VIKING ©

Answer up to 12 Lines

The **TMS-12A** Automatic Call Sequencer will answer up to 12 inbound lines promptly with a clear, digitally-recorded voice announcement informing the caller that their call will be taken by the first available representative. The call is then placed on hold. In addition, two **TMS-12A**'s can be cascaded to support up to 24 lines.

Optional music and/or promotional announcements will keep the caller assured that their phone connection is intact and will be answered soon. A pacifier message can also be recorded to confirm that the call will be answered.

Call statistics as well as the line number of the oldest holding call will be displayed on the LED. In addition, an optional ring generator, **SQRG-12**, may be added to provide complete sequencer automation.

http://www.VikingElectronics.com

Features

- Compatible with Electronic Key systems, 1A2 Key systems and PABX systems

- Cascadable to support up to 24 lines

- Automatically change between day and night modes via a contact closure, timer, remote switch or remote programming

- Locally recordable with a standard carbon handset or download announcements directly from a tape player

- Remotely recordable

- Rechargeable battery back-up included

- Field expandable record time

- Separate recordings for each announcement

- Display for caller priority, inbound call statistics and record time

- Inbound call statistics:

  1. Total inbound calls
  2. Total sequenced calls
  3. Total abandoned calls

- 19" rack-mount hardware included

- "A" lead control for 1A2 Key Systems

Applications

- Console operator back-up (eliminates ring - no answer)

- Multi-line barge-in announcer

- Multi-line remote dial-up access to audio sources such as radio stations and public address systems

- Statistical tracking of inbound call handling

Sales...(715) 386 - 8861
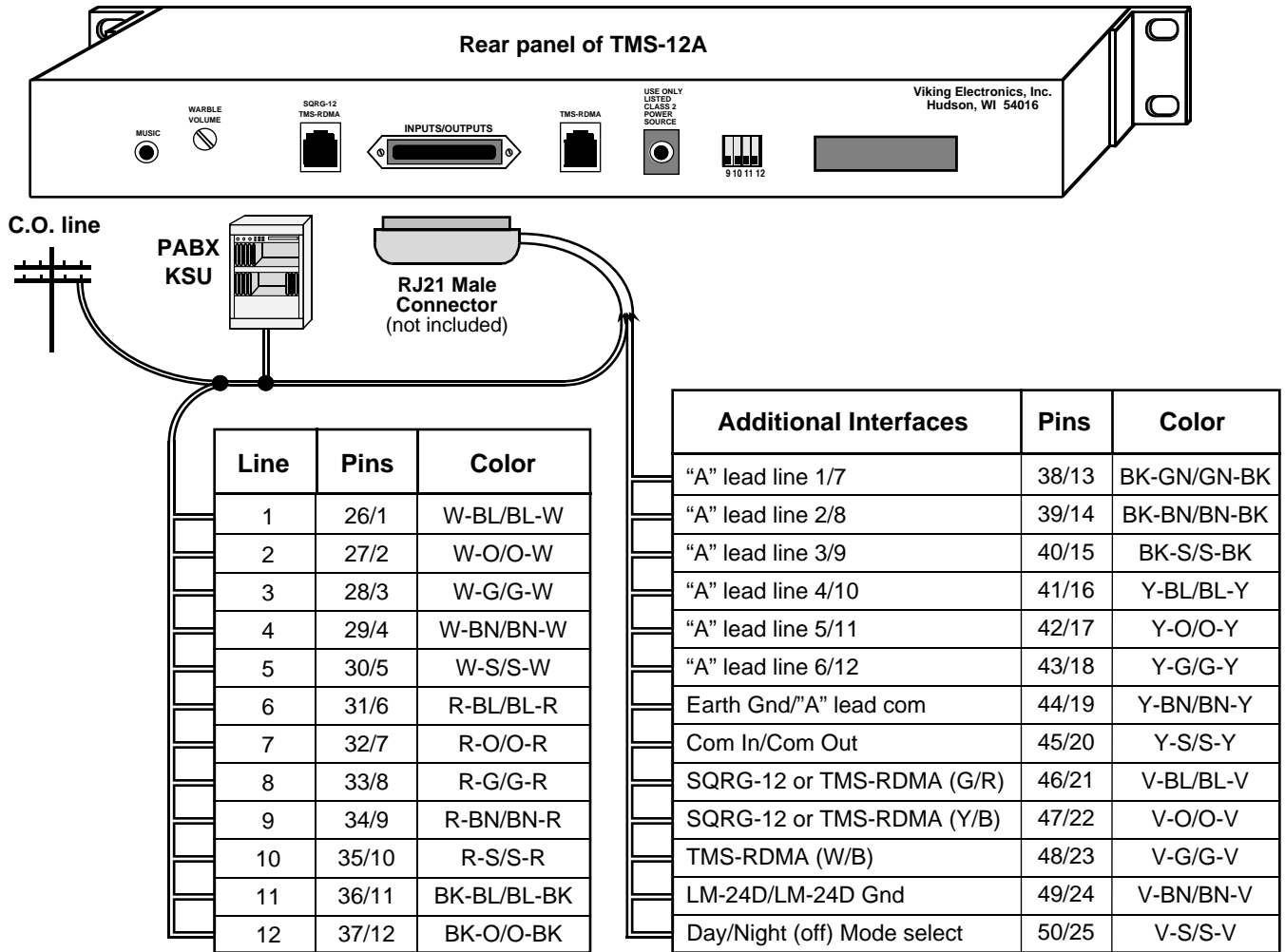
Made in the U.S.A.

