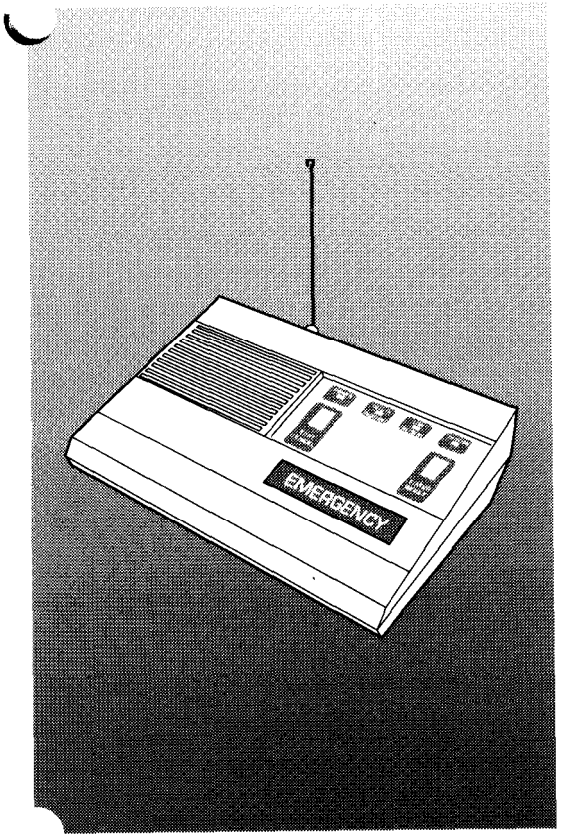

S-724

HOME HEALTH CARE MONITORING SYSTEM

(Also Suitable as a Smoke Detector Accessory)

WITH "UPLOAD/DOWNLOAD" PROGRAMMING

Installation, Programming, and Operating Instructions

Linear

(619) 438-7000 FAX (619) 438-7043
USA & Canada (800) 421-1587 (800) 392-0123
Toll Free FAX (800) 468-1340

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INTRODUCTION

The S-724 Console is a wireless emergency aid product designed for medical applications. This attractive, table-top or wall-mount console provides "pushbutton" emergency assistance to anyone who desires additional security and peace of mind.

The Console has three alarm types that can be activated by up to 32 individual battery-powered supervised transmitters. Activating any alarm type causes the Console's 4-zone digital communicator to send the corresponding alarm report to a central monitoring station via the standard switched telephone network.

The Console's front panel EMERGENCY button and wireless pendant transmitters activate alarms that report on communicator Loop 1. Alarms activated by wireless smoke detectors report on Loop 2. Sl format 24 hour activity transmitters report on communicator Loop 3. The communicator Loop 4 is used to indicate system trouble.

An optional 24-hour activity timer is included to monitor the user's condition. When the timer is enabled, the TIMER RESET button on the Console must be pressed at least once every 24 hours to prevent the communicator from sending an alarm message. Resetting of the timer can also occur using wireless transmitters and passive infrared motion detectors.

Powered by a low voltage transformer, the Console includes a factory installed rechargeable backup battery for operation during AC power outages.

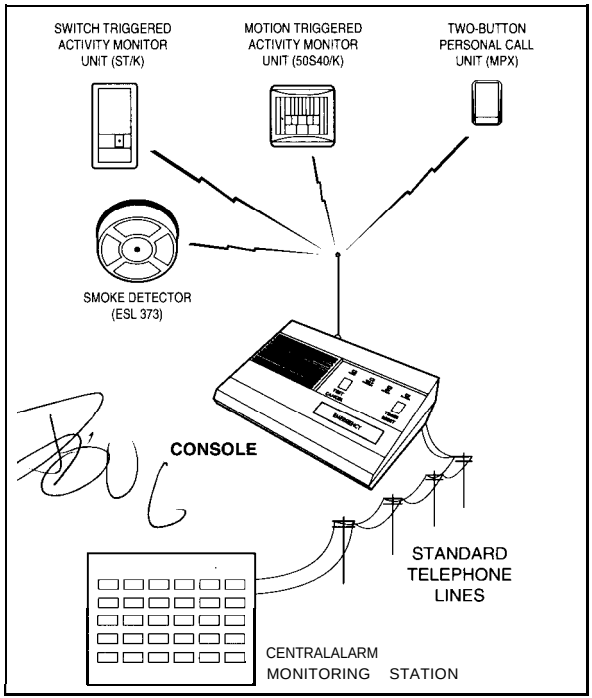

Figure 1. Typical System

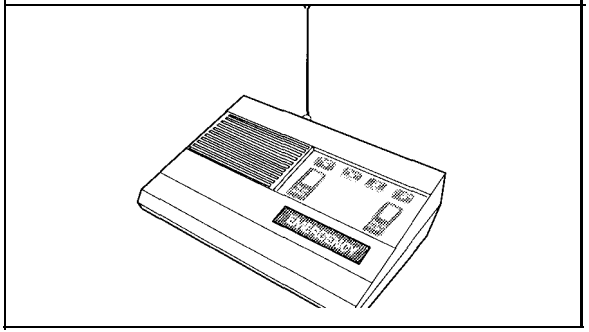

Figure 2. Console

Console

The system is set up and accessed through the Console's control panel. The four LEDs indicate the status of the system. The control panel is used to enter and delete transmitters from the system, trigger communicator tests, and reset the 24-hour activity timer. Once programmed into the console, transmitters remain in permanent memory unless manually deleted.

