	14.40	11.18 — 11.28	64.00	9.60
2.88 — 3.18	95.50	14.32	11.29 — 11.39	63.00	9.45
3.19 — 3.49	95.00	14.25	11.40 — 11.50	62.00	9.30
3.50 — 3.80	94.50	14.17	11.51 — 11.60	61.00	9.15
3.81 — 4.10	94.00	14.10	11.61 — 11.70	60.00	9.00
4.11 — 4.41	93.50	14.02	11.71 — 11.81	59.00	8.85
4.42 — 4.71	93.00	13.95	11.82 — 11.90	58.00	8.70
4.72 — 5.01	92.50	13.87	11.91 — 12.00	57.00	8.55
5.02 — 5.31	92.00	13.80	12.01 — 12.10	56.00	8.40
5.32 — 5.61	91.50	13.72	12.11 — 12.19	55.00	8.25
5.62 — 5.91	91.00	13.65	12.20 — 12.29	54.00	8.10
5.92 — 6.20	90.50	13.27	12.30 — 12.38	53.00	7.95
6.21 — 6.50	90.00	13.50	12.39 — 12.47	52.00	7.80
6.51 — 6.76	89.50	13.42	12.48 — 12.56	51.00	7.65
6.77 — 6.98	89.00	13.35	12.57 — 12.65	50.00	7.50
6.99 — 7.18	88.50	13.27	12.66 — 12.83	48.00	7.20
7.19 — 7.35	88.00	13.20	12.84 — 13.01	46.00	6.90
7.36 — 7.51	87.50	13.12	13.02 — 13.20	44.00	6.60
7.52 — 7.66	87.00	13.05	13.21 — 13.40	42.00	6.30
7.66 — 7.79	86.50	12.97	13.41 — 13.60	40.00	6.00
7.80 — 7.92	86.00	12.90	13.61 — 13.80	38.00	5.70
7.93 — 8.05	85.50	12.82	13.81 — 14.02	36.00	5.40
8.06 — 8.17	85.00	12.75	14.03 — 14.24	34.00	5.10
8.18 — 8.28	84.50	12.67	14.25 — 14.47	32.00	4.80
8.29 — 8.39	84.00	12.60	14.48 — 14.71	30.00	4.50
8.40 — 8.50	83.50	12.52	14.72 — 14.96	28.00	4.20
8.51 — 8.60	83.00	12.45	14.97 — 15.23	26.00	3.90
8.61 — 8.70	82.50	12.37	15.24 — 15.52	24.00	3.60
8.71 — 8.79	82.00	12.30	15.53 — 15.82	22.00	3.30
8.80 — 8.89	81.50	12.22	15.83 — 16.15	20.00	3.00
8.90 — 8.98	81.00	12.15	16.16 — 16.51	18.00	2.70
8.99 — 9.07	80.50	12.07	16.52 — 16.91	16.00	2.40
9.08 — 9.15	80.00	12.00	16.92 — 17.38	14.00	2.10
9.16 — 9.32	79.00	11.85	17.39 — 17.95	12.00	1.80
9.33 — 9.48	78.00	11.70	17.96 — 18.80	10.00	1.50
9.49 — 9.64	77.00	11.55	18.81 — 19.99	8.00	1.20
9.65 — 9.78	76.00	11.40	20.00 — 21.20	6.00	0.90
9.79 — 9.93	75.00	11.25	21.21 — 22.43	4.00	0.60
9.94 — 10.07	74.00	11.10	22.44 — 23.68	2.00	0.30
10.08 — 10.20	73.00	10.95	ABOVE 23.68	0.00	0.00

TABLE H - Receiver Time-Outs Measured Component Index Table

Performance Range	Component Index	Index Points	Performance Range	Component Index	Index Points
0.00 — 0.69	100.00	10.00	38.05 — 38.54	72.00	7.20
0.70 — 2.03	99.50	9.95	38.55 — 39.04	71.00	7.10
2.04 — 3.34	99.00	9.90	39.05 — 39.52	70.00	7.00
3.35 — 4.63	98.50	9.85	39.53 — 39.99	69.00	6.90
4.64 — 5.90	98.00	9.80	40.00 — 40.45	68.00	6.80
5.91 — 7.16	97.50	9.75	40.46 — 40.89	67.00	6.70
7.17 — 8.39	97.00	9.70	40.90 — 41.33	66.00	6.60
8.40 — 9.61	96.50	9.65	41.34 — 41.77	65.00	6.50
9.62 — 10.80	96.00	9.60	41.78 — 42.19	64.00	6.40
10.81 — 11.99	95.50	9.55	42.20 — 42.60	63.00	6.30
12.00 — 13.15	95.00	9.50	42.61 — 43.01	62.00	6.20
13.16 — 14.30	94.50	9.45	43.02 — 43.41	61.00	6.10
14.31 — 15.44	94.00	9.40	43.42 — 43.81	60.00	6.00
15.45 — 16.56	93.50	9.35	43.82 — 44.20	59.00	5.90
16.57 — 17.67	93.00	9.30	44.21 — 44.58	58.00	5.80
17.68 — 18.77	92.50	9.25	44.59 — 44.96	57.00	5.70
18.78 — 19.85	92.00	9.20	44.97 — 45.33	56.00	5.60
19.86 — 20.92	91.50	9.15	45.34 — 45.69	55.00	5.50
20.93 — 21.98	91.00	9.10	45.70 — 46.05	54.00	5.40
21.99 — 23.03	90.50	9.05	46.06 — 46.41	53.00	5.30
23.04 — 24.07	90.00	9.00	46.42 — 46.76	52.00	5.20
24.08 — 25.01	89.50	8.95	46.77 — 47.11	51.00	5.10
25.02 — 25.81	89.00	8.90	47.12 — 47.45	50.00	5.00
25.82 — 26.52	88.50	8.85	47.46 — 48.14	48.00	4.80
26.53 — 27.16	88.00	8.80	48.15 — 48.85	46.00	4.60
27.17 — 27.76	87.50	8.75	48.86 — 49.57	44.00	4.40
27.77 — 28.31	87.00	8.70	49.58 — 50.32	42.00	4.20
28.32 — 28.84	86.50	8.65	50.33 — 51.09	40.00	4.00
28.85 — 29.33	86.00	8.60	51.10 — 51.89	38.00	3.80
29.34 — 29.80	85.50	8.55	51.90 — 52.71	36.00	3.60
29.81 — 30.25	85.00	8.50	52.72 — 53.57	34.00	3.40
30.26 — 30.68	84.50	8.45	53.58 — 54.45	32.00	3.20
30.69 — 31.10	84.00	8.40	54.46 — 55.38	30.00	3.00
31.11 — 31.50	83.50	8.35	55.39 — 56.36	28.00	2.80
31.51 — 31.89	83.00	8.30	56.37 — 57.38	26.00	2.60
31.90 — 32.27	82.50	8.25	57.39 — 58.47	24.00	2.40
32.28 — 32.64	82.00	8.20	58.48 — 59.63	22.00	2.20
32.65 — 32.99	81.50	8.15	59.64 — 60.89	20.00	2.00
33.00 — 33.34	81.00	8.10	60.90 — 62.26	18.00	1.80
33.35 — 33.68	80.50	8.05	62.27 — 63.80	16.00	1.60
33.69 — 34.01	80.00	8.00	63.81 — 65.57	14.00	1.40
34.02 — 34.65	79.00	7.90	65.58 — 67.74	12.00	1.20
34.66 — 35.27	78.00	7.80	67.75 — 70.83	10.00	1.00
35.28 — 35.86	77.00	7.70	70.84 — 75.05	8.00	0.80
35.87 — 36.43	76.00	7.60	75.06 — 79.46	6.00	0.60
36.44 — 36.98	75.00	7.50	70.47 — 84.10	4.00	0.40
36.99 — 37.52	74.00	7.40	84.11 — 89.00	2.00	0.20
37.53 — 38.04	73.00	7.30	ABOVE 89.00	0.00	0.00

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TABLE I - Lost Billing Measured Component Index Table

