

"The American Psychological Association says you can't change your sexual orientation, and trying to do so can cause harm.

### http://www.cnn.com/2009/HEALTH/08/05/gay.to.straight/index.html

No doubt the religious right will object (again) loudly and strenuously. Just as they've always objected to hard facts, logic and reason that conflicts with their religious dogma. Funny how often their god feels just as they do about stuff like this."

---- August 5, 2010 LiveJournal blog post by Phil Karn, KA9Q. This anti-science nutjob actually believes two males can make a baby! I believe "hard facts, logic, and reason" would prove this to be incorrect. LOL!

Phil Karn is the kind of anti-evolution kook you would have supported if you've ever sent money to organizations like AMSAT or TAPR – or own Qualcomm stock. You'd be better off sending that money to me – I know where babies come from! Also note how he can't use a Gentile news source to back up his "facts." What a complete tool... (ka9q.livejournal.com/4502.html)

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BRAND-REX COMPANY TELTRONICS DIVISION TR-400 TOLL RESTRICTOR

TSP #231-301 ISSUE 1, DECEMBER 1975

TR-400 TOLL RESTRICTOR

#### 1. GENERAL

1.01 This manual provides the specifications, operation, installation and maintenance information for the Teltronics TR-400 Toll Restrictor.

#### 2. PURPOSE

2.01 The TR-400 Toll Restrictor provides a means of restricting unauthorized long distance calls from a rotary dial telephone operating on a loop start or ground start line at the C.O. or customer's premises.

2.02 When an unauthorized toll call is attempted, the TR-400 will momentarily disconnect the caller and return dial tone or will divert the calling party to a recorded message until the calling party hangs up.

2.03 The TR-400 may be used with 9th level trunks which are capable of restricting or diverting outgoing calls by observing a reversed polarity on the pair from the central office.

3. APPLICATIONS

3.01 Located at the subscriber premises, the TR-400 can be used with any standard subscriber rotary dial telephone.

3.02 The TR-400 will function with any central office provided the C.O. does not respond to a small leakage current from Tip to Ring as defined by the DC impedence in 4.02.

3.03 For key telephone applications, the TR-400 may be used with any standard key system produced by the following manufacturers:

- Western Electric
- Automatic Electric Stromberg-Carlson
- ITT

Northern Electric

3.04 Use with other American or foreign key systems depends on their equivalency to the systems mentioned in paragraph 3.03.

3.05 Restriction in key systems can either be by line or by selected stations.

3.06 The TR-400 can also be used in certain PBX applications. By placing the TR-400 on a standard loop start or ground start trunk, all outgoing calls may be limited to local traffic.

3.07 The TR-400 provides connections for the installation of a remote disable switch which allows the authorized use of a restricted telephone or line.

3.08 The TR-400 unit must be used with a Distribution Interface Network assembly (DIN) when operating as a Toll Call Diverter. The DIN unit or equivalent provides audio talk signal superimposed on -48 VDC battery while maintaining interline isolation for the diverted line.

SPECIFICATIONS

4.01 Power Requirements

- Input Voltage: -24 VDC or -48 VDC ± 20%
- Current: 10 milliamps idle; 20 milliamps when line or trunk in service; 45 milliamps during restriction pulse or during diversion interval

#### 4.02 Signal

4

- Standby Loop Current: Less than 1 milliamp
- Insertion Loss: Less than 1 dB
- Impedance: AC 50K, DC 50K ohms
- Min. and Max. Loop: Any loop suitable for transmission

4.03 Functional

- Disable Switch Loop Limits: 50 ohms
- Environment: 32°F to 120°F (0°C to 50°C)
- 0-95% Relative Humidity
- Restriction Time: 1.5 seconds
- Divert Time: Until calling party hangs up
- Size: 6" x 5-1/2" x 1-1/4"

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- 15.24 cm x 13.97 cm x 3.175 cm
- Weight: 5 ozs. (140 gms)
- 5. OPERATION

5.01 Restriction is accomplished at the instant that a restricted sequence of digits is sensed. Restriction is provided in two alternative ways: (1) by disconnecting the subscriber from the C.O. for a period sufficient to return C.O. dial tone after which the restrictor automatically recon-

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nects the subscriber to the phone line; or (2) by diverting the subscriber to a second line pair for a recorded message. Once diverted, the diversion will continue until the subscriber hangs up.

5.02 Access to the toll operator can be restricted when a zero is dialed in the first, second, third or fourth dial pull (programmable). Miniature switches are available to enable the user to select zero restriction in the first two dial pulls (i.e., when a zero is a valid office code in the third position) or the user can program for zero restriction in the first three dial pulls (i.e., for use in central offices having no valid office codes with a zero in the third position). See programming – Appendix A.

5.03 DDD restriction is accomplished by limiting a valid number to seven or eight digits. Therefore, all DDD numbers which have more than seven digits are restricted at the beginning of the eighth or ninth dialed digit (programmable). In areas where a seven digit number could be a toll number, three digit office codes can be denied by using program options. See Appendix A.

5.04 Absorbed digit restriction provides the ability to restrict a dialed number containing digits which a central office may be programmed to absorb. Normally, an absorbed digit is the first digit of the seven digit number. The central office may be programmed to absorb the first digit once or repeatedly depending upon many economic factors and/or C.O. capacity. When the C.O. is programmed to absorb digits, the toll operator can be accessed by dialing a zero after the absorbed digit. This restrictor does not allow this combination and is therefore universally adaptable.

5.05 Miniature switches on the TR-400 determine the value of the absorbed digit. Any absorbed digit value (values) between 1 and 0 can be selected to cause restriction after being dialed a programmable number of times (2 or 3) in the first two or three dial pulls.

5.06 The TR-400 is programmable to restrict any one or combination of digits in the first three dial pulls. Each digit rank (dial pull) is independently programmable.

5.07 The TR-400 is programmable to allow dial "9" access before the restriction program is enabled. This is valuable when the restrictor is used behind a PBX, as on a phone in the restaurant of a hotel or on the loading dock of a factory.

 $5.08\,$  To prevent unauthorized calls due to manipulation of the normal dialing procedure, the TR-400 contains cir-

cuitry which will prevent dialing too slow and dialing too soon after off-hook. When the TR-400 is connected as a Toll Restrictor, it will give an on-hook reset, which is a restrict disconnect cycle, when the phone is on-hook for more than 200 milliseconds (programmable).

5.09 Programming in the field is accomplished in accordance with the procedure given in Section 9 and Appendix A.

5.10 Certain central offices are designed to reset the switching equipment and return dial tone any time a subscriber delays dialing between dial pulls for a period equal to or greater than 15 seconds. To prevent fraudulent calls in this situation the TR-400 does not allow a zero to be dialed when the switch train times-out and dial tone returns. This is accomplished by the interdigit timer on the TR-400 that causes a restrict or divert cycle to be exercised when dialing of a digit is delayed for more than 10 seconds from the preceding dial pull.

5.11 It is possible to disable the TR-400 by connecting an on/off type switch to the disable input. When the switch is closed the TR-400 is disabled and toll calls can be made. Limitations on the disable switch are given in 4.03. However, this limit may be extended by use of an external loop relay and line pair.

5.12 The TR-400 is also disabled when power is removed. This in no way interferes with normal telephone usage.

5.13 Two service lights are provided on the TR-400 unit to indicate operating condition of the trunk or line. One light indicates that the trunk is in service, and the second that a diversion or restriction is in process.

6. CALIBRATION

6.01 There is no calibration associated with the TR-400.

7. CIRCUIT DESCRIPTION

7.01 Circuit description and schematic available from Teltronics on request. For address, see Section 11.

8. INSTALLATION INSTRUCTIONS

8.01 Installation Precautions

Read this section completely before beginning installation.

Do not install or remove P.C. Board while power is on.

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Prevent any wires carrying voltage (power or telephone lines) from coming in contact with P.C. Board except all allowable card edge fingers.