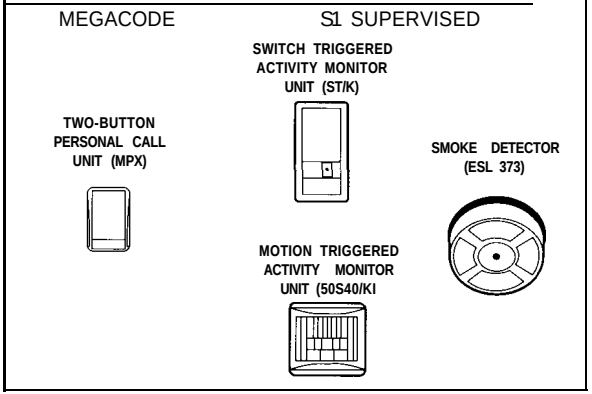

Figure 3. Typical Transmitters

Transmitters

The Console can be programmed to recognize and respond to up to 16 "Megacode Format" pendant transmitters and 16 "S1 Supervised Format" transmitters. The pendant transmitters sends *alarm* and *low battery* signals. The S1 transmitters send *alarm, low battery,* and hourly *status* signals.

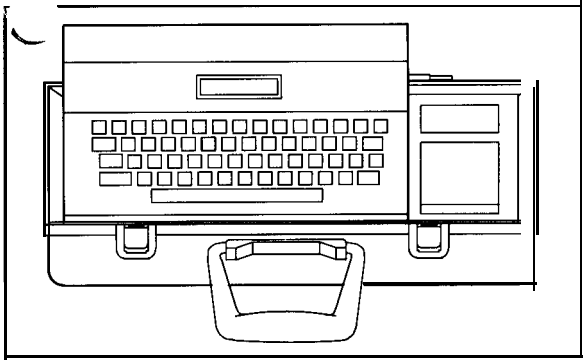

Figure 4. Model ***P-SA Programmer***

Communicator

The Console's built-in Model 1704 4-zone digital communicator has upload/download capability using Linear's P-9A Programmer. Programming is done by downloading information from the P-9A to the communicator. This can be performed either locally (in the shop or on the job site) or remotely (over the telephone network). ***Uploading*** transfers a copy of the communicator's program to the P-9A. The communicator can be programmed to send one of three different reporting formats compatible with most popular central station receivers. After programming, the communicator will retain its memory even without power.

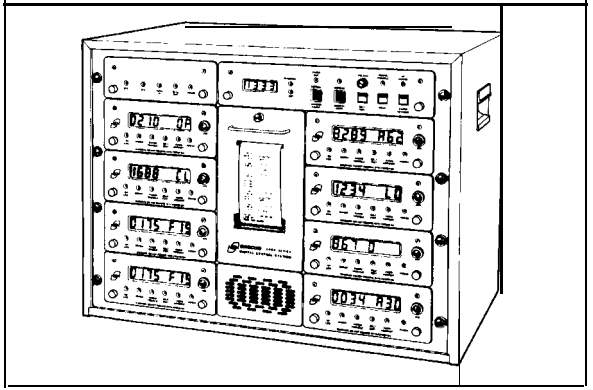

Figure 5. Typical Central Station Receiver (Linear's 3000R)

All alarm and supervisory events are reported to a central alarm monitoring station via the communicator. Simple connection to the telephone network is provided by the modular receptacle on the rear of the Console. The power and telephone connections are all covered by a snap-in plastic panel that secures and protects them. Wire routing troughs are included in the base of the unit for "professional quality" wall-mount installations.