Performance Range			Component Index	Index Points	Performance Range			Component Index	Index Points
0.00	—	0.20	100.00	10.00	128.03	—	129.73	72.00	7.20
0.21	—	4.39	99.50	9.95	129.74	—	131.40	71.00	7.10
4.40	—	8.56	99.00	9.90	131.41	—	133.02	70.00	7.00
8.57	—	12.70	98.50	9.85	133.03	—	134.61	69.00	6.90
12.71	—	16.82	98.00	9.80	134.62	—	136.16	68.00	6.80
16.83	—	20.92	97.50	9.75	136.17	—	137.68	67.00	6.70
20.93	—	25.00	97.00	9.70	137.69	—	139.16	66.00	6.60
25.01	—	29.06	96.50	9.65	139.17	—	140.62	65.00	6.50
29.07	—	33.09	96.00	9.60	140.63	—	142.05	64.00	6.40
33.10	—	37.11	95.50	9.55	142.06	—	143.45	63.00	6.30
37.12	—	41.10	95.00	9.50	143.46	—	144.83	62.00	6.20
41.11	—	45.08	94.50	9.45	144.84	—	146.18	61.00	6.10
45.09	—	49.03	94.00	9.40	146.19	—	147.51	60.00	6.00
49.04	—	52.97	93.50	9.35	147.52	—	148.82	59.00	5.90
52.98	—	56.89	93.00	9.30	148.83	—	150.12	58.00	5.80
56.90	—	60.78	92.50	9.25	150.13	—	151.39	57.00	5.70
60.79	—	64.66	92.00	9.20	151.40	—	152.64	56.00	5.60
64.67	—	68.52	91.50	9.15	152.65	—	153.87	55.00	5.50
68.53	—	72.37	91.00	9.10	153.88	—	155.09	54.00	5.40
72.38	—	76.19	90.50	9.05	155.10	—	156.29	53.00	5.30
76.20	—	80.00	90.00	9.00	156.30	—	157.47	52.00	5.20
80.01	—	83.39	89.50	8.95	157.48	—	158.64	51.00	5.10
83.40	—	86.23	89.00	8.90	158.65	—	159.80	50.00	5.00
86.24	—	88.72	88.50	8.85	159.81	—	162.13	48.00	4.80
88.73	—	90.96	88.00	8.80	162.14	—	164.51	46.00	4.60
90.97	—	93.02	87.50	8.75	164.52	—	166.96	44.00	4.40
93.03	—	94.94	87.00	8.70	166.97	—	169.48	42.00	4.20
94.95	—	96.74	86.50	8.65	169.49	—	172.09	40.00	4.00
96.75	—	98.43	86.00	8.60	172.10	—	174.77	38.00	3.80
98.44	—	100.05	85.50	8.55	174.78	—	177.55	36.00	3.60
100.06	—	101.59	85.00	8.50	177.56	—	180.44	34.00	3.40
101.60	—	103.07	84.50	8.45	180.45	—	183.44	32.00	3.20
103.08	—	104.49	84.00	8.40	183.45	—	186.58	30.00	3.00
104.50	—	105.86	83.50	8.35	186.59	—	189.87	28.00	2.80
105.87	—	107.18	83.00	8.30	189.88	—	193.34	26.00	2.60
107.19	—	108.47	82.50	8.25	193.35	—	197.02	24.00	2.40
108.48	—	109.71	82.00	8.20	197.03	—	200.96	22.00	2.20
109.72	—	110.92	81.50	8.15	200.97	—	205.22	20.00	2.00
110.93	—	112.11	81.00	8.10	205.23	—	209.89	18.00	1.80
112.12	—	113.26	80.50	8.05	209.90	—	215.11	16.00	1.60
113.27	—	114.38	80.00	8.00	215.12	—	221.17	14.00	1.40
114.39	—	116.55	79.00	7.90	221.18	—	228.64	12.00	1.20
116.56	—	118.64	78.00	7.80	228.65	—	239.60	10.00	1.00
118.65	—	120.64	77.00	7.70	239.61	—	254.94	8.00	0.80
120.65	—	122.58	76.00	7.60	254.95	—	270.57	6.00	0.60
122.59	—	124.45	75.00	7.50	270.58	—	286.51	4.00	0.40
124.46	—	126.26	74.00	7.40	286.52	—	302.78	2.00	0.20
126.27	—	128.02	73.00	7.30	ABOVE		302.78	0.00	0.00

TABLE J - Code 5 Equipment Measured Component Index Table

Performance Range	Component Index	Index Points	Performance Range	Component Index	Index Points
0.00 — 0.01	100.00	20.00	0.83 — 0.83	72.00	14.40
0.02 — 0.04	99.50	19.90	0.84 — 0.84	71.00	14.20
0.05 — 0.07	99.00	19.80	0.85 — 0.85	70.00	14.00
0.08 — 0.09	98.50	19.70	0.86 — 0.86	69.00	13.80
0.10 — 0.11	98.00	19.60	0.87 — 0.87	68.00	13.60
0.12 — 0.13	97.50	19.50	0.88 — 0.88	67.00	13.40
0.14 — 0.14	97.00	19.40	0.89 — 0.89	66.00	13.20
0.15 — 0.15	96.50	19.30	0.90 — 0.90	65.00	13.00
0.16 — 0.17	96.00	19.20	0.91 — 0.91	64.00	12.80
0.18 — 0.18	95.50	19.10	0.92 — 0.93	63.00	12.60
0.19 — 0.20	95.00	19.00	0.94 — 0.94	62.00	12.40
0.21 — 0.21	94.50	18.90	0.95 — 0.96	61.00	12.20
0.22 — 0.26	94.00	18.80	0.97 — 0.97	60.00	12.00
0.27 — 0.33	93.50	18.70	0.98 — 0.98	59.00	11.80
0.34 — 0.40	93.00	18.60	0.99 — 1.00	58.00	11.60
0.41 — 0.45	92.50	18.50	1.01 — 1.01	57.00	11.40
0.46 — 0.49	92.00	18.40	1.02 — 1.02	56.00	11.20
0.50 — 0.52	91.50	18.30	1.03 — 1.04	55.00	11.00
0.53 — 0.53	91.00	18.20	1.05 — 1.05	54.00	10.80
0.54 — 0.54	90.50	18.10	1.06 — 1.06	53.00	10.60
0.55 — 0.55	90.00	18.00	1.07 — 1.08	52.00	10.40
0.56 — 0.56	89.50	17.90	1.09 — 1.09	51.00	10.20
0.57 — 0.57	89.00	17.80	1.10 — 1.10	50.00	10.00
0.58 — 0.58	88.50	17.70	1.11 — 1.13	48.00	9.60
0.59 — 0.59	88.00	17.60	1.14 — 1.16	46.00	9.20
0.60 — 0.60	87.50	17.50	1.17 — 1.19	44.00	8.80
0.61 — 0.61	87.00	17.40	1.20 — 1.21	42.00	8.40
0.62 — 0.62	86.50	17.30	1.22 — 1.24	40.00	8.00
0.63 — 0.63	86.00	17.20	1.25 — 1.27	38.00	7.60
0.64 — 0.64	85.50	17.10	1.28 — 1.30	36.00	7.20
0.65 — 0.65	85.00	17.00	1.31 — 1.32	34.00	6.80
0.66 — 0.66	84.50	16.90	1.33 — 1.35	32.00	6.40
0.67 — 0.67	84.00	16.80	1.36 — 1.38	30.00	6.00
0.68 — 0.68	83.50	16.70	1.39 — 1.40	28.00	5.60
0.69 — 0.69	83.00	16.60	1.41 — 1.43	26.00	5.20
0.70 — 0.70	82.50	16.50	1.44 — 1.46	24.00	4.80
0.71 — 0.71	82.00	16.40	1.47 — 1.49	22.00	4.40
0.72 — 0.72	81.50	16.30	1.50 — 1.51	20.00	4.00
0.73 — 0.73	81.00	16.20	1.52 — 1.54	18.00	3.60
0.74 — 0.74	80.50	16.10	1.55 — 1.57	16.00	3.20
0.75 — 0.75	80.00	16.00	1.58 — 1.60	14.00	2.80
0.76 — 0.76	79.00	15.80	1.61 — 1.62	12.00	2.40
0.77 — 0.77	78.00	15.60	1.63 — 1.65	10.00	2.00
0.78 — 0.78	77.00	15.40	1.66 — 1.68	8.00	1.60
0.79 — 0.79	76.00	15.20	1.69 — 1.70	6.00	1.20
0.80 — 0.80	75.00	15.00	1.71 — 1.73	4.00	0.80
0.81 — 0.81	74.00	14.80	1.74 — 1.76	2.00	0.40
0.82 — 0.82	73.00	14.60	ABOVE 1.76	0.00	0.00