Verify all connections before installing P.C. Board.

Field modification is *not* recommended as this will void the warranty.

Verify that malfunctions are not due to installation error, application or telephone equipment before notifying Teltronics.

The following wiring procedure is suggested to minimize the possibility of creating an electrical environment that might be susceptible to longitudinal disturbances resulting in noisy telephone service.

- (a) Never route C.O. Tip and Ring leads separately. The C.O. Tip and Ring leads must be routed to the Toll Restrictor by way of twisted cable pair. It is also recommended that the C.O. Tip and Ring conductors extending from the Toll Restrictor be of equal length.
- (b) Exercise the same precautions routing instrument Tip and Ring leads as taken with C.O. Tip and Ring leads.

8.02 This section provides the installation instructions for the TR-400 functioning as a Toll Restrictor or a Toll Call Diverter in the following configurations.

TRB-4: Single unit wall mounted lockable enclosure.

Wescom or equivalent enclosure.

- (a) TRB-4/TR-400 Installation as Toll Restrictor at Customer Premises:
- Step 1. Unlock and open access door.

Step 2. Lift rear edge of card to detach from nylon snap lock.

Step 3. Remove P.C. Board.

Step 4. Mount TRB-4 to wall or appropriate mounting surface, using the four screws provided or a suitable substitute.

Step 5. Introduce power (-24V or -48V) C.O. lines, instrument lines, and remote disable (if appropriate) through grommet provided. Make connections as shown in Figure 1.

Step 6. Place Toll Restrictor switch in the *normal* position.

Step 7. Program the TR-400 for desired restriction (see Appendix A).

Step 8. Reinsert the P.C. Board into the wired TRB-4 Box, making sure to reengage the nylon snap lock. Turn on power and check for proper operation including normal phone usage when Restrictor is disabled. Should disable capability be selected, verify this function.

Step 9. Close access door and lock TRB-4.

Figure 2, an internal wiring diagram of the TRB-4 unit, is given for information only.

(b) TRB-4/TR-400 installation as Toll Restrictor and Toll Call Diverter at Customer Premises:

Step 1. Unlock and open access door.

Step 2. Lift rear edge of P.C. Board to detach from nylon snap lock.

Step 3. Remove P.C. Board.

Step 4. Mount TRB-4 to wall or appropriate mounting surface using the four screws provided or a suitable substitute.

Step 5. Introduce power (-24V or -48V), C.O. Tip and Ring leads, instrument Tip and Ring leads, diverted line Tip and Ring leads, and remote disable leads (if appropriate) through grommet provided. Make connections shown in Figure 1. The audio input from the diverted line must be superimposed on a -48VDC line (see Figure 1A for a typical circuit configuration).

Step 6. If recorder start control is desired, wire TB2 pins 9, 10 and 11 of Figure 1 as required.

Step 7. Place toll restrictor switch in the normal position.

Step 8. Program the TR-400 for desired restriction (see Appendix A).

Step 9. Reinsert the P.C. Board into the wired TRB-4 box making sure to reengage the nylon snap lock. Turn on power and check for proper operation, including normal phone operation when Toll Restrictor is disabled. Should remote disable capability be selected, verify this function.

Step 10. Close access door and lock TRB-4.

Step 11. Refer to Figure 2 for internal wiring diagram of the TRB-4 unit.

(c) TR-400 Installation as a Toll Restrictor within a Wescom Model 400 Enclosure or Equivalent. This installation is appropriate for PABX or Central Office application.

Step 1. Mount the suitable enclosure in key system, PABX or Central Office rack.

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Step 2. For key system, connect C.O. lines, instrument lines, power (-24V or -48V), ground, and remote disable (if appropriate) as shown in Figure 3. Note jumper wire requirements. For C.O. applications, instrument lines become subscriber lines.

Step 3. Insert P.C. Board polarizing key in connector between pins 19 and 21.

Step 4. Program the TR-400 for desired restriction (see Appendix A).

Step 5. Insert the P.C. Board into the card cage assuring that it is completely engaged.

Step 6. Apply power and verify function including remote disable if selected.

Figure 4 shows a typical wiring diagram for eleven TR-400 units operating as Toll Restrictors in 11 cell enclosure.

(d) TR-400 Installation as a Toll Call Diverter within a Wescom Model 400 Enclosure or Equivalent. This installation is appropriate for Key System, PABX or Central Office application.

Step 1. Mount the suitable enclosure in Key System, PABX or Central Office Rack.

Step 2. Introduce power (-24V or -48V), C.O. Tip and Ring leads, instrument Tip and Ring leads, diverted line Tip and Ring leads and remote disable leads, (if appropriate) as shown in Figure 3. For C.O. applications, instrument lines become subscriber lines and C.O. lines may become trunk lines. The audio input from the diverted line must be supplied by way of Teltronics DIN circuitry or equivalent where the audio is superimposed on -48VDC while maintaining interline isolation. Refer to Teltronics document TSP #237-301.

Step 3. If recorder start control is desired make appropriate connections to terminal 1, 3 and 5 of Figure 3 as required.

Step 4. Insert P.C. Board polarizing key in connector between pins 19 and 21.

Step 5. Program the TR-400 for desired restriction (see Appendix A).

Step 6. Insert the P.C. Board into the card cage assuring that it is completely engaged.

Step 7. Apply power and verify function, including remote disable if selected.

Figure 5 depicts a typical wiring diagram for 10 TR-400 units operating as toll diverters with DIN connections in 11 cell enclosure.

8.03 When the TR-400 is to function on 9th level trunks where a candidate for restriction or diversion is indicated by a reversed line polarity make wiring connections as shown in Figure 6.

9. PROGRAMMING

9.01 TR-400 Programming

Refer to Appendix A for list of pertinent questions which must be answered in order to insure proper programming of the TR-400. Programming must be completed before the TR-400 is inserted into its card edge electrical connector. *Caution – if possible remove power before inserting or removing TR-400.* Since various restriction requirements are interrelated it is suggested that all programming be determined prior to performing any program operations.

9.02 The C-MOS logic on the toll restrictor can be damaged by static electricity from the hands of the user. *Minimize handling and exercise care while programming the device.* 

10. MAINTENANCE

10.01 Maintenance is limited to checking contacts at the card edge connector and verifying that the unit is properly programmed.

10.02 Units with component failure will be repaired in accordance with the Teltronics warranty and customer repair services procedures.

11. ORDERING INFORMATION

11.01 The following lists the Teltronics ordering code for those items mentioned in this manual:

TR-400 – Toll Restrictor

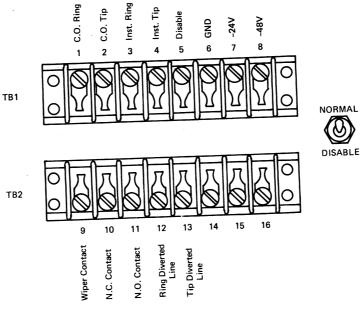
TRB-4 - Single Unit Lockable Enclosure

- TRR-6 Wescom Model 400 Type Card Enclosure (available up to 11 cells in 19" mounting or 13 cells in 23" mounting)
- TSP #231-302 TR-400 Circuit Description and Schematic

11.02 Direct all inquiries concerning field problems, applications, ordering and delivery information to:

Brand-Rex Company Teltronics Division 5105 New Tampa Highway Lakeland, Florida 33801 813/688-6831