Specifications

Power: 120V AC/13.8V AC, 1.25A UL listed adaptor provided
Dimensions: 483mm x 305mm x 44mm (19" x 12" x 1.75")
Shipping Weight: 3.4 kg (7.5 lbs)
Environmental: 0°C to 32°C (32°F to 90°F) with 5% to 95% non-condensing humidity
Message Length: 32 seconds (expandable to 2 minutes using the **DRAM-1M**)
Sampling Rate: 32 K
Battery Back-up: 2 hours minimum, 8 hours typical
Connections: (1) RJ21X female jack, (2) 3.5mm (1/8") audio jacks, (2) RJ11 jacks, (1) carbon handset jack
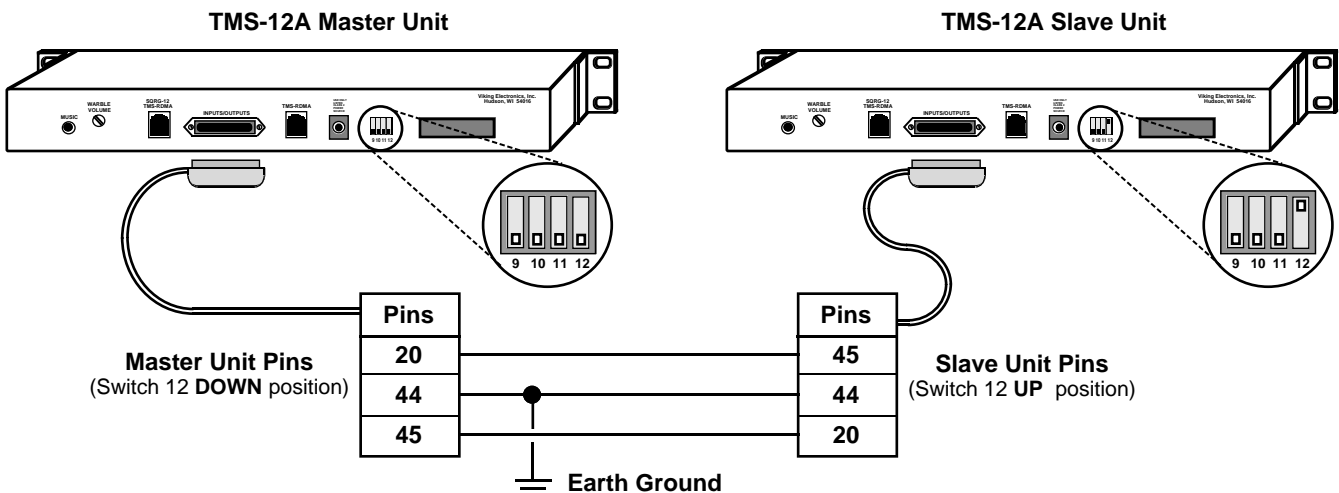
Installation

A. Telephone Wiring

The **TMS-12A** must be installed in parallel on 1 to 12 lines as shown below.

Rear panel of TMS-12A

MUSIC   WARBLE VOLUME   SQRG-12 TMS-RDMA   INPUTS/OUTPUTS   TMS-RDMA   USE ONLY LISTED CLASS 2 POWER SOURCE   9 10 11 12   Viking Electronics, Inc. Hudson, WI 54016

C.O. line

PABX KSU

RJ21 Male Connector
(not included)

Line	Pins	Color
1	26/1	W-BL/BL-W
2	27/2	W-O/O-W
3	28/3	W-G/G-W
4	29/4	W-BN/BN-W
5	30/5	W-S/S-W
6	31/6	R-BL/BL-R
7	32/7	R-O/O-R
8	33/8	R-G/G-R
9	34/9	R-BN/BN-R
10	35/10	R-S/S-R
11	36/11	BK-BL/BL-BK
12	37/12	BK-O/O-BK