TABLE K - Plant Measurements Results Equipment Count Talley

Equipment	System	Quantity	Multi	Total
CCs	1/1A	FIXED @ 2	x1	2
SPs	1	FIXED @ 2	x1	_____
PSs	1/1A	MEM NO. ____ to ____	x1	_____
CSs	1/1A	MEM NO. ____ to ____	x1	_____
SPCSs	1	MEM NO. ____ to ____	x1	_____
CPDs	1/1A	MEM NO. ____ to ____	x1	_____
AIOD UNITS	1/1A	MEM NO. ____ to ____	x1	_____
CTX DIs	1/1A	MEM NO. ____ to ____	x1	_____
AMAs	1	FIXED @ 2	x1	_____
PUCs	1/1A	MEM NO. ____ to ____	x2	_____
TUCs	1A	MEM NO. ____ to ____	x1	_____
FSs	1A	MEM NO. ____ to ____	x1	_____
DUSs	1A	MEM NO. ____ to ____	x1	_____
DFs	1A	MEM NO. ____ to ____	x2	_____
PCDFs	1A	MEM NO. ____ to ____	x1	_____
IOPs	1A	MEM NO. ____ to ____	x1	_____
IOUSs	1A	MEM NO. ____ to ____	x1	_____
IOUCs	1A	MEM NO. ____ to ____	x2	_____
MCC/PPI	1A	FIXED @ 1	x1	_____
PUAB	1/1A	FIXED @ 2	x1	2
SCAB	1/1A	FIXED @ 2	x1	2
PSB	1/1A	FIXED @ 2	x1	2
CSB	1/1A	FIXED @ 2	x1	2
CEB	1A	FIXED @ 2	x1	_____
AUB	1A	FIXED @ 2	x1	_____
DATE COMP: _____ BY: _____ LAST JOB NO: _____		TOTAL SIDE ONE + TOTAL FROM SIDE TWO = GRAND TOTAL		_____ _____ _____

TABLE K - Plant Measurements Results Equipment Count Talley (Contd)

Equipment	System	Quantity	Multi	Total
MASTER SCANNER	1/1A	MEM ____ to ____	x2	_____
MUT/UT SCANNER	1/1A	MEM ____ to ____	x2	_____
LINE SCANNER 2:1*†	1/1A	NO. OF sc's ____	x2	_____
LINE SCANNER 4:1*†	1/1A	NO. OF sc's ____	x2	_____
JUNCTOR SCANNER	1/1A	MEM ____ to ____	x2	_____
NTWK CONTROLLERS:				
Ferreed/Remreed				
LSF/LSC†	1/1A	NO. of sc's ____	x2	_____
LJF/LJC	1/1A	Value of:		
(Fixed @ 4/NTWK)		sc LLN ____	x8	_____
TSF/TSC	1/1A	NO. of sc's ____	x2	_____
(sc TSiii)				
TJF/TJC	1/1A	Value of:		
(sc TDE=4)	1/1A	sc TLN ____	x8	_____
(sc TDE=8)	1/1A	sc TLN ____	x16	_____
MUT/UT SDs	1/1A	MEM ____ to ____	x2	_____
CMT/SSDs	1/1A	MEM ____ to ____	x2	_____
JSDs	1/1A	MEM ____ to ____	x2	_____
sc = PDA SET CARD NAME		TOTAL SIDE TWO		_____

Counting Controllers in 2:1 and 4:1 Networks

* In 2:1 networks the controller of the line scanner is normally provided in only the Home frames of each network. A member number unit consists of Ferreed Line Switch Frame (LSF) or Remreed Line Switch Circuit (LSC), where the controller is located-normally 00, 02, 04, etc. A 2:1 line network has 2 Line Scanner Controllers for every 4 Line Switch Controllers. A 4:1 line network has 4 Line Scanner Controllers for every 4 Line Switch Controllers.

† To determine each network frame concentration ratio check:
For No. 1: set card (sc) FCR(ii)=2 for 2:1: =4 for 4:1;
For No. 14: set card (sc) TLSW(ii)=2 for 2:1: =4 for 4:1.
To determine quantity of line scanners and network control units check:
2:1 > quantity of sc's LS(iii) w/value of 2 or 3 = No. of Line Scanners;
2:1 > quantity of sc's LS(iii) w/value of 1,2,3 = No. of NTWK control units;
4:1 > quantity of sc's LS(iii) w/value of 1,2,3 = No. of Line Scanner and number of NTWK control units;
> "means count"
Set Card (sc) LS(iii) is the same for 1 and 1A systems.

GBPPR LOUDAUTO Experiments

LOUDAUTO – ANT Product Data (NSA)

Capabilities

LOUDAUTO is an audio–based RF retro–reflector. It provides room audio from a targeted space using radar and basic demodulation and audio post–processing.

LOUDAUTO's current design maximizes the gain of the Knowles EK/EY–series microphone. This makes it extremely useful for picking up room audio. It can pick up speech at a standard, office volume from over 20 feet away. Note that concealments may reduce this distance.

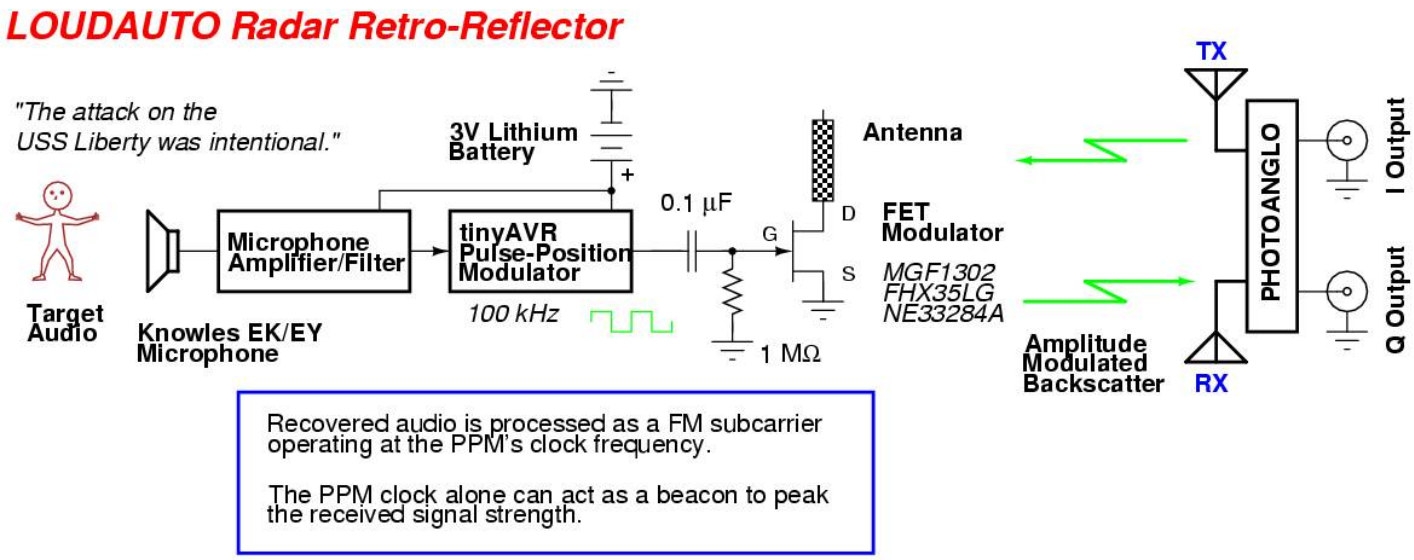
It uses very little power, approximately 15 µA at 3.0 VDC. So little, in fact, that battery self–discharge (internal resistance) is more of an issue for serviceable lifetime than the power draw from this unit. The simplicity of the design allows the form factor to be tailored for specific operational requirements. All components are Commercial Off–the–Shelf (COTS) and so are non–attributable to NSA.