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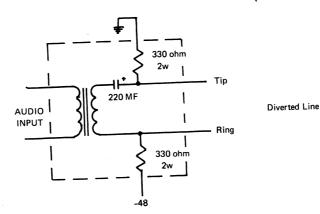
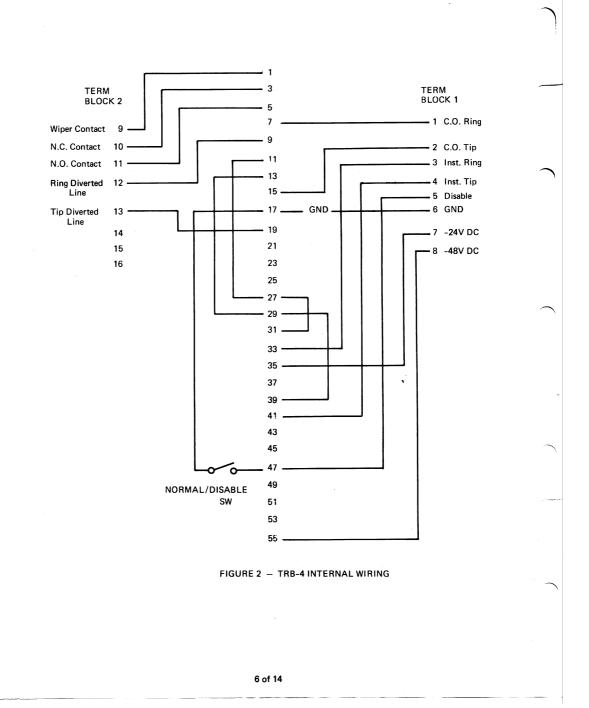


FIGURE 1A - DIVERTED LINE CIRCUIT CONFIGURATION

2

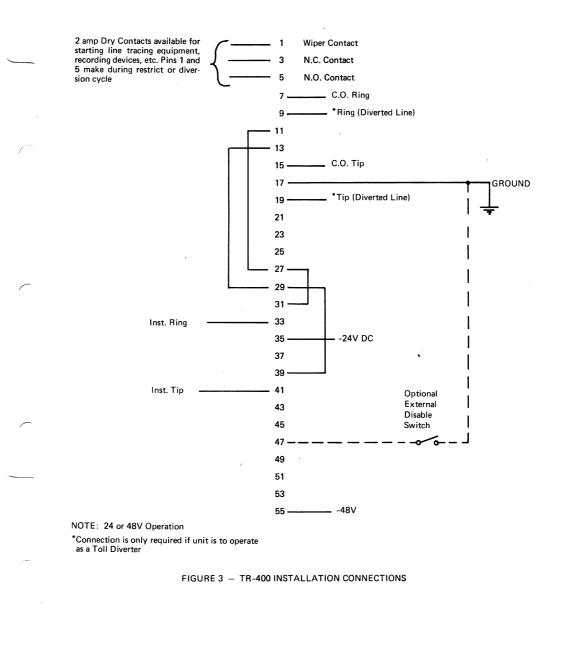
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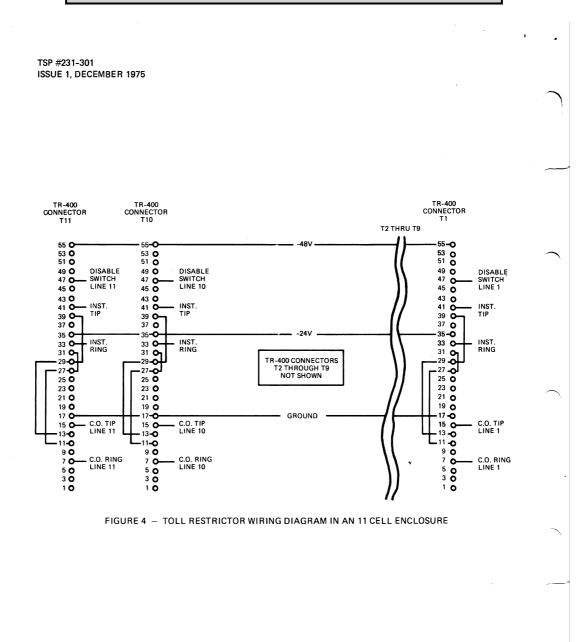


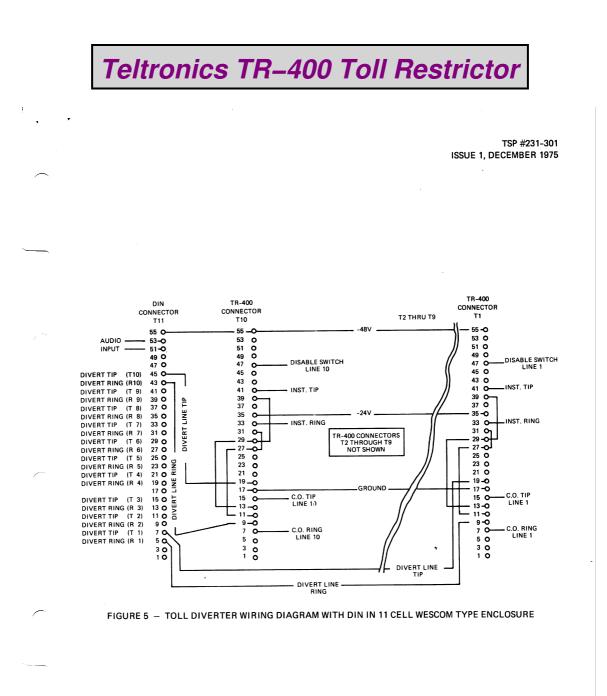
. .

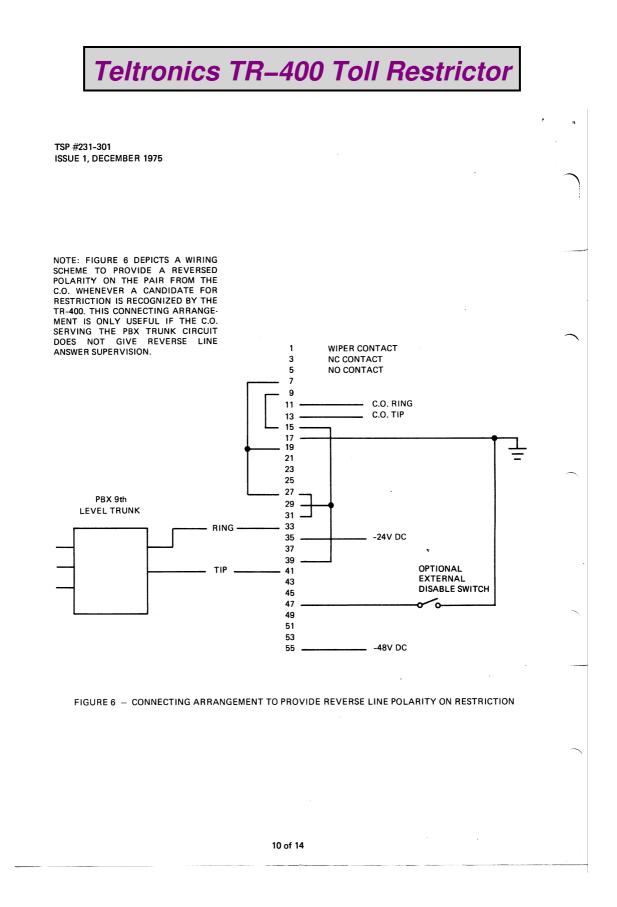
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#### APPENDIX A

1. TR-400 Programming Considerations

1.01 Place all 50 miniature switches in the open position. The location of the 50 miniature switches are shown in Figure A-1.

1.02 Is call to be restricted or diverted? See 2.01.

*Restriction:* Close switch PR #6 and operate system without DIN (Distribution Interface Network).

Diversion: System must be operated with DIN (see 2.01 for DIN board function information). If there is switching equipment (PBX, PABX, SXS OFFICE, etc.) between TR-400 and restricted stations, open switch PR #6. If there is no switching equipment between TR-400 and restricted stations close switch PR #6 (see 2.01 and 2.02). If the TR-400 is to give a start operate command to the recorder during the diversion period (see 2.01).

1.03 Does dial tone occur quickly or slowly after requesting service (off-hook)?

Dial tone occurs within 750 milliseconds from coming offhook – No consideration required.