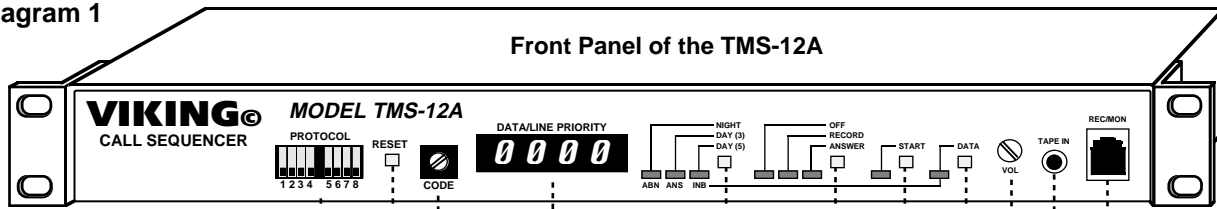| Additional Interfaces	Pins	Color
"A" lead line 1/7	38/13	BK-GN/GN-BK
"A" lead line 2/8	39/14	BK-BN/BN-BK
"A" lead line 3/9	40/15	BK-S/S-BK
"A" lead line 4/10	41/16	Y-BL/BL-Y
"A" lead line 5/11	42/17	Y-O/O-Y
"A" lead line 6/12	43/18	Y-G/G-Y
Earth Gnd/"A" lead com	44/19	Y-BN/BN-Y
Com In/Com Out	45/20	Y-S/S-Y
SQRG-12 or TMS-RDMA (G/R)	46/21	V-BL/BL-V
SQRG-12 or TMS-RDMA (Y/B)	47/22	V-O/O-V
TMS-RDMA (W/B)	48/23	V-G/G-V
LM-24D/LM-24D Gnd	49/24	V-BN/BN-V
Day/Night (off) Mode select	50/25	V-S/S-V

B. Master/Slave Wiring

Using an additional **TMS-12A** configured as a slave, up to 24 lines can be sequenced. In the master/slave configuration, all recordings, statistics, remote access and answer protocols are handled independently between master and slave.

To enable a **TMS-12A** to be a slave unit, set switch 12 to the up position, "SL" will be displayed on the display. The slave lines will be displayed as lines 13 - 24 on the master **TMS-12A**, **TMS-RDMA** or the **LM-24D**. The pins shown below must be tied together for master/slave operation.
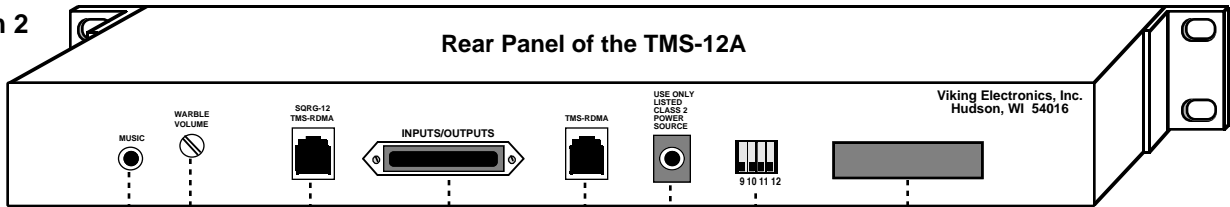
TMS-12A Master Unit   **TMS-12A Slave Unit**

MUSIC WARBLE VOLUME SQRG-12 TMS-RDMA INPUTS/OUTPUTS TMS-RDMA 9 10 11 12   Viking Electronics, Inc. Hudson, WI 54016

MUSIC WARBLE VOLUME SQRG-12 TMS-RDMA INPUTS/OUTPUTS TMS-RDMA 9 10 11 12   Viking Electronics, Inc. Hudson, WI 54016

9 10 11 12

9 10 11 12

Master Unit Pins
(Switch 12 **DOWN** position)

Pins
20
44
45

Pins
45
44
20

Slave Unit Pins
(Switch 12 **UP** position)

Earth Ground

Programming

Diagram 1

Front Panel of the TMS-12A

VIKING© CALL SEQUENCER MODEL TMS-12A

Special Operating Modes
Processor/Data Reset
Security Code Select
Data/Line Priority/Record Time Display
NIGHT/DAY(3)/DAY(5)
OFF/RECORD/ANSWER Switch