Concept of Operation

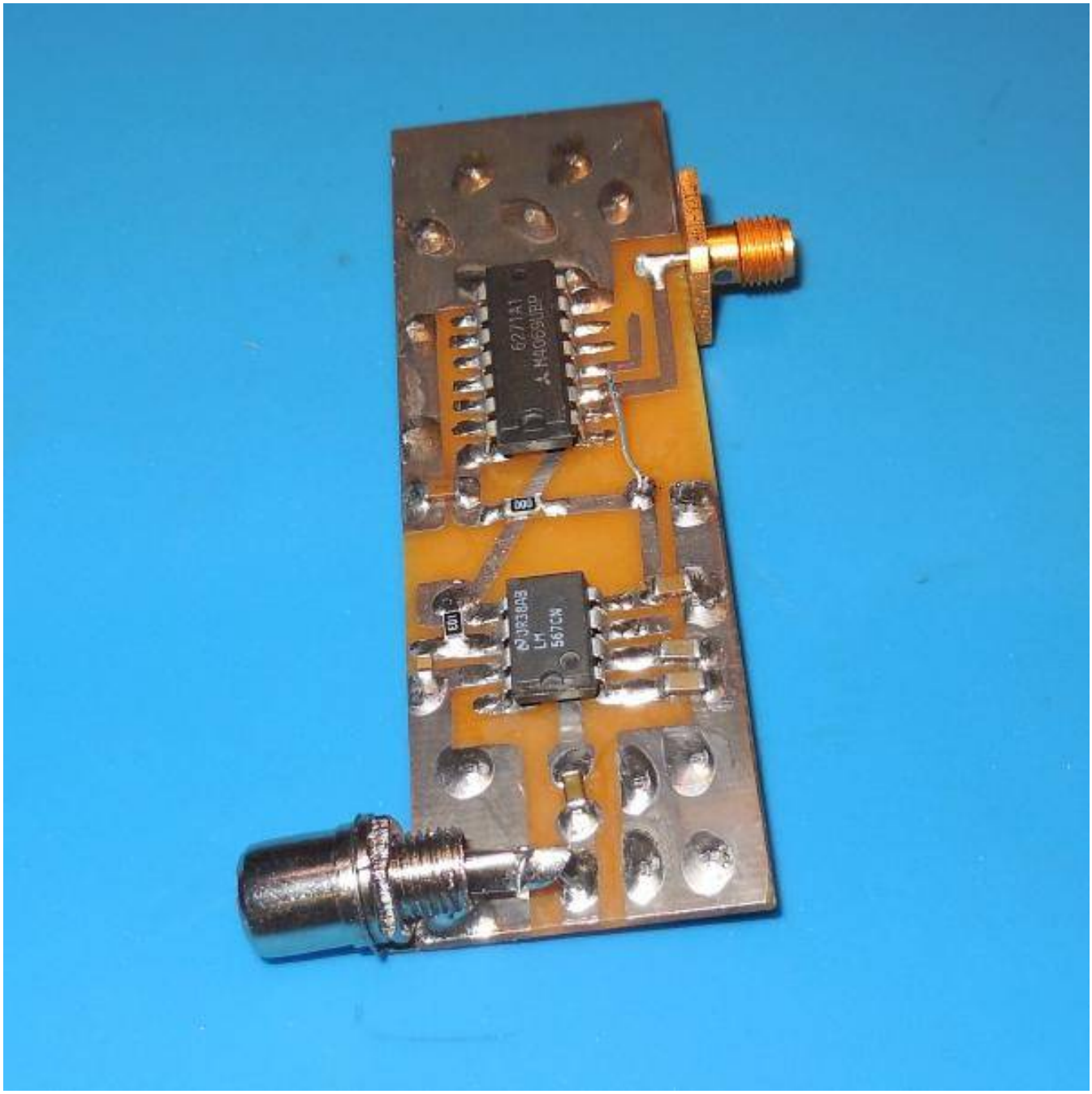
Room audio is picked up by the microphone and converted into an analog electrical signal. This signal is used to Pulse–Position Modulate (PPM) a low–frequency square wave carrier signal running at around 100 kHz. This square wave is used to bias a microwave FET (Field Effect Transistor) on and off. When the unit is illuminated with an unmodulated Continuous Wave (CW) signal from a remote radar unit (CTX4000/PHOTOANGLO), the illuminating signal is Amplitude Modulated (AM) with the PPM square wave.

This signal is re–radiated (backscatter), where it is then picked up by the receive section of radar. It's then processed as a 100 kHz Frequency Modulated (FM) subcarrier to recover the room audio. Processing is currently performed by COTS equipment with FM demodulation capability (Rohde & Schwarz FSH–series portable spectrum analyzers, AOR/Icom receivers, etc.)

LOUDAUTO is part of the ANGRYNEIGHBOR family of radar retro–reflectors.



Pictures & Construction Notes



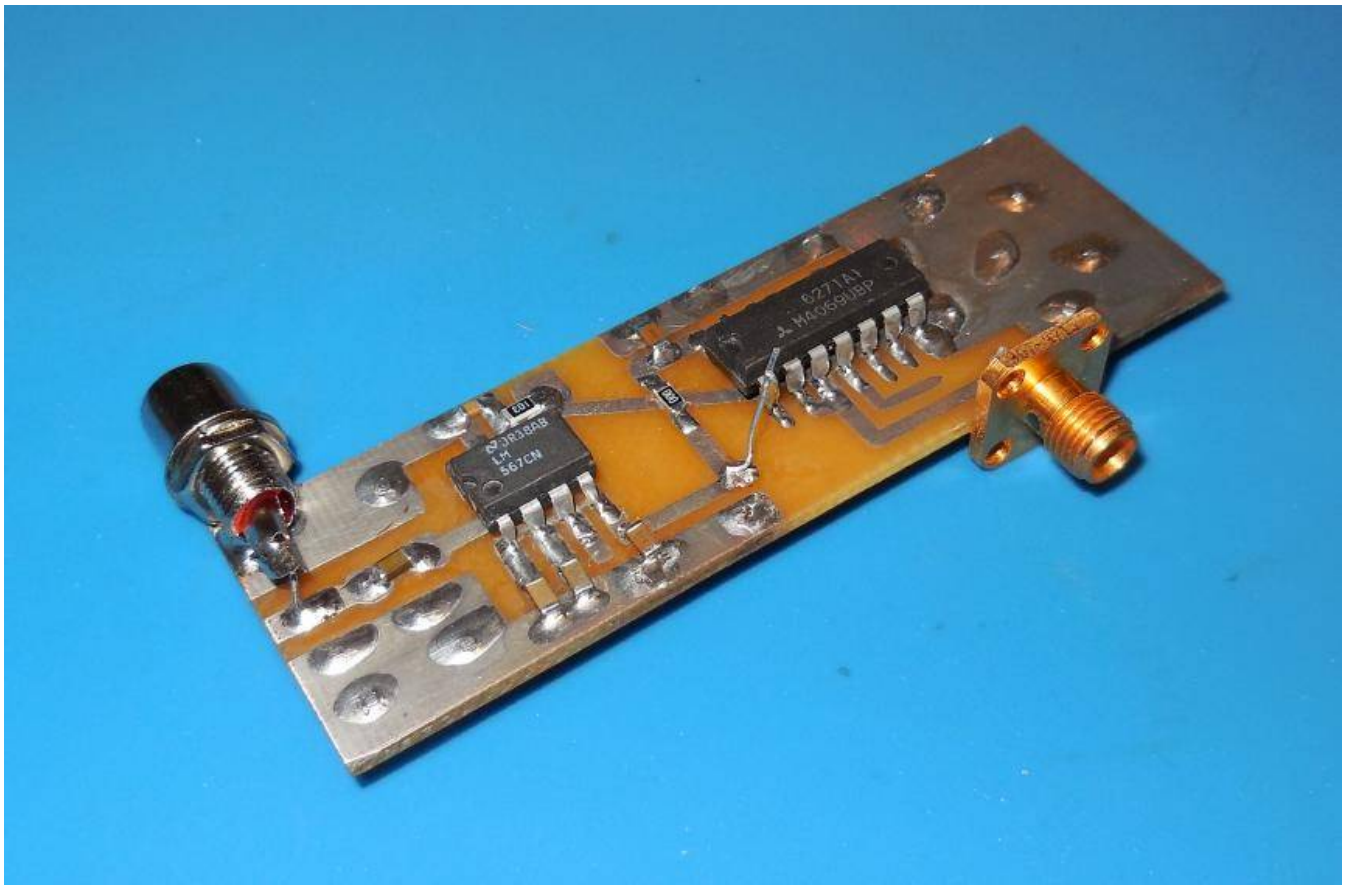
Overview of the LM567–based pulse–position modulator board used for these LOUDAUTO experiments.