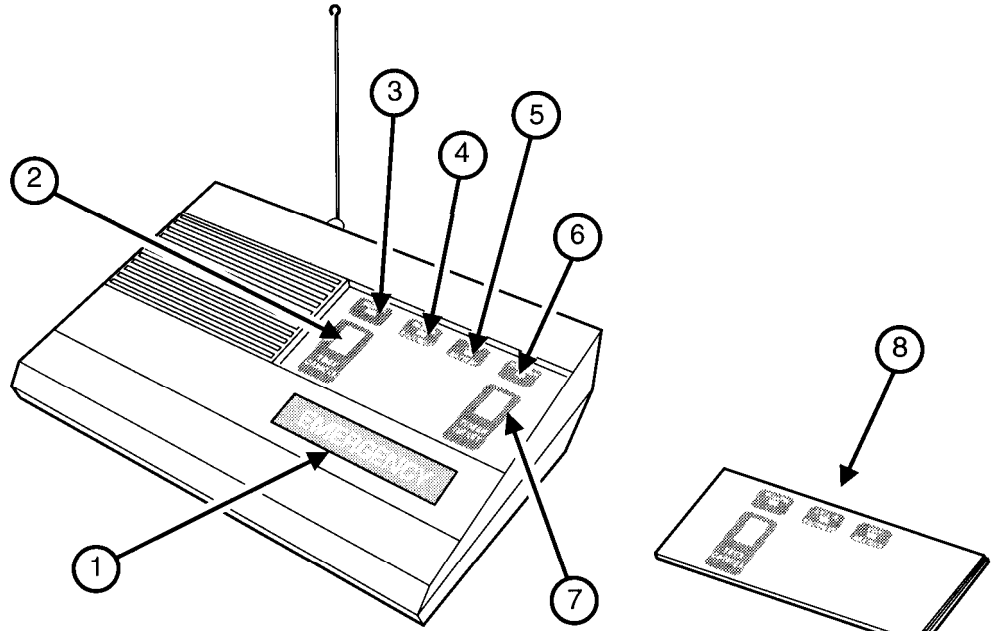

Figure 6. Console Front Panel

FRONT PANEL CONTROLS AND INDICATORS

1. EMERGENCY BUTTON
Triggers communicator Loop 1.

2. TEST/CANCEL BUTTON
This button causes the communicator to send a "test" message to the central monitoring station. If pressed immediately after an alarm, the report is interpreted as a "cancel" by the central station operator.

3. POWER LED
Lights to indicate that the Console is running on AC power and that the backup battery is charged and in good operating condition. Blinks to indicate that the Console is running on AC power and the backup battery is low and being charged.

4. CALL-IN-PROGRESS LED
Lights to indicate a call to the central monitoring station is in progress. This LED will remain lit until the monitoring station is reached or all attempts have been completed.

5. LOW TRANSMITTER BATTERY LED
Indicates that a low *battery* message was received from a transmitter. Will remain lit until the battery is replaced or the transmitter is removed from the system.

6. 24-HOUR TIMER STATUS LED *
When lit, indicates that the 24-hour activity monitor is active. Blinks to indicate that 23 hours and 55 minutes have passed since the timer was last reset. When dark it indicates the 24-hour timer has been disabled.

7. TIMER RESET BUTTON *
Press and release to reset the 24-hour activity timer. Hold for 3 seconds to disable the 24-hour activity timer.

* ***NOTE: These are hidden when the 24-hour activity cover is installed on the Console.***

8. 24-HOUR ACTIVITY COVER
This cover snaps on to conceal the 24-hour button and LED for simplicity of operation when the 24-hour activity function of the Console is not used.

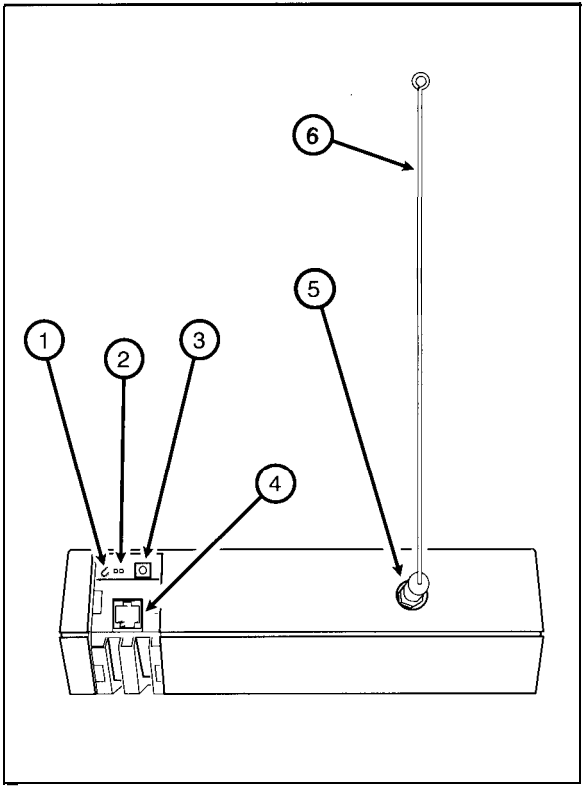

Figure 7. Rear Panel Connections

REAR PANEL CONNECTIONS

(Shown with Access Cover Removed)

1. MODE SELECT JUMPER

To enable the 24-hour timer on power-up, cut the red wire.

2. POWER CONNECTOR

Provides a plug-in connection for the Console's low-voltage transformer.

3. *SETUP BUTTON*

Press once to enter the Set-up *Mode* for entering or deleting transmitters from the Console's memory. The Console will beep four times to indicate Set-up ***Mode*** has begun. Press again to leave the Set-up *Mode* and return to normal operation. The Console will beep twice to indicate start of normal operation.

4. *MODULAR TELEPHONE JACK*

Connects the 1704 communicator to a telephone line or to the P-9A programmer during Local Programming with a standard 8-position phone cord connector.

5. *ANTENNA CONNECTOR*

For connection of the wire whip antenna provided, or for connection of a 7.5ohm coaxial cable to a remote antenna.

6. *WHIP ANTENNA*

Receives radio signals from the system's transmitters.

INSTALLATION

Installing the Console

Decide on an area that is well suited to locate the Console. Following are some general do's and don't's regarding the Console location.