Handset Jack
Tape In Jack
Playback Volume
Data Switch
Start/Stop Switch

Diagram 2

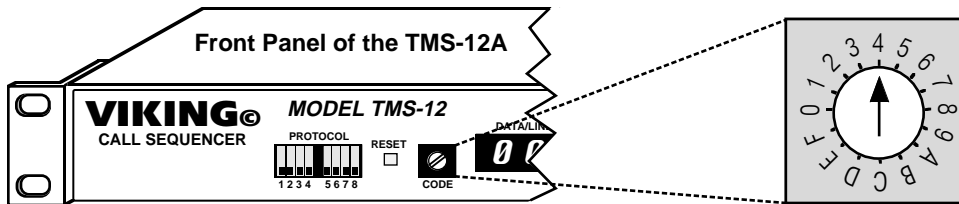**Rear Panel of the TMS-12A**

Viking Electronics, Inc.
Hudson, WI 54016

Music on Hold Input
Warble Volume
SQRG-12/TMS-RDMA Output
25 Pair line/Auxiliary Function Connector

Optional Comm Port
Special Operating Modes
13.8V AC Power Input
Second TMS-RDMA Output

A. Security Code

The security code is used to gain access to remote programming and recording through line 12 only. To change the security code, set the 16-position rotary **CODE** switch on the front of the unit to positions "1" through "9" only. This will be your security code.

See sections **D. Recording/Playback** and **E. Answer Protocols** for more information on remote programming and recording.

Front Panel of the TMS-12A

VIKING© CALL SEQUENCER MODEL TMS-12

B. PROTOCOL Switches (see front panel of the TMS-12A)

Switch	Position	Description
1	Up	The ring delays are 1 and 2 in respect to the answer protocols (**DAY(3)** = 1, **DAY(5)** = 2, **NIGHT** = 1)
	Down*	Normal ring delays (**DAY(3)** = 3, **DAY(5)** = 5, **NIGHT** = 3)
2	Up*	Only the oldest call will be released from the **TMS-12A**
	Down	The **TMS-12A** will release any call
3	Up	The optional **SQRG-12** will re-ring all lines being sequenced on the **TMS-12A**
	Down*	The optional **SQRG-12** will re-ring only the oldest line being sequenced on the **TMS-12A**
4	Up	Lower fidelity announcements
	Down*	Highest fidelity announcements

* = Default Setting

Continued...

Note: *Whenever switch 3 is in the up position to re-ring all lines through the optional **SQRG-12**, switch 2 on the **TMS-12A** front panel must be in the down position.*

...Continued

Switch	Position	Description
5	Up	"Call Screening" mode. Calls are not displayed or re-rang until call has heard entire greeting message.
	Down*	All calls are displayed in the sequence they ring in.
6	Up	Unused
	Down*	Normal operating position.
7	Up	Optional auxiliary "off" operation.
	Down*	Optional auxiliary "night" operation.
8	Up	Optional auxiliary night/off operation is disabled.
	Down*	Optional auxiliary night/off operation is enabled.

* = Default Setting

Note: *When the auxiliary Night/Off mode is active, the front panel switches are disabled.*

C. Special Operating Mode Switches (see rear panel of the TMS-12A)

Switch	Position	Description
9	Up	"Barge-In" mode. All lines will be answered on the selected ring delay and will hear the greeting at any point in the message, but will hear the entire message at least once.
	Down*	Normal call sequencing.
10	Up	Used with the **TMS-STATS** package (**Fax Back Document 080**).
	Down*	Normal operating position.
11	Up	Optional **SQRG-12** ring generator mode is selected (**Fax Back Document 060**).
	Down*	Optional **TMS-RDMA** remote display mode is selected (**Fax Back Document 075**).
12	Up	Slave mode.
	Down*	Master mode.

* = Default Setting

D. Recording/Playback

1. Local Recording

Note: *All announcements must be recorded at the same time.*

a. Plug a carbon handset into the **REC/MON** jack or plug a tape player into the **TAPE IN** jack (see **Diagram 1**).

b. Select the record mode by pressing **OFF/RECORD/ANSWER** switch until the LED indicates the record mode (**RECORD**) is selected (see **Diagram 1**).

c. Select the announcement to be recorded (Greeting, Pacifier or Night) by pressing **NIGHT/DAY(3)/DAY(5)** button until the LED indicates the desired announcement (see **Diagram 1**).

   NIGHT - Night message

   DAY(3) - Greeting message

   DAY(5) - Pacifier message

d. Momentarily press the **START** switch and begin talking into the handset or press play on the tape player.

e. When finished recording, momentarily press the **START** switch.