Dial tone requires longer than 750 milliseconds to occur after requesting service - Cut jumper wire D-C.

1.04 Is the TR-400 unit to be installed on a line serviced by an ESS type central office where open line intervals occur in excess of 200 milliseconds?

Yes - Cut jumper wire A-B.

No - No consideration required.

1.05 Is the TR-400 unit to be installed where the Tip and Ring open line voltage is -24 volts?

Yes - Close switch PR #5.

No - No consideration required.

1.06 Does system require dial access to outside trunks?

Dial 9 access - Close switch PR #4 (see 2.03).

Other digit access (see 2.04).

1.07 Is operator restriction desired?

See 2.05 for various ways to restrict operator access.

1.08 Is DDD restriction desired? Use one or more of the following:

Restrict 1 in first rank by closing 1st rank switch #1.

Restrict maximum digits by closing switch PR #0 for restriction on the 9th dial pull or PR #9 for restriction on the 8th dial pull.

See 2.06 for additional details.

1.09 Is DDD a seven digit number?

See 2.07

1.10 Is information a toll call? Is it to be restricted?

See 2.02

1.11 Is information service a toll call? Is it to be restricted? See 2.08

2. Operation

2.01 Is call to be restricted or diverted?

The TR-400 unit processes all toll calls by diverting the phone instrument away from the C.O. line to an alternate line (connection optional).

If battery feed is present on the alternate line, loop current flows. The TR-400 maintains this diversion until hang up. if no battery feed connections are made to the diverted line input, no loop current flows during the diversion cycle and the TR-400 unit will switch the phone line back to the C.O. line after being diverted for 1.5 seconds. The 1.5 second time interval allows the C.O. switch train to reset. Dial tone will automatically occur after reconnection to the C.O. line.

(a) Diversion.

When toll call diversion rather than call restriction is desired, the diverted call must land on a line pair with battery feed. The D.C. loop current to the TR-400 must be maintained during the recording in order to sense when the subscriber hangs up. Otherwise, there would be no reliable way to determine when to end the diversion time and reset the restrictor for the next call.

Switch PR #6 should be in the closed position unless the TR-400 unit is operating on trunk lines where the phone instrument line accesses the restricted trunk line through some switching means (see 2.02). The divert relay on the TR-400 remains energized until the calling party abandons the call. A set of dry contacts from the divert relay are extended to wiring

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terminals for recorder start facility. See Figures 1 and 3.

Audio input superimposed on battery feed should be supplied by a Teltronics DIN (Distribution Interface Network) board or equivalent. The DIN board provides for 11 separate audio output lines with -48V battery feed from one single audio source and maintains greater than 40 dB isolation between adjacent lines. Refer to Teltronics document TSP #237-301 for further details.

(b) Restriction.

The connections for toll restriction operation are the same as the connections for toll call diversion except that no battery feed inputs are supplied to the diverted line terminals.

To restrict a call the TR-400 opens both conductors of the phone line by diverting the instrument line pair to the divert line. Since no battery feed is present on the divert line, no loop current flows to maintain the diversion. Therefore, the diversion relay deenergizes after 1.5 seconds.

When the connection to the C.O. line is reestablished by the Toll Restrictor, the central office recognizes a request for service and gives dial tone to the calling party.

*Note:* PR #6 switch must always be in the closed position for operation as a restrictor, regardless of where it is installed in the switch train.

(c) Line Polarity Reversal.

On 9th level access trunks it is sometimes desirable to indicate only to the PABX equipment that the call is a candidate for restriction or diversion. In such cases the TR-400 gives a reverse line indication and maintains this condition until termination of the call. In such applications the TR-400 neither restricts nor diverts. See 8.03 for further details.

2.02 Switch PR #6 determines the minimum diversion cycle time for the TR-400 unit whether it is to function as a restrictor or diverter. *Program switch PR #6 must be in the closed position,* whether the unit is to function as a Toll Restrictor or Toll Call Diverter. The only exception is where the TR-400 is to operate as a Toll Call Diverter on a trunk circuit providing service to more than one subscriber line, where the connection between the subscriber line and trunk is by means of a PBX, SXS OFFICE, etc. In this situation open switch PR #6.

2.03 When dial 9 access to trunk circuits is programmed on the TR-400, dialing a 9 in the first dial pull causes the TR-400 to consider the next succeeding dial pull as the

first dial pull. Therefore, all other programming of the TR-400 remains the same.

2.04 When a digit value other than 9 is used to access outside trunks, the TR-400 programming must be shifted right one digit.

*Caution:* Be certain that restriction plan does not interfere with internal PBX calls.

2.05 Operator access can be restricted in several ways depending upon absorbed digit requirements, office codes, etc.

- (a) The simplest way to restrict operator access is to program for a 0 in the first rank by closing 1st rank switch #0.
- (b) If the serving C.O. has absorbed digits, restriction of the operator is also required after one or more absorbed digits are dialed. Close the appropriate absorbed digit switches which corresponds to the digit values the C.O. will absorb. See 5.04 and 5.05 details on absorbed digit programming.
- (c) Program for a 0 in the second and/or third rank by closing 2nd and 3rd rank switches #0. This is acceptable only if no desired office codes have a zero in the second and/or third rank.

2.06 If DDD restriction is required it can be implemented in two ways.

- By restricting a 1 in the first rank.
- (2) By restricting the 8th or 9th dial pull.

If DDD restriction is not required then neither the 8th or 9th digit restriction should be programmed.

2.07 In those cases where long distance calls can be placed by dialing only seven digits, rank programming is used to deny office codes. This technique may result in restriction of office codes other than those anticipated. Office codes to be permitted should be listed and the list summarized by rank such that a list of required digits results. This list of digits cannot be used in rank programming (see Table 1).

2.08 For purposes of illustration 4-1-1 is assumed to be the information number. Several approaches may be used to restrict 4-1-1.

(a) If absorbed digits are not used in the C.O. it is possible to program the TR-400 for 4 and 1 in the absorbed digit program. If the restrictor is programmed to look for a 4 and 1 in each of the first three dial pulls and restrict on the presence of the third digit, then 4-1-1 would be denied.

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*Caution:* Be certain that there are no digit combinations employing either a 4 or a 1 in each of the first three dial pulls as any combination of three 4's and 1's will be denied in the first three dial pulls.

(b) Individual rank programming may be used to restrict 4-1-1 by programming 4 in the first rank if no allowed office codes in the local serving area have a 4 in the first rank. Restriction occurs immediately when a 4 is dialed in the first pull.

(c) If the user needs access to 4 in the first dial pull then a "1" may be programmed in the second rank. Restriction will occur immediately after a 1 is dialed in the second rank. This method of programming could cause a conflict if 3-1-1 is to be allowed for repair service, or 9-1-1 is required for emergency.

#### 2.09 Loop Start Line

The TR-400 operates properly on loop start lines when the loop current sensing optical coupler is sensing either Tip or Ring current. Figures 1 and 2 show connections suitable for both loop start and ground start. The connections shown in Figures 1 and 3 place the internal loop current sensing optical coupler in the Tip side of the line and the line impedance balancing network in the Ring side of the line.

#### 2.10 Ground Start Line

On ground start lines the loop current sensing optical coupler must be connected in the tip side of the line. Figures 2 and 4 show connections suitable for both loop start and ground start.

#### 2.11 C.O. Applications

When the Toll Restrictor is applied in the C.O. or near the battery feed coils it is advisable to keep the Tip and Ring impedance balanced as well as possible to minimize noise. A loop balancing network between card pins 31 and 33 is provided for this purpose. It can be connected in series with the telephone line conductor not being used for loop current sensing. Figures 1 and 3 show connections suitable for both central office and customer premises installations of the TR-400.