A CD4069 hex inverter is used to buffer the output (pin 5) of the LM567 pulse train generator.

The modulation input is via the RCA jack.

The PPM pulse train output is via the SMA jack.

The real LOUDAUTO devices most likely use an Atmel tinyAVR–series microcontroller to generate and modulate the PPM waveform.



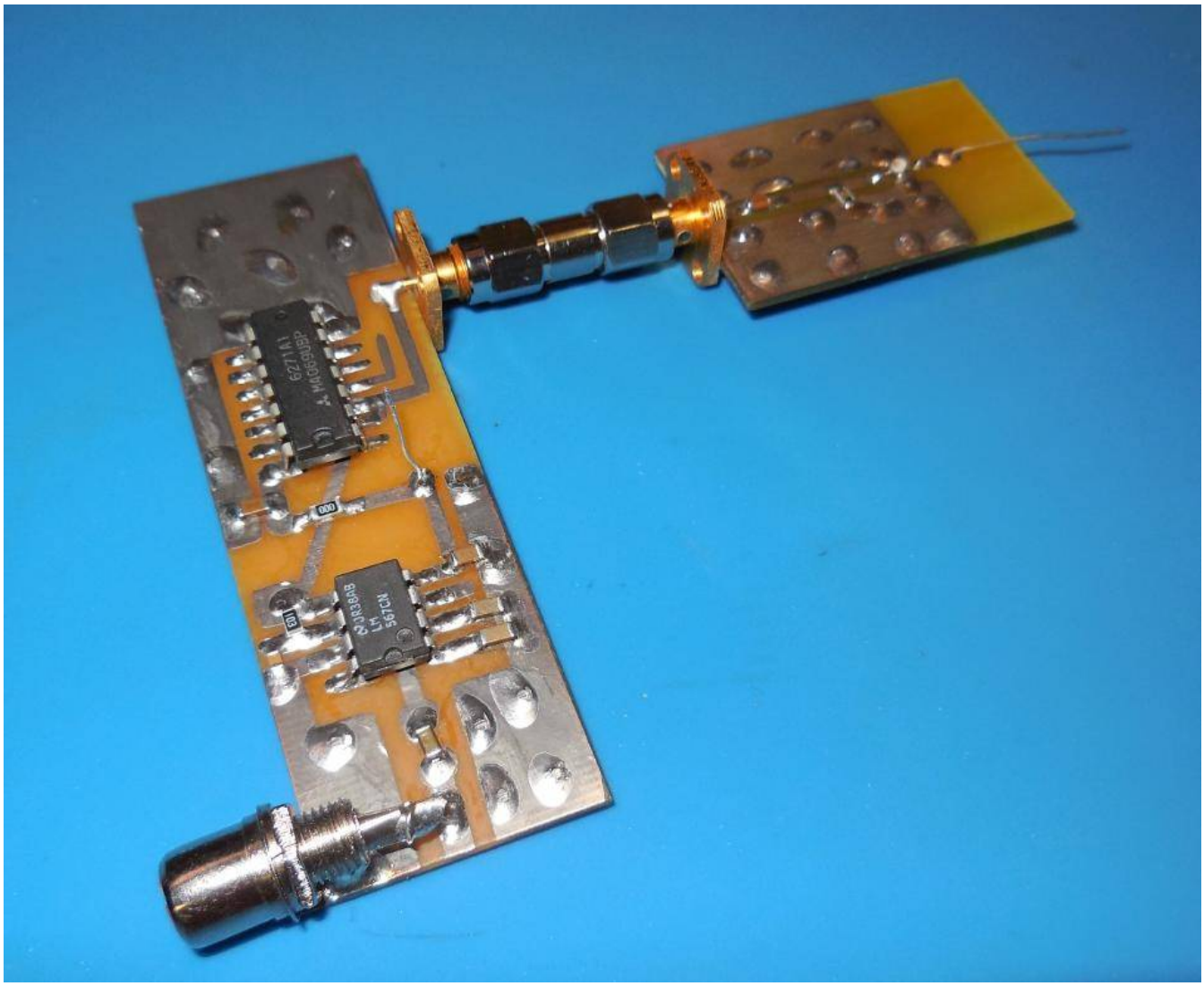
Alternate view of the experimental LOUDAUTO pulse–position modulator board.

The modulation input should be around 200 mVp–p minimum and low–pass filtered to prevent aliasing.

The LM567 is set via the 10 kohm resistor and 1000 pF capacitor to produce a pulse train at around 100 kHz.

Normally, the modulation input would be from a standard Knowles microphone. You may want to add a small preamplifier (20 dB or so) on the output of the microphone.

The modulation input doesn't necessarily have to be in the "speech band." Quality electret microphones will also detect subsonic (and ultrasonic) vibrations. This could be handy for extracting intelligence from mechanical devices, such as crypto rotors or a lock's wheel pack.



Connecting the LOUDAUTO modulator board to the Fujitsu FHX35LG FET modulator board used in the TAWDRYYARD experiments.

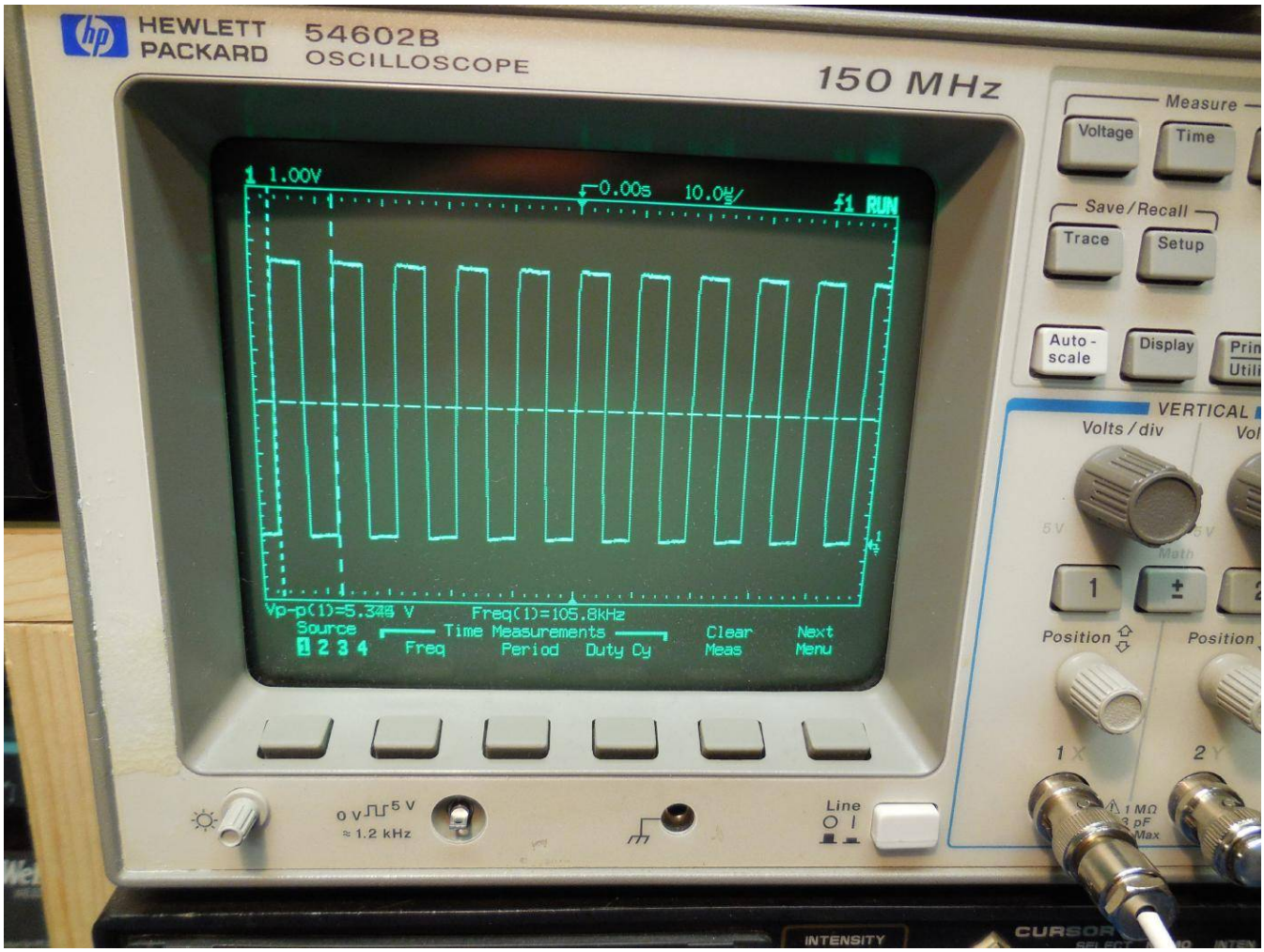
To demodulate the received (backscatter) signal, you'll need a receiver capable of tuning to the 100 kHz (or whatever) subcarrier frequency the pulse–position modulator is using.