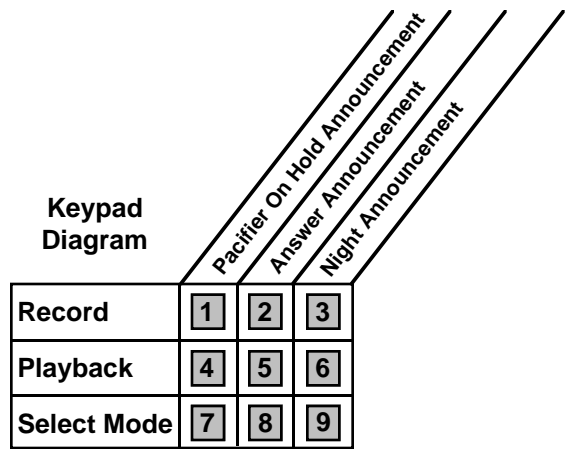**f.** Record the remaining announcements by repeating steps **c** - **e**.

Note: *As the message is being recorded, the display will increment to show the amount of record time being used. After a recording has been made, an "r" will appear in front of the record time for that message to show that it has been recorded.*

2. Local Playback

a. Set **OFF/RECORD/ANSWER** switch to off.

b. Set **NIGHT/DAY(3)/DAY(5)** switch to the desired message.

c. Momentarily press the **START** switch.

3. Remote Recording

   a. Call line 12 of the **TMS-12A** using a Touch Tone phone, when the unit answers, enter a ✱.

   b. When the recording stops, enter "**7**" followed by the security code (see **Programming** section **A**).

   c. Enter a Touch Tone (1 - 3) to select an announcement to record (see **Keypad Diagram** to the right).

   d Begin recording your announcement.

   e. Press **#** when finished.

   f. Repeat steps **c - e** to record the other announcements.

   g. Enter ✱**1** to exit the remote access mode.

   h. Hang up and the **TMS-12A** will return to normal operation.

Keypad Diagram	Pacifier On Hold Announcement	Answer Announcement	Night Announcement
Record	1	2	3
Playback	4	5	6
Select Mode	7	8	9

*Notes: If you neglect to dial ✱1 before hanging up from the remote mode, and the **TMS-12A** line 12 position is connected to PABX extension or a loop start CO line that does not provide disconnect supervision (CPC), line 12 will not be released from the **TMS-12A** for ten minutes after you have hung up. In the Off mode, the **TMS-12A** will still answer line 12 but will not play the Greeting message.*

4. Remote Playback

   a. Call line 12 of the **TMS-12A** using a Touch Tone phone, when the unit answers, enter a ✱.
   b. When the recording stops, enter "**7**" followed by the security code (see **Programming** section **A**).
   c. Enter a Touch Tone (4 - 6) to select an announcement to playback (see keypad diagram above).
   d. The **TMS-12A** will playback the announcement.
   e. Enter ✱**1** to exit the remote access mode.
   f. Hang up and the **TMS-12A** will return to normal operation.

*Notes: If you neglect to dial ✱1 before hanging up from the remote mode, and the **TMS-12A** line 12 position is connected to PABX extension or a loop start CO line that does not provide disconnect supervision (CPC), line 12 will not be released from the **TMS-12A** for ten minutes after you have hung up. In the Off mode, the **TMS-12A** will still answer line 12 but will not play the Greeting message.*

E. Answer Protocols

1. Local Programming

   a. Select the answer mode by pressing **OFF/RECORD/ANSWER** switch until the LED indicates the "Answer" mode is selected.

   b. Select the answer protocol by pressing **NIGHT/DAY(3)/DAY(5)** switch until the LED indicates the desired protocol as described below.

     1. NIGHT mode - Incoming calls will be answered on three rings, the night announcement will be played, and then the call is released.

     2. DAY(3) mode - Incoming calls will be answered on three rings, the answer announcement will be played and then the call will be placed on hold.

     3. DAY(5) mode - Incoming calls will be answered on five rings, the answer announcement will be played and then the call will be placed on hold.

2. Remote Programming

   a. Call line 12 of the **TMS-12A** using a Touch Tone phone, when the unit answers, enter a ✱.

   b. When the recording stops, enter "**7**" followed by the security code (see **Programming** section **A**).

   c. Enter **7** for **DAY(5)**, **8** for **DAY(3)** or **9** for **NIGHT**.

   d. The **TMS-12A** will confirm your selection by playing the selected announcement.

   e. Enter ✱**1** to exit the remote access mode.

   f. Hang up and the **TMS-12A** will return to normal operation.