NOTICE:

✓ Do pick a place that is centrally positioned in relation to the locations of the transmitters.

✓ Do select an area that is free of metal obstacles (filing cabinets, refrigerators, etc.) as they may block the radio signal from the transmitters.

✓ Do mount the Console as high as practically possible for best radio reception.

✓ Install per National Fire Protection Association Standard NFPA 74 for Household Fire Warning Equipment. NFPA Batterymarch Park, Quincy, MA 02269.

CAUTION:

✗ Don't connect to a receptacle controlled by a switch.

✗ Don't position the Console in an area that will receive direct sunlight or extreme temperatures.

✗ Don't select a problem area that has metal obstacles (filing cabinets, refrigerators, etc.) nearby or in line with a transmitter as they may block the radio signal.

✗ Don't mount the Console next to electrical devices (motors, computers, microwave ovens, etc.) as when operating, they may interfere with the Console's radio reception.

Table-top Mount

The Console can be permanently screw-mounted to a table or shelf using the small "Y" mounting bracket that snaps into the rear of the case (see Figure 8). If practical, the Console can simply be placed on a desk or shelf without screw-mounting.

To mount the Console...

STEP 1: Remove the wiring access cover from the rear of the Console by carefully prying it open from the top with a small screwdriver (see Figure 9).

STEP 2: Position the "Y" mounting bracket and fasten the bracket to the mounting surface with the screws provided.

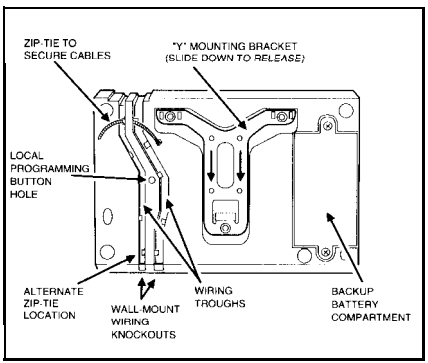

Figure 8. Console Base and "Y" Mounting

STEP 3: Plug the transformer cord into the power connector. UL requires use of the zip-tie and strain refief provided to secure the power cable to the console base and wall socket (see Figures 8 and 8A).

STEP 4: Attach the whip antenna to the connector on the back of the Console. Bend the whip antenna 90 degrees into the slot of the connector (see Figure 10).

STEP 5: Plug in the Console's transformer. The POWER LED should light or blink after five minutes if the battery is charging.

Telephone Connections

The Console can be connected to a single telephone line using a special "Y" adapter (supplied) or with a wired-in RJ3 1 X jack.

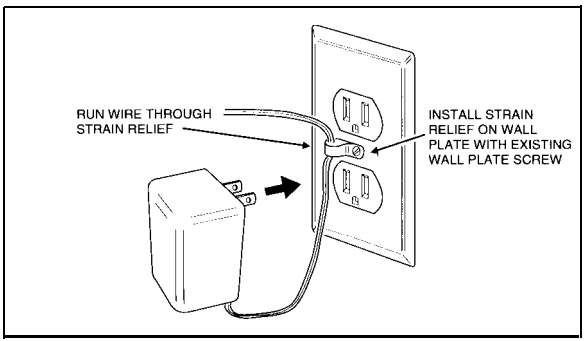

Figure 8A. AC Power Supply Installation

NOTE: The "Y" adapter only allows the Console to seize the line if the telephone connected to the adapter is off-hook. If other telephones are off-hook, they will prevent the Console from seizing the line.

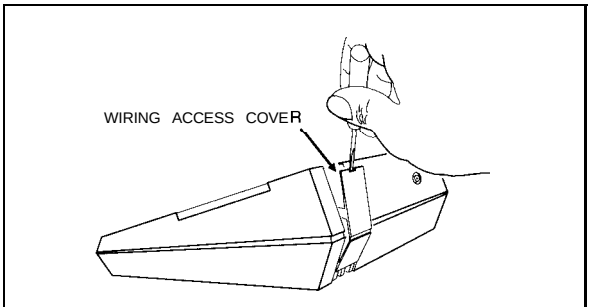

Figure 9. Removing Wiring Access Cover

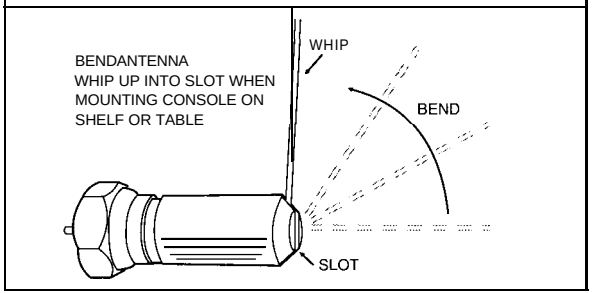

Figure 10. Bending Whip Antenna

Provide complete telephone line seizure regardless of any telephone on the premises being off-hook, UL requires that the Console must be connected to an 8-position telephone jack installed per FCC Universal Service Order Code RJ31X.

See Figure 11 for "Y" adapter wiring. See Figure 12 for RJ3 1 X jack wiring.

Plug one end of the double-ended, g-conductor, modular line cord into the RJ3 1 X jack or "Y" adapter.