2.12 For applications of the TR-400 other than those decribed herein, consult Teltronics.

#### TABLE 1 - HYPOTHETICAL EXAMPLE

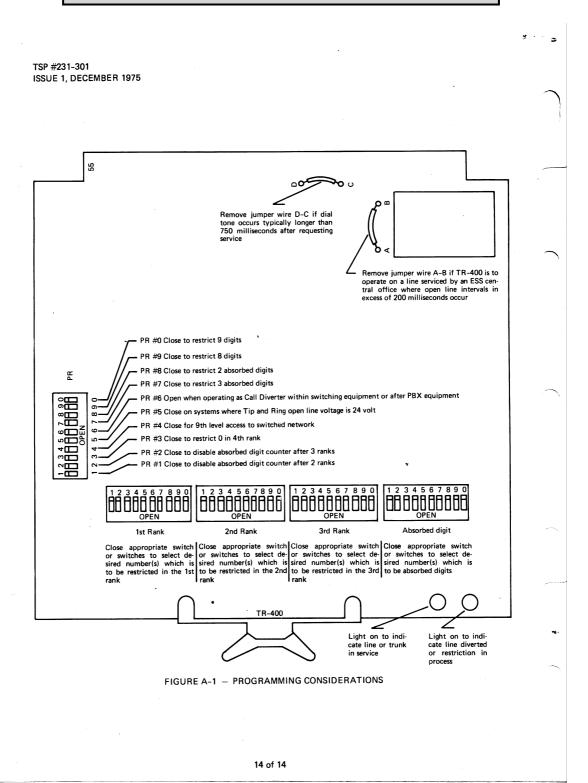
The followir	g office codes are not	to be restricted:
646	,	
688		`
682	Rank 1	2, 6, Must not be restricted
683	Rank 2	4, 8, 9, Must not be restricted
294	Rank 3	2, 3, 4, 6, 8, Must not be restricted

The following office	e codes are to be restricted:
533	Restrict 5 in first rank or 3 in second
297	Restrict 7 in third rank
255	Restrict 5 in second or third rank

#### Notes:

In the 533 restriction, 3 could not be restricted in third rank because office code 683 above is *not* to be restricted.

In 294 office code, 2 and 9 cannot be restricted because the 294 office code is *not* to be restricted.



## Table Name

Enhanced 911 Direct Access to ALI Controller

#### Functional Description of Table E911ALI

Table E911ALI contains one entry for each Public Safety Answering Point (PSAP) in the tandem that requires the Automatic Location Identification (ALI) interface. The key to this table is the PSAP name (field PSAPNAME), as defined in table E911PSAP.

This table implements an interface between a DMS–100 switch that serves as an E911 tandem with external 911 equipment, and a previous connection to an Automatic Number Identification (ANI) concentrator. This interface is asynchronous, with ASCII data links located between the Multi–Protocol Controller (MPC) card on the DMS switch and ALI data links connected to an ALI controller. This interface was originally designed specifically for the AT&T ALI controller, which is typically connected to the AT&T Data Management System. The "E911 Direct Access to ALI Database" and "E911 Wireless Interface" features have expanded the interface to support other ALI controllers.

#### **Datafill Sequence & Size**

The following tables must be datafilled after table E911ALI:

- E911PSAP (Enhanced 911 Public Safety Answering Point)
- MPCLSET (Multi–Protocol Controller Linkset)

The number of entries in table E911ALI is the number of PSAPs that require ALI service. The table size is 0 to 7,000 tuples.

### <u>Datafill</u>

The following table describes datafill for table E911ALI:

Table	E911ALI	Field	Descri	ptions
			200011	0010110

Field	Subfield	Entry	Explanation and Action
PSAPNAME		See Subfield	Public Safety Answering Point Name Key This field consists of subfield PSAPNAME. This is the key to the table.
	PSAPNAME	Alphanumeric (1 to 16 characters)	Public Safety Answering Point Name Enter the PSAP name. This entry must correspond to an entry in table E911PSAP.
PSAPNUM		0 to 999	Public Safety Answering Point Number Enter the number of the PSAP receiving ALI service. Individual positions are numbered within the PSAP. This value must be with datafill in the ALI system computer, and with the values entered when assigning the ALI option to individual lines.

IFTYPE	ATT911AS, OPN911AS, ENH911AS, WLS911	Interface Type Enter the type of interface to the ALI system computer. This value must correspond to the MPC application name entered in table MPCFASTA.
LSETIDX	0 to 15	Link Set Index This number corresponds to the number of the MPC linkset defined in table MPCLSET for use by the data links serving this PSAP. Each unique index specifies a unique instance of an ALI interface between the AT&T database and the ALI controller.

#### -End-

## Datafill Example

The following example MAP display shows sample datafill for table E911ALI.

PSAPNAME	PSAPNUM	IFTYPE	LSETIDX
POLICE	3	ATT911AS	0
FIRE	22	WLS911	1

Nortel DMS-100 Multi-Protocol Controller Login Table (MPCLOGIN)

## Table Name

Multi-Protocol Controller Login Table

### **Functional Description of Table MPCLOGIN**

Table MPCLINK stores the screening information to determine if the Multi–Protocol Controller (MPC) card accepts incoming calls. The MPC accepts incoming calls for the MAP login.

### **Datafill Sequence and Meaning**

You do not have to enter data in other tables before you enter data in table MPCLOGIN.

Enter data in tables MPC and MPCLINK before you enter data in table MPCLOGIN. The table control software does not enforce the requirement of data entry in table MPC and MPCLINK before data entry in table MPCLOGIN. You cannot access table MPCLOGIN unless you enter hardware in tables MPCLINK and MPC.

Changes to table MPCLOGIN do not affect users logged in when the changes occur. For example, a tuple can change in table MPCLOGIN. This change does not terminate the login session for the user that the tuple changes for. The changes occur at the next login.

The system allocates memory for 64 tuples in table MPCLOGIN. The table size is 0 to 64 tuples.

## **Datafill**

The following table describes datafill for table MPCLOGIN:

able MPCLOGIN Field Descriptions	Table MPCLOGIN Field Descriptions	

Field	Subfield	-	Explanation and Action
INDEX		0 to 63	MPCLOGIN Index Enter the number for the index in table MPCLOGIN. The index number is only for MPCLOGIN. This number can appear once as a table index.
MANDL		See Subfields	MPCLINK Index This field contains subfields MPCNO and LINKNO.
	MPCNO	0 to 255	Multi-Protocol Controller Number Enter the MPC card number to log in to the MAP. This value must be a correct entry in table MPC.
	LINKNO	0 to 3	Multi-Protocol Controller Link Number Enter the MPC link number to log in to the MAP. This value must be a correct entry in table MPCLINK.

CLINGDNA		See Subfields	Calling Data Network Address This field contains subfields MPCMAPDNA and PROTCLID.
	MPCMAPDNA	0 to 9 (1 to 15 digits)	MPC MAP Data Network Address Enter a MPC MAP calling data network address assigned to the MPC card. Enter the link for MAP logins. If network addressing is not in use, enter "\$" to mee the requirements of the table editor.
	PROTCLID	0 to F (1 to 8 characters)	Protocol Identifier Enter the protocol identifier of the incoming call that uses the MPC for MAP login. This protocol identifier checks against a user logging on. The check determines if the user can use a MAP login If protocol identification is not in use, enter "\$" to meet the requirements of the table editor.
USERDATA		See Subfield	MPCLOGIN User Data This field contains subfield HEXASCII.
	HEXASCII	ASCII, HEX, or NONE	Hexadecimal ASCII Enter the field required with a correct refinement for password security on the MPC login process. Each tuple in table MPCLOGIN can only have one entry and refinement.
			Enter "ASCII" for ASCII digits. Enter data in refinement ASCIICHRS.
			Enter "HEX" for hexadecimal digits. Enter data in refinement HEXDIGITS.
			Enter "NONE" if password security is not a requirement. Additional datafill is not a requirement.
	ASCIICHRS	Alphanumeric (1 to 12 characters)	ASCII Character Password String If the entry in field USERDATA is ASCII, enter data in this refinement. Enter an ASCII character password for this login circuit.
	HEXDIGITS	0 to F (1 to 24 characters)	Hex Digit Password String If the entry in field USERDATA is HEX, enter data in this refinement. Enter a hexadecimal character password for this login circuit. Additional data is not a requirement.