*Notes: If switch 1 on the front panel of the **TMS-12A** is in the down position, the ring delays for Touch Tones 7 and 8 will be 5 and 3 respectively. If switch 1 is in the up position, these Touch Tones will set the ring delays to 2 and 1 respectively. If you neglect to dial ✱1 before hanging up from the remote mode, and the **TMS-12A** line 12 position is connected to PABX extension or a loop start CO line that does not provide disconnect supervision (CPC), line 12 will not be released from the **TMS-12A** until ten minutes after you have hung up. In the Off mode, the **TMS-12A** will still answer line 12 but will not play an answering message.*

3. Automatic Night/Day Mode

The **TMS-12A** will change into the Night answer mode (switch 7 down) or Off mode (switch 7 up) when 9 - 15 volts AC or DC is applied across pins 25 and 50.
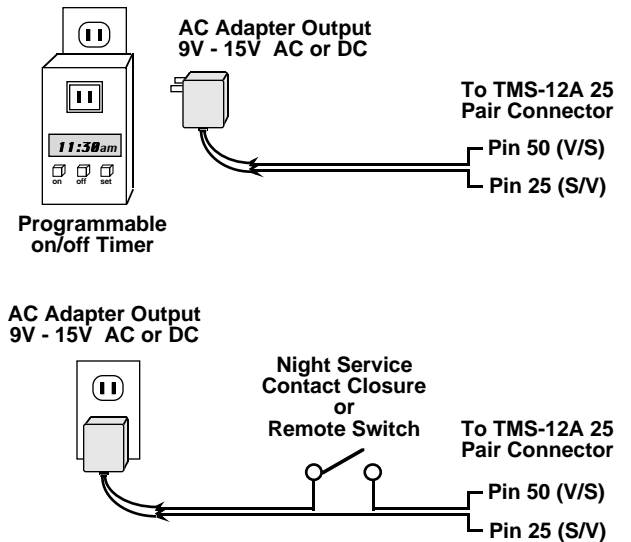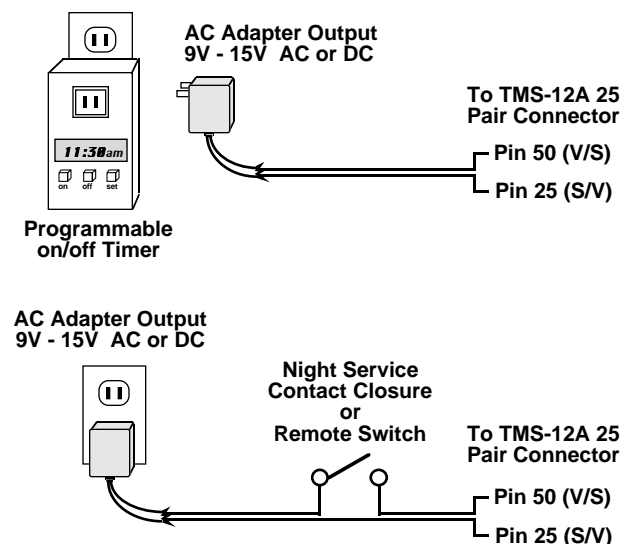
An "A" will be displayed and except for statistics, front panel switches are disabled on the **TMS-12A** while in the auxiliary Night/Off mode. See the diagram to the right.

a. Automatic Timer

For automatic Night/Off mode, add a programmable timer (Radio Shack part # 61-1065 or equivalent) and a 9-15 volt AC or DC power supply. See the diagram to the right.

b. Night Service Contact Closure

For a manual Night answer mode (switch 7 down) or Off mode (switch 7 up), add a contact closure from the PABX or a switch at the receptionist's desk.

F. Turning the TMS-12A On or Off

1. Local Programming

Push the **OFF/RECORD/ANSWER** switch until the **OFF**, **RECORD** or **ANSWER** LED lights.

2. Remote Programming

a. Call line 12 of the **TMS-12A** using a Touch Tone phone, when the unit answers, enter a ✱.
b. When the recording stops, enter "**7**" followed by the security code (see **Programming** section **D**).
c. Enter ✱**2** to place the **TMS-12A** in the Off mode.
d. Enter ✱**3** to place the **TMS-12A** in the On ("Answer") mode.
e. Enter ✱**1** to exit the remote access mode.
f. Hang up and the **TMS-12A** will return to normal operation.

Notes: If you neglect to dial ✱1 before hanging up from the remote mode, and the TMS-12A line 12 position is connected to PABX extension or a loop start CO line that does not provide disconnect supervision (CPC), line 12 will not be released from the TMS-12A until ten minutes after you have hung up. In the Off mode, the TMS-12A will still answer line 12 but will not play an answering message.

3. Automatic Off/On Mode

The **TMS-12A** will change into the Night answer mode (switch 7 down) or Off mode (switch 7 up) when 9 - 15 volts AC or DC is applied across pins 25 and 50.