If the communicator is going to be programmed remotely, plug the internal end of the modular cord into the telephone jack on the Console.

If the communicator is going to be programmed locally, wait until after programming to plug the telephone cord into the Console jack.

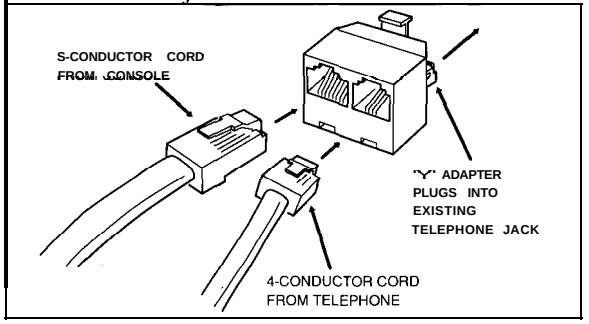

Figure 11. Telephone "Y" Adapter Connections

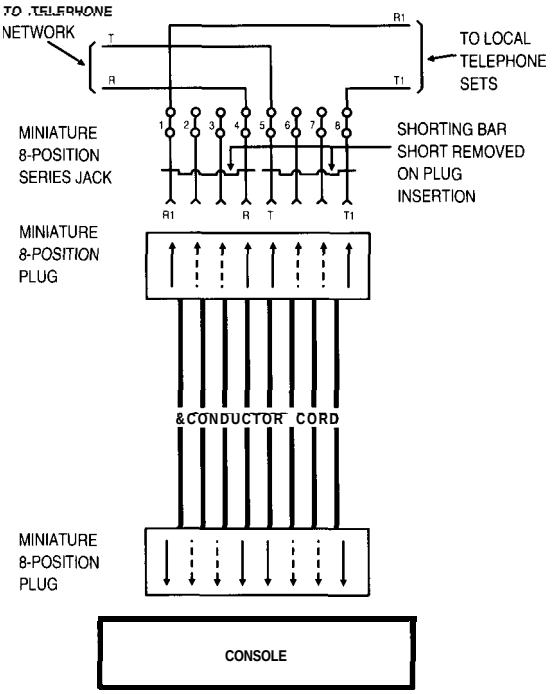

Figure 12 U.S.O.C RJ31X Telephone Jack Wiring

➥ ***NOTE: Linear recommends deleting all transmitters in memory when the Console is new before atempting to enter any transmitters. Duringfactory testing, transmitters may be left in memory and may cause unexpected results unless deleted.***

Console/Transmitter Programming

Transmitters must be entered into the Console's memory before they will activate an alarm. Once entered, the transmitters remain in memory until manually deleted. The Console will allow up to 16 "Megacode Format" transmitters and an additional 16 "S1 Supervised Format" transmitters to be entered into memory.

Megacode Format Transmitter Programming

To program MEGACODE format transmitters into the Console you must follow these steps:

STEP 1: *Place the Console in Set-up Mode.* To place the Console in *Set-up Mode* simply press the SETUP button located on the rear of the Console next to the power connector (see Figure 7 on Page 6). The Console will beep four times to indicate it has entered *Set-up Mode.*

STEP 2: *Activate the Transmitter.* Activate the transmitter by following the instructions for *that* transmitter. If the Console has accepted the transmitter it will give one short beep.

Three beeps indicate the transmitter has the same code as an existing transmitter.

Five beeps indicates that all 16 available Megacode memory slots are occupied.

Sl Supervised Format Transmitters

S1 Supervised Format Transmitters provide several supervisory functions. The two used in this Console are Battery and Status supervision. Battery supervision causes the transmitter to send a low battery message. This message will be repeated every hour until the low battery is replaced. Status supervision causes the transmitter to send a *status* message every hour to indicate that the transmitter is still in place and the radio path has not been blocked.

Programmable Features

S1 Supervised Format Transmitters have 16 dipswitch keys that must be set before programming into the Console. The first of these is the 8-key SYSTEM Code switch.

System Code Selection

The system code is used to make each system unique from others within radio range. Setting the system code ensures that transmitters from one system do not trigger alarms on another system. Choose a random system code and set it on the SYSTEM code switch of each S1 Supervised format transmitter. **All S1 Supervised format transmitters used with this Console must he set to the same system code.** To avoid the possibility of duplicating the system code of another system:

CAUTION:

- ✓ Don't set all switch keys to ON.
- ✓ Don't set all switch keys to OFF.
- ✓ Don't set the switch keys in an alternating ON/OFF or OFF/ON sequence.