This can be done directly with a spectrum analyzer or a communications receiver with standard wideband FM demodulation capabilities.

Above–left is the GBPPR VLF Converter from *GBPPR 'Zine*, Issue #101. This converts 1 – 500 kHz to 10.001 – 10.500 MHz.

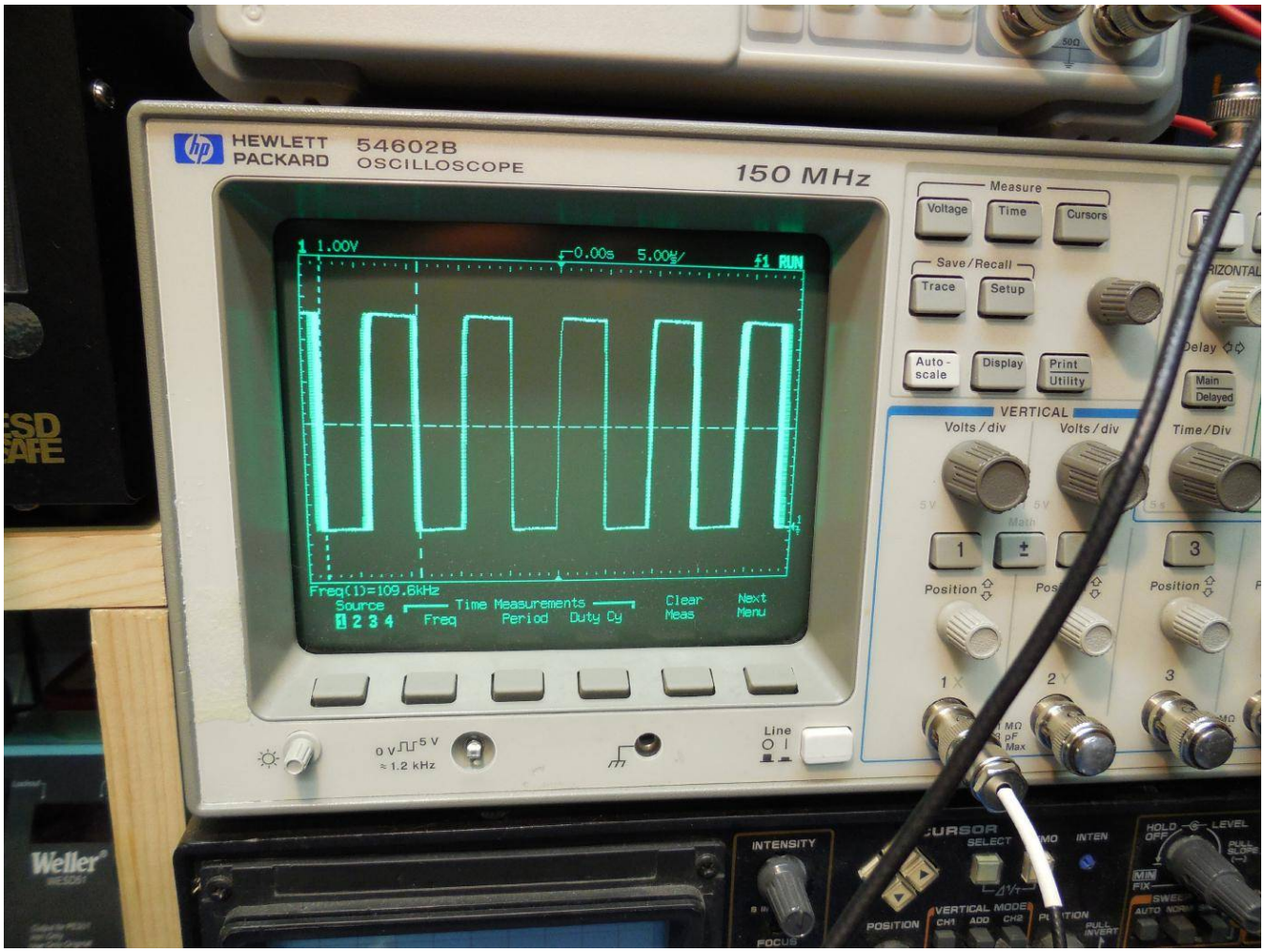
Also shown above is an AOR AR8000 communications receiver, capable of a wide tuning frequency range and both wide and narrowband FM demodulation.

This communications receiver would be connected directly to the I or Q outputs from the CTX4000/PHOTOANGLO illumination radar unit.



Oscilloscope view of the unmodulated LM567 pulse train.