An "A" will be displayed and except for statistics, front panel switches are disabled on the **TMS-12A** while in the auxiliary Night/Off mode. See the diagram to the right.

a. Automatic Timer

For automatic Night/Off mode, add a programmable timer (Radio Shack part # 61-1065 or equivalent) and a 9-15 volt AC or DC power supply. See the diagram to the right.

b. Night Service Contact Closure

For a manual Night answer mode (switch 7 down) or Off mode (switch 7 up), add a contact closure from the PABX or a switch at the receptionist's desk.
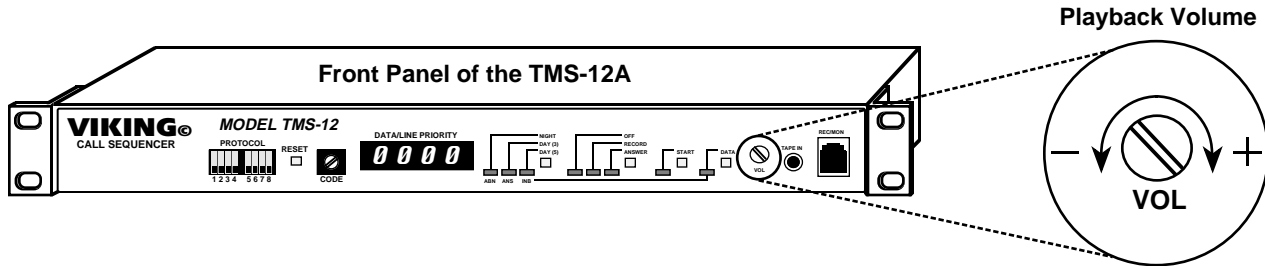
G. Common Audible

1. To eliminate confusion in key system applications, disable the ringer or program the attendant's phone not to ring. The **TMS-12A** will provide common audible if installed near the receptionist.
2. On incoming calls, the **TMS-12A** will provide a single warble tone every 4 seconds.
3. Once a line is answered by the **TMS-12A**, a double warble tone is provided.
4. Warble volume can be adjusted by the potentiometer (marked **WARBLE**) on the back panel of the **TMS-12A**.

H. Playback Volume

To adjust the playback volume of messages, turn the potentiometer on the front of the unit (marked **VOL**) clockwise to increase the volume or counter-clockwise to decrease the volume as shown below. This will change the volume for all announcements.

Playback Volume

Front Panel of the TMS-12A

I. Expanding the Announcement Length

The **TMS-12A** ships with 32 seconds of high fidelity recording capability. Forty seven seconds of recording time is possible at a lower fidelity by placing protocol switch 4 in the up position. A total of 2 minutes of high fidelity or 3 minutes of lower fidelity recording is possible with the addition of the Viking **DRAM-1M** (**Fax Back Document 055**) memory expansion kit. For faster call processing, make your answer and pacifier announcements short.

Operation

A. Day Mode

In the **DAY(3)** or **DAY(5)** mode of operation, the **TMS-12A** will answer on the number of rings programmed (1, 2, 3 or 5) as explained in **Programming**, section **B**. This allows your receptionist to answer the phone first, if she is available. After answering a call, the caller will hear the recorded greeting message. While this message is playing, no other calls can be answered, but all calls that have met the ring delay will be answered as soon as the message is finished. It is advisable to keep this message as short as possible. After the greeting has played, the caller is placed on hold and the line that the oldest call is holding on will be displayed on the front panel of the **TMS-12A** or on the optional **TMS-RDMA** remote display (see section **D. Options**, below). The call may then be released to the receptionist by picking up that line. *Note: Only the oldest call may be released.* When the oldest call has been released, the line that the next oldest call is holding on will be displayed.

While holding, and if recorded, a "Pacifier" message will be played approximately every 30 seconds.

If a call has been holding for longer than 4 seconds, the **TMS-12A** or **TMS-RDMA** will produce a double warble tone audible signal (hold reminder tone) every 4 seconds.

B. Night Mode

In the **NIGHT** mode, the call will be answered after the programmed ring delay, the night message will be played and the call will be disconnected.