Channel Code Switch Setting

The S-position CHANNEL code switch is used to assign each transmitter to one of the memory slots, and to set up the transmitter options. Channel Switch Keys #5 through #8 are used to assign the transmitter to one of the 16 available memory slots. Only one transmitter may occupy each memory slot. The Console will beep three times if you attempt to enter a transmitter into an occupied memory slot. The Console will beep five times if the system code in the transmitter is incorrect. **Set each transmitter to an appropriate memory slot by following the table in Figure 13.**

	TRANSMITTER CHANNEL SWITCH #			
SLOT #	5	6	7	8
1	OFF	OFF	OFF	OFF
2	OFF	OFF	OFF	ON
3	OFF	OFF	ON	OFF
4	OFF	OFF	ON	ON
5	OFF	ON	OFF	OFF
6	OFF	ON	OFF	ON
7	OFF	ON	ON	OFF
8	OFF	ON	ON	ON
9	ON	OFF	OFF	OFF
10	ON	OFF	OFF	ON
11	ON	OFF	ON	OFF
12	ON	OFF	ON	ON
13	ON	ON	OFF	OFF
14	ON	ON	OFF	ON
15	ON	ON	ON	OFF
16	ON	ON	ON	ON

Figure 13. Channel Code Dipswitch Settings

Setting S1 Format Transmitter Options

Two options are available when using Sl Supervised Format transmitters. **CHANNEL** code switch keys #l and #4 are used to select these options. **The options determine how the console responds when an alarm is triggered.** The options are listed below and are shown in Figure 14 with the common option settings for some of the transmitters available.

Activity Option
CHANNEL Code Switch Key #1

In some applications it is necessary to monitor a persons activity. Typical methods are monitoring motion in a room with a 50S40A/K PIR or detecting use of a toilet with an ST/K and a magnetic switch.

CHANNEL switch #1 selects whether the transmitter is for an active (causing an alarm when triggered) or passive (preventing an alarm when triggered) application.

If switch #l is OFF, triggering the transmitter will cause an alarm. If switch #1 is ON, triggering the transmitter will prevent an alarm.

Status Option
CHANNEL Code Switch Key #4

If switch #4 is placed in the ON position ***status*** **messages from the transmitter are not monitored. If switch #4 is left in the OFF position status messages are monitored,** and a ***trouble*** message will be sent to the central station if 8 hours pass without receiving a status transmission. **UL requires that switch #4 he set to OFF** ***(status enabled).***

APPLICATION OF DEVICE	TX MODEL	TX CHANNEL SWT# 1	2	3	4
SMOKE DETECTOR	ESL 373	OFF			OFF
ACTIVITY DETECTOR	50S40A/K	ON	NOT USED		OFF
OPERATION MODE)	ST/K *	ON			OFF

* NOTE: ST/K transmitter MODE switch key #1 must be OPEN (OFF) to enable transmitter status reports.

Figure 14. Transmitter Options (Channel Switch 1-4)

Deleting Transmitters

Individual transmitters may not be deleted from the Console. If you need to remove a transmitter from the system, you must delete ALL transmitters and then re-enter those you wish to leave in the system.

To delete all transmitters from the system you must:

STEP 1: Place the Console in *Set-up Mode.*

STEP 2: Press and hold the TEST/CANCEL Button.

The console will beep for about five seconds and then switch to a constant tone. The transmitters are deleted once the constant tone begins, and you may release the TEST/CANCEL button. If the TEST/CANCEL button is released before the constant tone begins, the transmitters will not be deleted.

Testing Transmitters

Portable transmitters should be tested from various locations and positions in the premises. This is to insure the the Silent Signal Console will respond reliably under different signal conditions.

SYSTEM OPERATION

Two Console operating options are available:

OPTION A

The standard option does not enable the 24-hour timer until a transmitter configured as an activity monitor is added to the system, and disables the 24-hour timer if all activity monitor transmitters are deleted.

OPTION B

A second option may be selected that enables the 24-hour timer when the unit is powered up. The console becomes an activity monitor when the system is used in this manner. To select this second option, cut the red jumper on the back of the unit next to the power connector (see Figure 7).

The activity cover should be removed to expose the 24-HOUR indicator and 24-hour TIMER RESET button whenever an activity monitor will be used as part of the system (see Figure 15).

In both modes the Console constantly monitors all entered transmitters for alarms and supervisory messages. It also monitors itself for proper operation. If an alarm or supervisory event occurs the console triggers the communicator to report the alarm, and initiates a local annunciation of the condition.

COMMUNICATOR LOOPS

- ✓ Pendant transmitters and the EMERGENCY button activate communicator Loop 1 and are indicated by a constant tone.
- ✓ Sl Supervised transmitters configured to activate communicator Loop 2 are indicated by one second beeps.
- ✓ Sl Supervised transmitters that activate communicator Loop 3 are indicated by two second beeps.
- ✓ All supervisory events activate communicator Loop 4 and are indicated by a short beep every six seconds. The tones will stop once the event is reported to the central station.

A supervisory (trouble) event will occur if:

- ✓ The Console battery voltage drops below an acceptable level. This is indicated by a blinking POWER LED.
- ✓ A Transmitter sends a low *battery* message. This is indicated by the LOW TRANSMITTER BATTERY LED being lit.
- ✓ The Console fails to receive a *status* message from an Sl Transmitter for 8 hours. (See SETTING Sl FORMAT TRANSMITTER OPTIONS on Page 12)

SPECIAL FUNCTIONS

24-Hour Activity Zone Disable/Enable

To disable the 24-hour activity monitor function without having to delete the transmitter(s) used for this function, press and hold the TIMER RESET button for three seconds. The 24-HOUR LED will turn off to indicate that the 24-hour timer has been disabled.