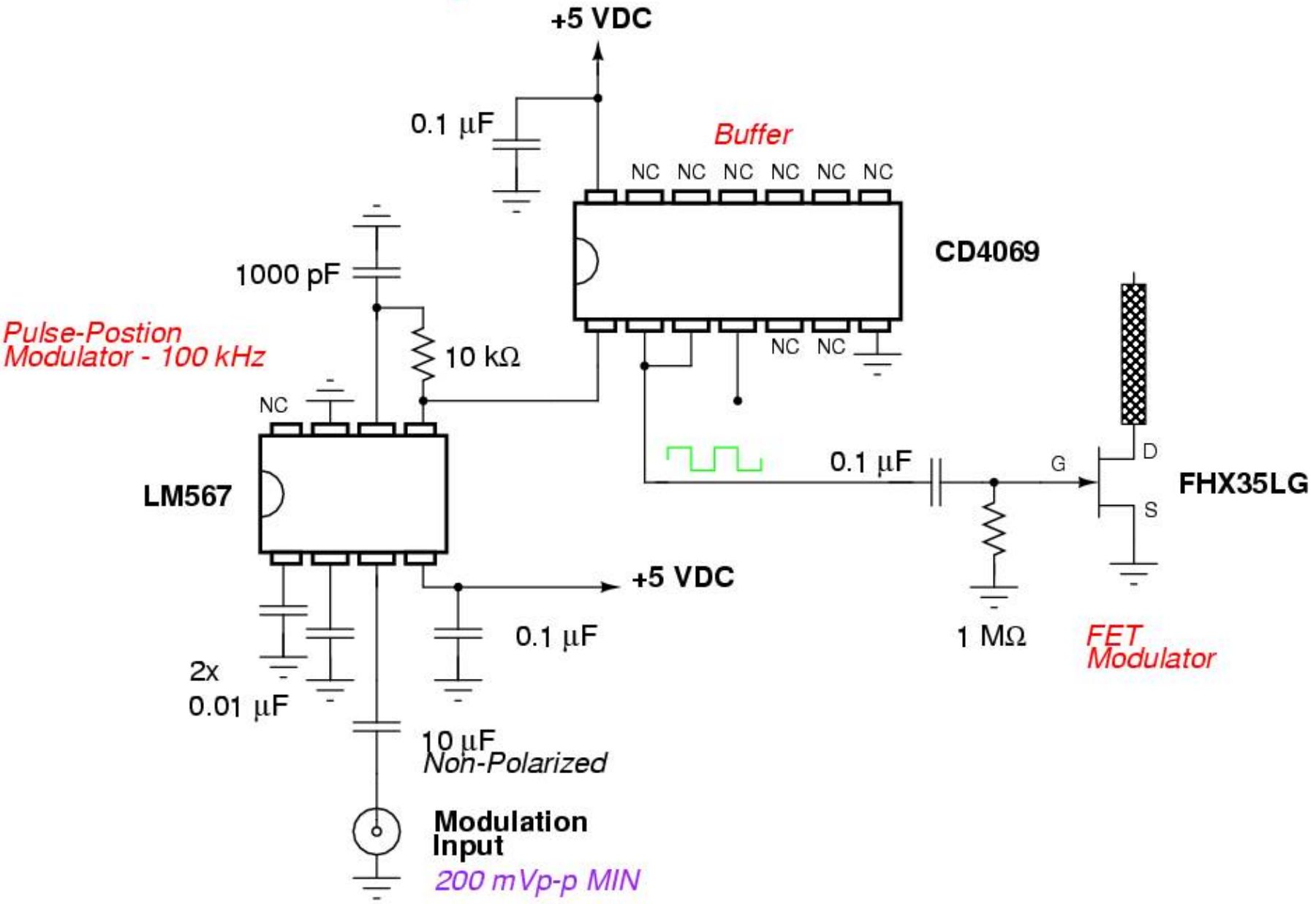
It's 5 volt peak–to–peak at around 106 kHz.



Oscilloscope view of the LM567 pulse train being modulated with a 1 kHz sine wave at around 500 mVp–p.

This pulse train would then be used to toggle the gate of the FET modulator to generate the backscatter signal.

GBPPR LOUDAUTO Experiments



LOUDAUTO

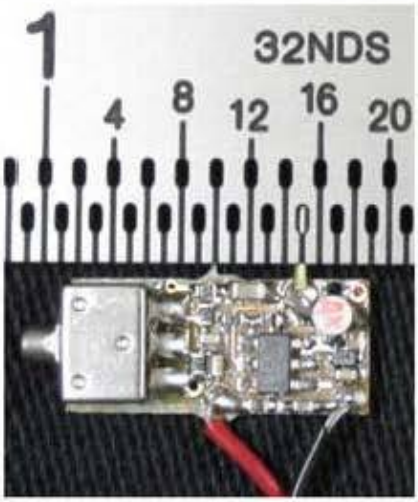
ANT Product Data

(TS//SI//REL TO USA,FVEY) Audio-based RF retro-reflector. Provides room audio from targeted space using radar and basic post-processing.

07 Apr 2009

(U) Capabilities

(TS//SI//REL TO USA,FVEY) LOUDAUTO's current design maximizes the gain of the microphone. This makes it extremely useful for picking up room audio. It can pick up speech at a standard, office volume from over 20' away. (NOTE: Concealments may reduce this distance.) It uses very little power (~15 uA at 3.0 VDC), so little, in fact, that battery self-discharge is more of an issue for serviceable lifetime than the power draw from this unit. The simplicity of the design allows the form factor to be tailored for specific operational requirements. All components at COTS and so are non-attributable to NSA.



(U) Concept of Operation

TS//SI//REL TO USA,FVEY) Room audio is picked up by the microphone and converted into an analog electrical signal. This signal is used to pulse position modulate (PPM) a square wave signal running at a pre-set frequency. This square wave is used to turn a FET (field effect transistor) on and off. When the unit is illuminated with a CW signal from a nearby radar unit, the illuminating signal is amplitude-modulated with the PPM square wave. This signal is re-radiated, where it is picked up by the radar, then processed to recover the room audio. Processing is currently performed by COTS equipment with FM demodulation capability (Rohde & Schwarz FSH-series portable spectrum analyzers, etc.) LOUDAUTO is part of the ANGRYNEIGHBOR family of radar retro-reflectors.

Unit Cost: $30

Status: End processing still in development

POC: [redacted], S32243, [redacted], [redacted]@nsa.ic.gov

Derived From: NSA/CSSM 1-52
Dated: 20070108
Declassify On: 20320108

Bonus

7521113399.txt
Please, dear God, classify ISPs as title II common carriers. Protect net neutrality.
The internet is a beautiful thing and should stay that way.

Page 1

May 5, 2014 comment to the FCC by Thomas Horton, who pretty much nails it...

(http://apps.fcc.gov/ecfs/document/view?id=7521113399)

End of Issue #121

Any Questions?

Editorial and Rants

George Washington's expression says it all...

The judge (Susan D. Wigenton) in Auernheimer's case was a female Black and the prosecutors were mostly Jewish. Auernheimer is basically a poor White boy from Arkansas who was arrested for accessing a public AT&T web server. So much for "White privilege..."

Open Letter to Federal Scum

by Andrew Auernheimer (weev)

Subject: "An open letter to members of the New Jersey District Court, FBI, and DOJ consisting of an invoice for services rendered."

To the Honorable Susan D. Wigenton, U.S. Attorney Paul J. Fishman, Assistant U.S. Attorney Zach Intrater, and FBI Special Agent Christian Schorle,

"Whether 'tis nobler in the mind to suffer the slings and arrows of outrageous fortune, or to take arms against a sea of troubles, and by opposing end them?" – Shakespeare

It has long been one of the fundamental pillars of our system of law that when one commits a crime against another, they are made to give restitution to their victims.

I have, over the course of 3 years, been made the victim of a criminal conspiracy by those in the federal government. This was a conspiracy of sedition and treason, perpetrated with violence by a limited number of federal agents to deprive me of my constitutional rights to a fair trial and unlawfully put me in prison. This is not a hallucination on my part. These claims were in fact verified by the Third Circuit Court of Appeals when they vacated the false judgement against me imposed by the court of Judge Susan D. Wigenton. Perhaps you haven't read the opinion of the appeals court exposing all of you as liars and seditionists yet. If so, here you go: https://www.eff.org/files/2014/04/11/weev.pdf

On January 18th, 2011 I was kidnapped at gunpoint by the U.S. Marshals from Fayetteville, Arkansas, the town where I was born, based off a criminal complaint based on complete falsehoods written by FBI Special Agent Christian Schorle. The complaint alleged I had broken into AT&T's servers (I hadn't, as confirmed by the appeals court which verified no evidence was presented that any of my accesses bypassed security restrictions) and that New Jersey was the jurisdiction because AT&T was headquartered there. In actuality, AT&T was headquartered at the time in Houston, Texas. This sort of blatant falsehood is verifiable by a simple Google search.

Thus I was taken from Arkansas, the nicest place I ever lived, and brought to Newark, New Jersey, a place worse than any of the many third world countries I have visited. I was held under bail conditions where the government refused to allow me to work in my industry, told me where I could live (I was not allowed to return to my birthplace of Arkansas where I lived at no expense, and instead forced to pay rent in New Jersey), and was subject to the indignity and expense of regular mandatory travel to the Newark courthouse to urinate in front of a federal employee. I was told where I could travel, and where and how I could sleep. My time and life was completely monopolized by the federal government during this period, again based off false statements from a lying piece of shit in the federal government.

I then spent a swath of the next years struggling to find an attorney because the overworked federal defender I was given told me to plea to false charges because even if I was innocent there was no way I'd win. I then struggled to get this attorney enough resources to fight the case while he was struggling to keep the lights in his office on.