C. Data Retrieval

In any mode of operation other than remote programming, statistics for Calls Abandoned, Calls Answered, and Inbound Calls can be viewed.
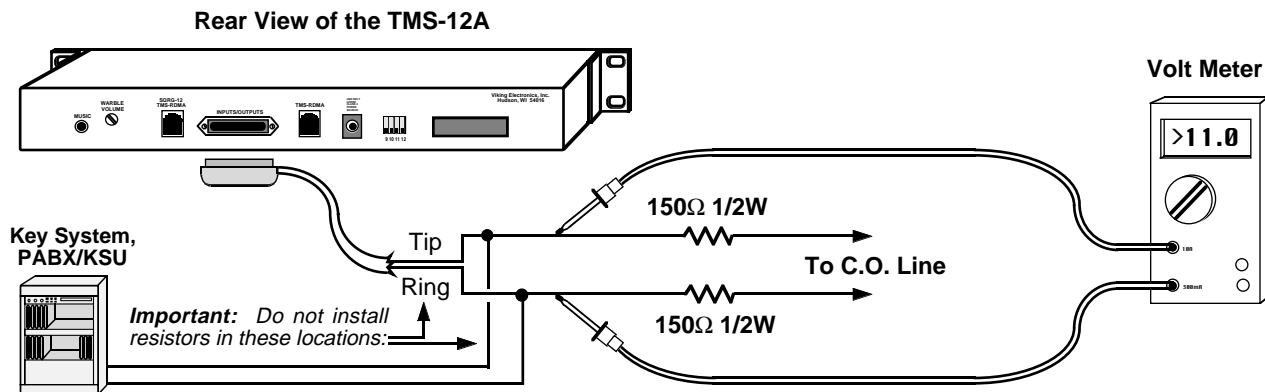
1. Hold in the data switch, the display will show the current statistic total for the item highlighted by the LED (**ABN**, **ANS** or **INB**).
2. To select the next statistic, momentarily release, then depress the data switch, and the next statistic item will be highlighted.
3. The statistics can be reset to zero by depressing the reset button on the front panel of the **TMS-12A**.

*Notes: This will reset the microprocessor and statistics only, the recorded messages will not be lost. However, any calls holding in the **TMS-12A** will be dropped. This reset should only be done at a time when the **TMS-12A** is not processing calls.*

D. Troubleshooting

If the **TMS-12A** does not release the call to the key system or PABX, follow steps **1 - 3**. *Note: This is usually caused by high line current from the C.O. or PABX when the system is located close to a central office.*

1. Measure the voltage across tip and ring when the key system or PABX has seized the line. The voltage must be less than 11 volts for the **TMS-12A** to recognize that the key system or PABX has gone off-hook and that it should release the line.

2. If the voltage is greater than 11 volts, install (2) 150 ohm, 1/2 watt resistors (included) in series with both tip and ring as shown below.

Rear View of the TMS-12A

3. Recheck the voltage as shown above. If it is greater than 11 volts, contact Technical Support at (715) 386-8666.
   Note: Have the voltage readings from before and after the resistors were installed available when calling Technical Support.

Optional Equipment

A. Using the TMS-12A with the SQRG-12 Sequential Ring Generator

The **SQRG-12** Sequential Ring Generator is designed for applications where more than one person answers incoming calls, or in locations where the **TMS-12A** front panel display is not visible. The **SQRG-12** eliminates confusion about which line to answer next by only ringing the oldest call to the key system or PABX.

In some applications it is desirable to have the **SQRG-12** ring all calls that are ringing lines or calls that are holding on the **TMS-12A**. This is required in many PABX applications and some key system applications to prevent call crashing (glare) problems when the C.O. lines connected to the **TMS-12A** are also used for outbound calls by the PABX or KSU. The **SQRG-12** is capable of this mode of operation when DIP switch 3 on the **TMS-12A** is in the on position (see **Programming**, section **B**).
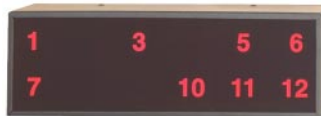
For more information on the **SQRG-12**, retrieve **Fax Back Document 060**.

B. Using the TMS-12A with Remote Displays

Remote displays allow the **TMS-12A** to be installed in the phone room rather than on the receptionist's desk. They will display the line that the oldest call is holding on and provide a common audible warble while calls are holding.

For more information on the **TMS-RDMA**, retrieve **Fax Back Document 075**.

For more information on the **LM-12W**, retrieve **Fax Back Document 665**.

For more information on the **LM-24D**, retrieve **Fax Back Document 670**.

C. Additional Call Statistics

As an upgrade package for the **TMS-12A**, the **TMS-STATS** allows the user to collect more detailed call activity information. The kit includes both serial and parallel interface boards and a special ROM chip. The serial interface board allows the **TMS-12A** to be connected directly to the serial port of a personal computer while the parallel interface board is provided for interfacing with standard printers. For more information, retrieve **Fax Back Document 080**.

Product Support Line...(715) 386-8666   *Fax Back Line...(715) 386-4345*