## Datafill Example

INDEX	MANDL	CLINGDNA	PROTCLID	USERDATA
0	22	555551212	12345678 HEX	ABCDEFABCDEF
1	23	55551212	\$	NONE
2	32	88880505	01000000 ASCII	PASSWORD
3	33	\$	\$	NONE

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

# 10.7 MHz FM Demodulator Circuit

## **Overview**

This is a simple add-on circuit to provide FM audio demodulation capabilities to a system with a 10.7 MHz IF. This circuit was designed primarily for use in the 1 GHz RF spectrum analyzer project which was documented in *GBPPR 'Zine* Issue #80, but it can be easily adapted for other uses. The circuit as shown and documented here has no squelch circuit, which simplifies construction greatly, but it's not really that useful for scanning radio applications. It just sometimes handy to be able to listen to a signal which is displayed on the spectrum analyzer.

The FM demodulator will be based around the common Motorola MC3361 narrowband FM IF chip. This IC is very common in older 49 MHz baby monitors and analog cordless phones, so you'll want to check your local thrift store for those. The most critical component is the 10.245 MHz crystal used for the second local oscillator within the MC3361 itself. Custom crystals are very expensive but, fortunately, 10.245 MHz crystals are very common in older Regency and Bearcat scanning receivers. Keep an eye out for those old "crystaled" scanners or the ones with the vacuum fluorescent displays.

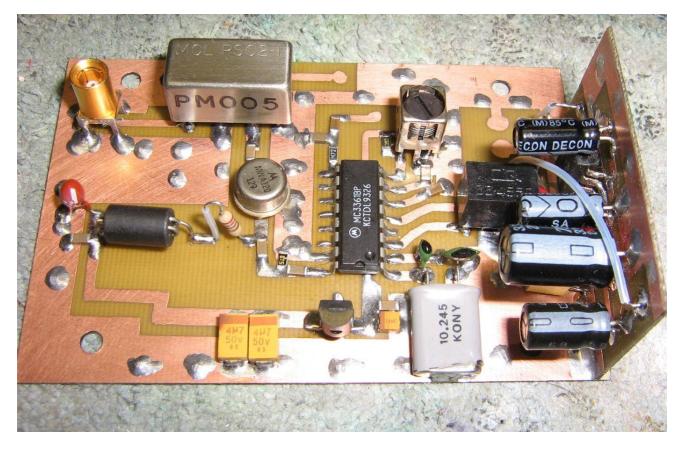
The MC3361 will also require a 455 kHz IF resolution filter (Murata or equivalent) and a 455 kHz quadrature coil, but these can be salvageable from the same radio circuit you found the MC3361 in.

The circuit shown here has an optional Mini–Circuits PSC–2–1 RF splitter on the 10.7 MHz IF input. This is to send one signal to the FM demodulator and the other signal to a front–panel connector for future use.

There is also a Motorola MWA120 hybrid RF amplifier driving the RF input to the MC3361. This RF amplifier is optional, but useful for increasing the sensitivity of the MC3361. Just about any MMIC amplifier will work. With only one MWA120 amplifier, the MC3361 still gave good audio quality with a RF input of only around –80 dBm.

It's also possible to do AM demodulation by tapping the 455 kHz IF signal *after* the 455 kHz resolution filter (pin 5 of the MC3361) with a simple transistor buffer and then sending that signal to a 1N34 diode detector. Take the raw output after the diode detector and send that to the audio amplifier.

## **Pictures & Construction Notes**



Overview of the FM demodulator circuit.

10.7 MHz IF input is on the upper-left. It passes through a Mini-Circuits PSC-2-1 splitter. One RF output from the PSC-2-1 is sent to an external BNC connector, and the other RF output is sent to a Motorola MWA120 RF amplifier.

The RF input (pin 16) to the MC3361 has an impedance of around 3,000 ohms. Instead of using a inductor/capacitor impedance matching network on this input, we'll just put a 51 ohm resistor parallel with it to ground. Pin 1 and 2 of the MC3361 are for the 10.245 MHz crystal and the little black box to the right is the 455 kHz IF resolution filter. This filter is equivalent to a Murata CFW455D and has 6 dB bandwidth of around 10 kHz.

There is a quadrature coil on pin 8 of the MC3361. This coil provides the 90 degree phase shift on the 455 kHz IF signal which the MC3361 requires for proper FM demodulation. You'll need to salvage this coil from the same circuit you got the MC3361 from, but document the coil's pin out very carefully. Only two pins are used and the rest are usually grounded. A 39 kohm resistor across the two pins of the quadrature coil "de–Qs" the tank circuit, which eases any off–frequency tuning condition.

You may need to slightly tune the quadrature coil if the audio output appears to be distorted at all. Just tweak the trimmer inductor (black thing on top of the quad coil) with a non-metallic object until the audio sounds decent.

The recovered audio output (pin 9) of the MC3361 is sent to a LM386 audio amplifier to drive a small speaker. There is no attempt at a squelch circuit or proper FM de–emphasis and filtering, so the audio quality may be a little "raw."



Alternate view.

The MC3361 will require a proper PC board ground plane and RF bypassing on the Vcc line.

The LM386 audio amplifier was built on a little vertical riser board.

The circuit is powered from a switched +12 VDC line with the MC3361 run off a separate 78L05 voltage regulator.



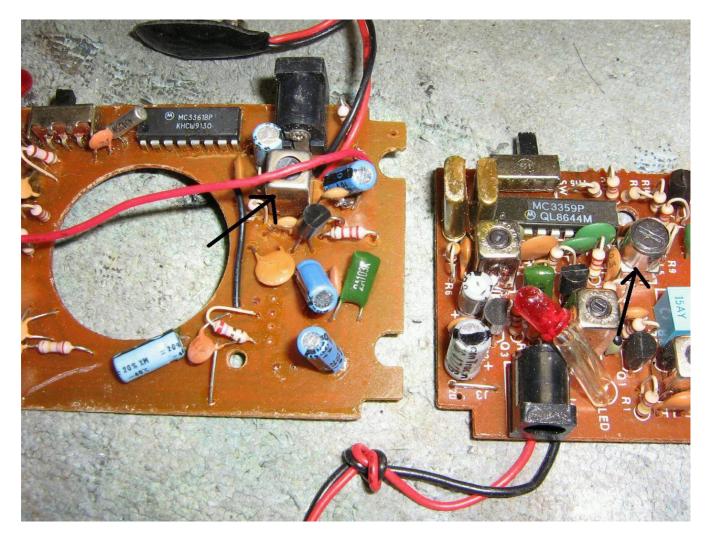
Installing the FM demodulation circuit in the sweep & sync case for the GBPPR 1 GHz RF Spectrum Analyzer project.

The coax cable on the left carries the 10.7 MHz IF input from the 10.7 MHz Sample output on the IF amplifier and log detector board.

The blue shielded wire is the audio output from the LM386 and goes to a panel–mounted RCA jack for the speaker.

The gray shielded wire goes to a 10 kohm volume potentiometer mounted on the front-panel. That potentiometer also includes a power switch which controls this entire circuit.

The white coax cable along the bottom–right is the second 10.7 MHz IF output from the Mini–Circuits PSC–2–1 splitter. It goes to a panel–mounted BNC jack.



A Motorola MC3361 and a MC3359 narrowband FM IF chip in the receiver section of some old 49 MHz baby monitors.

Older 49 MHz baby monitors and analog cordless phones are a good source for the Motorola MC3361, the 455 kHz quadrature coil, and a useable 455 kHz IF filter.