Going to trial two years later, the United States Attorneys and FBI repeatedly perjured themselves in order to wrongfully convict me. FBI Special Agent Phillip Frigm claimed that the manufactured evidence was "secured" by MD5 signatures. This was factually wrong and perjurously asserted as true under oath – MD5 signatures do not work in the manner he implied. Assistant U.S. Attorney Michael Martinez claimed that I committed a crime because my use of the Internet was "not like going to ESPN and checking my favorite sports team's scores," and Assistant U.S. Attorney Zach Intrater claimed that I had committed a crime because I automated web requests with a script. This, of course, ignores the fact that the vast majority of web requests are programmatic and automated – total API requests and automated GET per year are approaching the quadrillions. Lie after lie after lie stacked up in open court on behalf of the agents of the government. If there was any integrity left in the justice system there would be special prosecutors appointed to charge you with the perjuries you committed.

Orchestrating this circus was the judge, Susan D. Wigenton, who not only ignored my constitutional right to a trial in a reasonable location but blatantly allowed manufactured evidence and perjury on the part of FBI and DOJ employees in her courtroom. The rights I have enumerated in the Constitution (and, in some cases, even The Declaration) were violated with near completion.

At sentencing, I made the following statement to Judge Wigenton:

"I don't come here today to ask for forgiveness. I'm here to tell this court, if it has any foresight at all, that it should be thinking about what it can do to make amends to me for the harm and the violence that has been inflicted upon my life."

It is time, now that the fraud and violence committed against me has been exposed by the appeals process, to begin making amends to me for the harm her court has done.

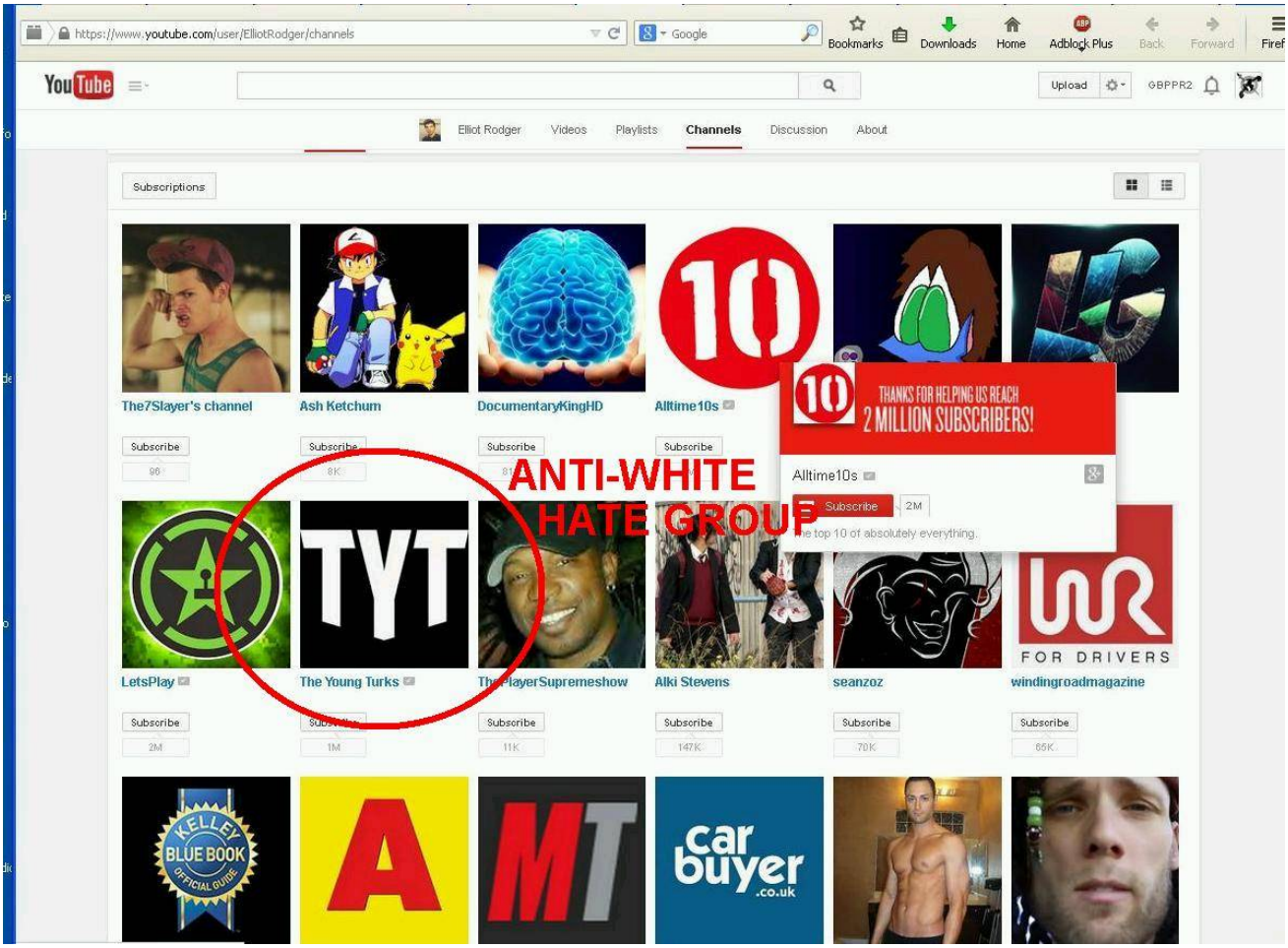
My current market–determined hourly rate is 1 Bitcoin an hour. I was taken from my childhood home at gunpoint on January 18th, 2011, and I was not allowed to freely exercise my liberties as a citizen until April 11th, 2014. That's 1179 days that you used my time that I am now billing you for (I gave you a discount by not including the last day). I am owed 28,296 Bitcoins. I do not accept United States dollars, as it is the preferred currency of criminal organizations such as the FBI, DOJ, ATF, and Federal Reserve and I do not assist criminal racketeering enterprises.

Know that all this wealth will be directed towards a good and charitable cause. I am building a series of memorial groves for the greatest patriots of our generation: Timothy McVeigh, Andrew Stack, and Marvin Heemeyer. You see, in the "Special Housing Unit," which is Bureau of Prisons codespeak for "solitary confinement" and "torture," I had enough time to think about the current state of federal government.

The federal government has declared war on We the People. I am but the latest casualty of the unjust and seditious war being waged against honest Americans and defenders of the Constitution. At Waco the FBI directed the murder of 76 men, women, and children. At Ruby Ridge the FBI murdered both a 14–year–old boy and a woman cradling her infant child. All federal agents are, in fact, murderous thugs and seditious terrorists. Sedition is the charge for crimes which undermine the Constitution with violence. I can assure you that violence was used against me, and the Third Circuit Court of Appeals has already verified that the case against me undermined the Constitution.

28,296 Bitcoins. This is my invoice. It will only come once. As government criminality continues to be exposed on a daily basis, there is an urgent question which our government must answer: by what civil and peaceful means can those of us harmed by government perjury, fraud, and violence be compensated for the losses we have experienced? My Bitcoin address: `1JTeYcsx37XTq5NRgjepAHDqaLHTZUL88a`

Now the government's answer, or lack of it, will be permanently preserved in the Bitcoin block chain as a matter of public record. PAY ME MY MONEY, YOU LYING SUBHUMAN GARBAGE. You also should resign from your posts, as you've shown yourselves to be collective disgraces to rule of law and enemies of the United States Constitution. Those of us who actually love this country should take your places.



Screenshot of Elliot Rodger's YouTube Subscribed Channels Page

Elliot Rodger was the 22–year–old of mixed race who wanted to killed "blondes" (i.e. White females) for shunning him.

The only political channel Rodger's subscribed to was "The Young Turks," who are a bunch of crypto–Jewish Marxists/Bolsheviks who spew anti–White/anti–Western/anti–Christian/anti–male propaganda.

Their name (The Young Turks) comes from the mass murder of over 1.5 million Armenian Christians, as well as 250,000 Greek and Assyrian Christians in 1915. Nice, huh?

Yeah... Don't count on the media covering any of this...

Change!