To re-enable the function, press and release the TIMER RESET button. The 24-HOUR LED will light to indicate the timer is active.

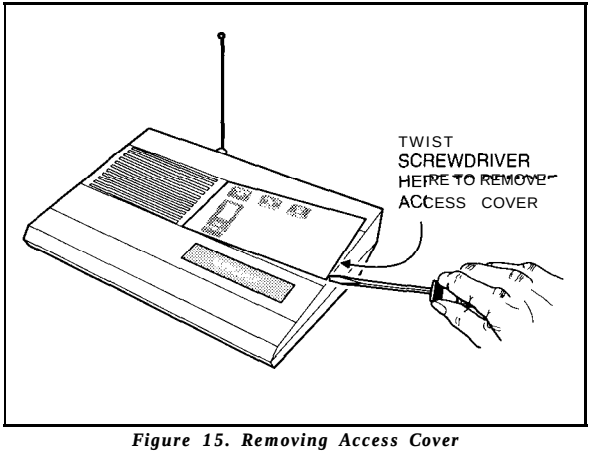

Figure 15. Removing Access Cover

COMMUNICATOR

The Console contains a modified Model 1704 4-zone digital communicator. The zones have been pre-defined as follows:

ZONE #	ZONE TYPE	TRIGGER SOURCE
1	EMERGENCY A	MEGACODE PENDANTS AND CONSOLE EMERGENCY BUTTON
2	EMERGENCY B	SMOKE DETECTORS FIRE ALARMS
3	EMERGENCY B	ACTIVITY DETECTORS AND 24-HOUR CHECK-IN ALARM
4	TROUBLE	CONSOLE OR TX LOW BATTERYS, TX STATUS EXCEPTIONS

The inputs to all loops are normally low and go high for 3 to 5 seconds on each event. If a trouble condition is not corrected (i.e., replacing a low transmitter battery) it will occur again within 1 hour. The communicator may be programmed to limit the number of times it will report an event.

In addition, there is a TEST/CANCEL button provided. This button causes the communicator to send a "test" message to the central station. When pressed immediately after activating an alarm, the communicator will add a "Cancel" message to the end of the alarm report.

Programming the Communicator

A Linear Model P-9A Data Terminal must be used to program the 1704 communicator present in the Console. The P-9A is a small, highly specialized computer, with a built-in modem designed specifically for exchanging information with Linear's family of "upload/download" communicators. It has a semi-custom keypad not much different than that found on a standard typewriter for entering information, and a 16 character, two line, LCD display for viewing information. For a detailed explanation of its functions, refer to the Data Terminal Model P-9A User Instructions and Reference Guide. A brief explanation of how to use it to program the Console follows.

Creating a 1700 File

To program the communicator a file must be created in the P-9A programmer for downloading into the communicator's permanent memory. Power up and log on to the P-9A as a Supervisor using the password included with the P-9A and the Supervisor Operator Code you entered from the SET-UP Menu when you first used the P-9A. Use the up and down arrows to select the FILE MAINT? screen and press the ENTER key.

Use the up and down arrows to select the CREATE FILE? screen and press the ENTER key. Select a File number from 1 to 8 to place the information in. Remember what file number you have chosen.

Scroll down to the 1700? and press the **ENTER** key. You are now ready to enter your information into the P-9A.

Masterfile Header [ENTER MF HEADER:]

This allows you to identify the file with a heading of up to 16 characters in length. You may want to use this to identify location, customer I.D. number, or other data. It does not affect the operation of the communicator, and may be left blank if desired.

Communicator Enable [ENABLE TELEPHONE COMMUN? (Y/N)]

This step must be answered with a "Y". If an "N" is entered, the communicator will not function.

Phone Numbers [ENTER PHONE #1,2,3:]

Up to 3 different phone numbers may be entered. Each of the four loops can be programmed to place calls to any 2 of the 3 numbers. Each phone number can report a different account number.

➥ ***NOTE: Phone numbers I and 2 can be 1.5 characters long. Phone number 3 can be up to 28 characters long and is entered as 3A and 3B.***

Entering a "D" will cause the communicator to pause for a dial tone. Entering an **"S"** will cause a 3-second pause. Entering an "L" will cause a 6-second pause.

UL requires that the first digit he a "S" or "L" to pause before a dialing sequence begins.

Central Station Format [CNTRL STA FORMAT PH1: 2,3]

Each phone number called can report using a different reporting format. Select one compatible with the central station receiving the report. The formats available are:

SESCOA STANDARD
(3 by 1, Dual Round Compared)

Handshake and Kissoff 2300 Hz
Transmission Frequency 1800 Hz
Message Speed 20 ppS

SESCOA SUPER SPEED
(4 by 3, Single Round with Check Sum)

Handshake and Kissoff 2300 Hz
Transmission Frequency 1800 Hz
Message Speed 40 ppS

RADIONICS HEX
(3 by 1, Single Round with Check Sum)

Handshake and Kissoff 2300 Hz
Transmission Frequency 1800 Hz
Message Speed 40ppS

UL has tested the above formats with UL Listed Sescoa 3000R and Sescoa 3000C central stations.