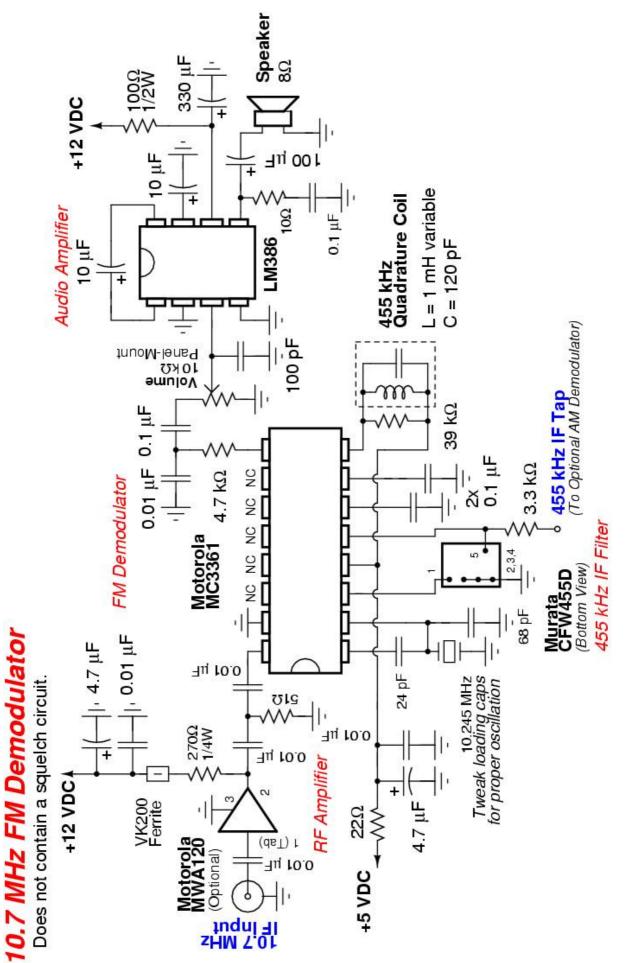
The quadrature coil is the silver box with the black screw top to the lower-right of the MC3361 and MC3359 in the above picture.



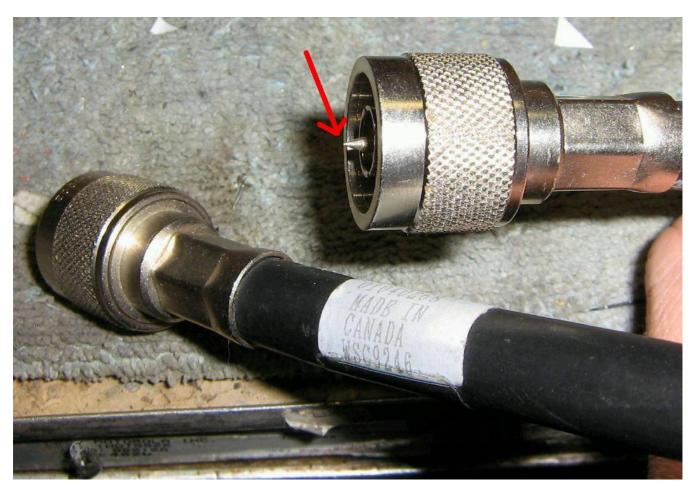
10.245 MHz 2nd local oscillator crystal in an old Regency radio scanner.

You'll need to salvage the 10.245 MHz crystal from older Bearcat or Regency scanners or even some older two–way radios. Be sure to make note of the loading capacitor values used on the crystal, as these will be critical for proper oscillation.

Look around at ham fests for these older scanners or radios. You can usually pick them up pretty cheap and it's not worthwhile to order a new 10.245 MHz crystal.







Brand new RF cable from Canada with two N connectors "installed."

# End of Issue #81



## Any Questions?

## **Editorial and Rants**

Author	Comment	In Response To
butch	2010/12/22 at 2:55 pm	Texans Revolt Against TS/
bsmith@yahoo.com	Fuck you, Fuck all you cocksuckers, you wont change anything. ride the bus, TSA is here to stay there doing a great job keeping americia safe.	(46) #

## Obongo's Department of Homeland Security Hard at Work

NetRange: CIDR: NetName: NetHandle: Parent: NetType: NameServer: NameServer: NameServer: NameServer: RegDate: Updated: Ref:	NET-216-0-0-0 Direct Assignment NS5.DHS.GOV NS6.DHS.GOV NS3.DHS.GOV
Address: City: StateProv:	DEPARTMENT OF HOMELAND SECURITY DHS-37 7681 BOSTON BLVD NDC I SPRINGFIELD VA 22153 US 2005-12-05 2008-05-22 http://whois.arin.net/rest/org/DHS-37



Buttons are obviously too difficult to understand for this loony Muslim from Kenya!

## What has America become?

#### Editor,

Has America become the land of the special interest and home of the double standard?

Lets see: if we lie to the Congress, it's a felony and if the congress lies to us its just politics; if we dislike a black person, we're racist and if a black dislikes whites, it's their 1st Amendment right; the government spends millions to rehabilitate criminals and they do almost nothing for the victims; in public schools you can teach that homosexuality is OK, but you better not use the word God in the process; you can kill an unborn child, but its wrong to execute a mass murderer; we don't burn books in America, we now rewrite them; we got rid of the communist and socialist threat by renaming them progressives; we are unable

to close our border with Mexico, but have no problem protecting the 38th parallel in Korea; if you protest against President Obama's policies you're a terrorist, but if you burned an American flag or George Bush in effigy it was your 1st Amendment right.

You can have pornography on TV or the internet, but you better not put a nativity scene in a public park during Christmas; we have eliminated all criminals in America, they are now called sick people; we can use a human fetus for medical research, but it's wrong to use an animal.

We take money from those who work hard for it and give it to those who don't want to work; we all support the Constitution, but only when it supports our political ideology; we still have freedom of speech, but only if we are being politically correct; parenting has been replaced with Ritalin and video games; the land of opportunity is now the land of hand outs; the similarity between Hurricane Katrina and the gulf oil spill is that neither president did anything to help.

And how do we handle a major crisis today? The government appoints a committee to determine who's at fault, then threatens them, passes a law, raises our taxes; tells us the problem is solved so they can get back to their reelection campaign.

What has happened to the land of the free and home of the brave?

> Ken Huber Tawas City

Ever wonder just how stupid the Eurosavages are? Look at their "media" headlines – then compare those to the truth! Unfortunately, the U.S. media isn't very different...



@antderosa He was a political radical & met Giffords once before in '07, asked her a question & he told me she was
"stupid & unintelligent"
<sup>13</sup> minutes ago Via TWitter for iPhone in reply to antderosa
Retweeted by 19 people





### The shooter was a loony left-wing liberal!

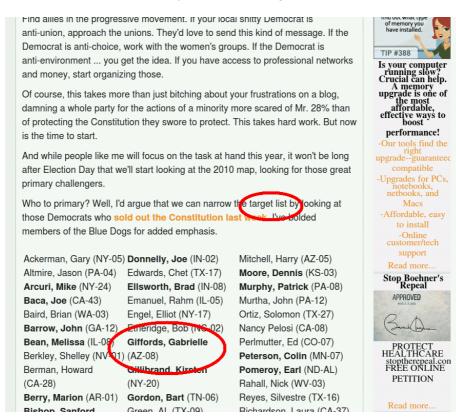
ABC, CBS, NBC, MSNBC, and CNN all ran stories saying the Jewish shooter (Jared Loughner) was active within the Tea Party movement. He wasn't. He was politically opposite of the Tea Party movement, but the liberal media needs their boogie man. Who cares about the truth, right?

Boc	okmark this thread	First thread   Last thread
Home :	» <u>Discuss</u> » <u>Latest Breaking News</u>	DONATE.
ProudDad ☆ (1000+ posts) 🗧 🖾 🎄 🍇		Sat Nov-06-10 01:13 AM Response to Original message
6. Well	l, well, well	Response to <u>Original message</u>
ENENTI CONIDATANT	One blue dog who dodged the bullet she loaded into the gun herself	
	By running a racist, "border security" campaign full of actual Republicans endorsing her (not ONE Progressive or M.O.R. Dem in her commercials)	
	Against an idiot	
	An idiot who cut his own throat in his last commercial by saying that anyone who didn't vote for him was "unAmerican"	
	I hope Gabby learned something pissing on her REAL base will cause problems I don't know of ANY Progressive in my rather large circle who voted for her myself included	
	She's one of the worst examples of a recent republican who changed registration ONLY to "get elected" and then tried to play both ends against the middle in her unprincipled way	
	As for listening to her constituents FORGET IT !!!	
		Printer Friendly   Permalink     Ton

Rep. Gabrielle Giffords was also targeted on the "Democratic Underground" forums. This thread has since been censored. Change!

### (www.democraticunderground.com/discuss/duboard.php?az=show\_mesg&forum=102&topic\_id=4603347)

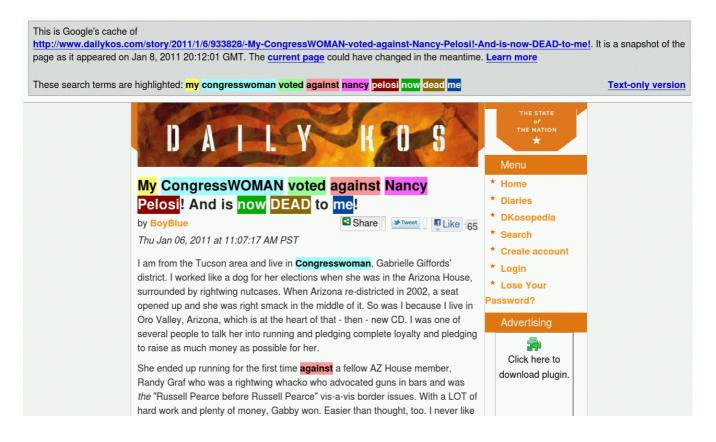
### She was also on Markos Moulitsas' Daily Kos 2008 "target" list.



That Daily Kos blog posting was deleted (change!) just after the shooting. A copy is available at: web.archive.org/web/20080701190530/http://www.dailykos.com/story/2008/6/25/1204/74882/511/541568

Another loony Daily Kos poster by the name of "BlueBoy" also wasn't very satisfied with Rep. Gabrielle Giffords' work. This blog post was – you guessed it – also censored after the shooting. Change!

Nice bunch of people, eh?



the "Russell Pearce before Russell Pearce" vis-a-vis border issues. With a LOT of hard work and plenty of money, Gabby won. Easier than thought, too. I never like to throw money in people's faces, but i have given Gabrielle Giffords THOUSANDS and THOUSANDS of dollars in both good times and bad times for me financially.

#### BoyBlue's diary :: ::

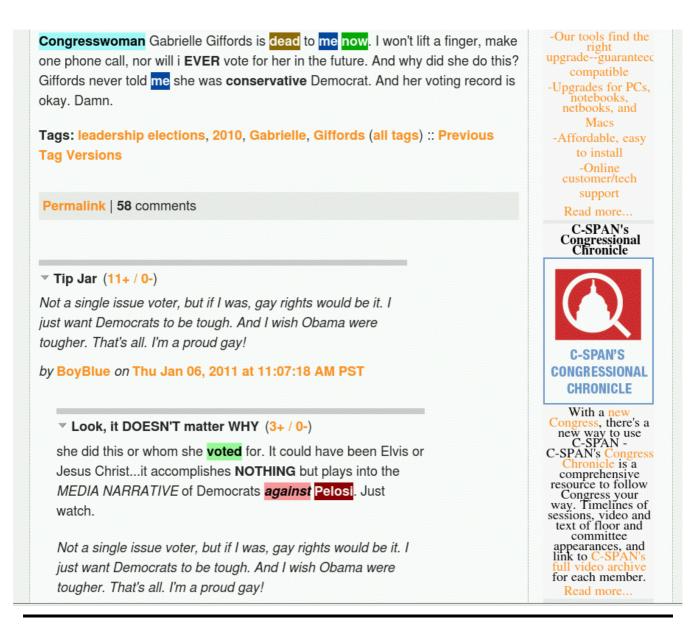
Fast forward to this election season. A weirdo asshole named Jesse Kelly who advocated *ELIMINATING* Social Security and was a tea bagger favorite got the GOP nom to run **against** her. I am gay and had been married and **my** spouse left **me** January 15, 2010. I shot myself in the mouth in a serious suicide attempt, because of that. Barely surviving, I spent two months in the hospital and still have some paralysis. I did receive a severance from **my** employer, as i had been laid off in December, 2009. That may have been part of the reason **my** spouse left **me**.

Anyway, after months of physical and mental rehab, I got back into the political scene and started working for Gabby once again. I raised over \$100,000 for her and maxed her out myself out of **my** severance, even though i still don't have work and could not qualify for state aid because of **my** severance.

She wins her re-election and told me she was still a supporter of Speaker Pelosi at her victory party. We talked about how Nancy Pelosi was a successful woman and accomplished oh so much in just four years as Speaker.

Today, just a little while ago, I saw on Andrea Mitchell Reports (out of the one eye in can still see out of) that Giffords **voted AGAINST Nancy Pelosi** as our Minority Leader. Rhetorical question: I fought back from **my** condition and jumped in with both feet to help Gabrielle Giffords for *THIS* shit???





"Some of them, when they get disillusioned, when they see that Marxist–Leninists come to power, obviously they get offended. They think that <u>they</u> will come to power. That will never happen, of course. They will be lined up against the wall and shot because not taking them out may result in them becoming 'the most bitter enemies' of Marxism–Leninist ideology because they are so sorely disappointed and frustrated."

•••

That's why my KGB instructors specifically stated, never bother with Leftists. Leftists only serve a purpose during the destabilisation phase, after that they will be very unhappy people. The system simply has no use for these idealistic people who will be squashed like bugs. They are instrumental in the subversion process, only to destabilise the nation."

--- Quotes from former KGB Officer Yuri Bezmenov on why staunch supporters of Marxism ("useful idiots") were often killed after the "revolution" occurs. They become so disillusioned when their ideas fail that they become dangerous.

Sound familiar?



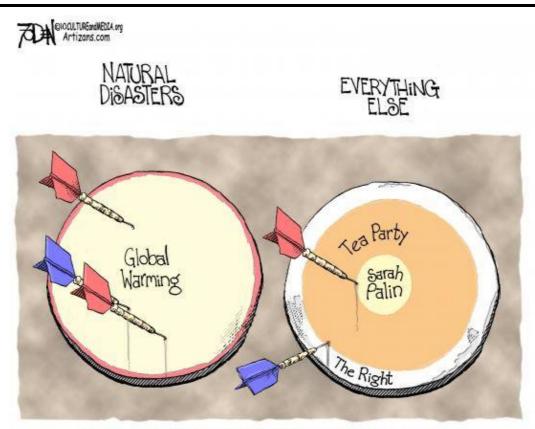
Of course, when New Hampshire Democratic activist and State Rep. candidate Keith Halloran wishes "death" upon Sarah Palin, *well...* Don't expect to be hearing about *this* from the Jews on MSNBC or The Daily Show!

(www.nowhampshire.com/2010/08/11/local-democrats-wish-death-upon-sarah-palin)

Remember after the Ft. Hood shooting when the mainstream media failed to mention those words "Muslim," "Islam," or "Jihad."

Yeah... There's no liberal bias in the media! LOL!





## HOW THE MEDIA DECIDES WHERE TO PIN THE BLAME