ɔunt Number

[ENTER ACCOUNT # FOR PH1, 2, 3:]

The communicator can report a different account number at each phone number called. The range of account numbers is determined by the reporting format. The account numbers available for each format are:

- **J** SESCOA STANDARD 000 through 999
- ✓ SESCOA FAST 0000 through 3374
- ✓ RADIONICS HEX 000 through FFE; "A", "BBB", "CCC", "DDD", and "EEE" may not be used.

D TM F Dialing

[USE DTMF DIALING? (Y/N)]

Select this if your phone can use DTMF (tone dialing). If selected you will be asked to select fast or slow rate. You can select either, because the communicator only uses one rate at this time.

Pulse Dialing

[AMERICAN DIAL RATIO? (Y/N)]

If you do not select DTMF Dialing, you will be using pulse dialing. Two break/make ratios are available using this dialing method, the 60/40 American ratio used in the United States and the 67/33 ratio used in some foreign countries. If the American ratio is not selected, the communicator will use the 67/33 ratio.

Ground Start

[IS GROUND START REQUIRED? (Y/N)]

Ground start is not supported on this communicator. **UL does not recognize ground start phone systems as acceptable for home health monitoring.**

Call Tries and Sleep Cycles

[ENTER NUMBER OF CALL TRIES:]

The communicator may be programmed to make up to 15 attempts (tries) to reach a central station. The number of tries will be made to the numbers entered for each loop. If the central station is not reached, a sleep period will be entered where the communicator temporarily stops trying. At the end of the specified Sleep Time the sequence will be repeated. **UL requires between 7 and 10 call tries can be made.** With two phone numbers being called on each try, this allows up to 20 calls to report an event. **UL requirements do not allow any sleep cycles to be programmed.** For non-UL applications, sleep cycles can be from 1 to 255 minutes in length. The communicator will remain on line during call tries and then release the line during sleep periods. If the communicator cannot reach the central station after all call tries and sleep cycles, the event will be canceled.

Anti-Jam Time

[ENTER ANTI-JAM TIME (15-255)]

This refers to the time the communicator waits between call tries. It is to insure that the call did not fail due to the phone being off-hook (in use) or ringing when the previous call was attempted. This time can be from 15 to 255 seconds. A value for U.S. phone systems is 45.

Loop Restoral Code [ENTER LOOP RESTORAL CODE:]

If Sescoa Standard was selected as a reporting format the loop restoral code must be entered. This can be any number from 0 to 9. It will be reported for all loop restorals.

Supervisory Reports [SUPERVISORY REPORTS? (Y/N)]

Supervisory reports are enabled as a block and selected individually. With this system, you must respond with a "Y" at this prompt. The Console allows the use of the 24-hour check-in and Test/Cancel features. If you do not wish to use these features, answer "N" at the prompt for each type of supervisory report.

Supervisory Phone Numbers [ENTER PRIMARY SUPRV PHONE #:]

A primary and secondary phone number for supervisory reports must be entered. This refers to which of the phone numbers entered earlier you wish the communicator to report supervisory events to (see Enter Phone #l, 2, 3). A primary and secondary phone number must be specified and they must be different. (You cannot select phone number 1 as the primary and secondary phone numbers). You may, however, program the same number into phone number 1 and 2. If you do not want a secondary number to be dialed, you may enter "4" as the secondary phone number.

Report to Both Numbers [REPORT TO BOTH NUMBERS? (Y/N)]

You can select to have the communicator report supervisory events to both the primary and secondary phone numbers. If you chose to have it report to one number it will call the primary phone the specified number of tries and then call the secondary number. If it does not reach either, it will enter a sleep period and then repeat the process. If set to call both numbers it will call until it reports to both numbers, or all tries and sleep cycles are exhausted. If "4" was selected as the secondary phone number it will attempt to report only to the primary phone.

Open and Close Reports [OPEN OR CLOSE REPORTS? (Y/N)]

These reports are not used in this communicator. **Answer "N"**.

Send Test Code [SEND TEST CODE? (Y/N)]

If test codes are enabled, a "test" message may be sent at any time, by pressing the **TEST/CANCEL** button on the control panel. **If an "N" is entered, the TEST/CANCEL button will only be active immediately following an alarm (cancel only).**

Test/Cancel Code [ENTER TEST/CANCEL CODE:]

Sescoa Standard format does not use a pre-defined code to identify a Test/Cancel message. Enter a number from 0 to 9 to be sent as a Test/Cancel message.

Battery Reports

[ARE BATTERY RPTS REQUIRED? (Y/N)]

This feature is not used. **Answer "N".**

24-Hour Check-In

[IS 24HR CHECK-IN REQUIRED? (Y/N)]

If enabled, the communicator will report to the central station every 24 hours. This is separate from the 24-hour activity alarm message.

Check-In Code

[ENTER CHECK-IN CODE:]

Sesca Standard and Radionics Hex do not use a pre-defined code to identify a 24-hour check-in. Enter a number from 0 to 9 to be sent for this type of message.

Loop Programming

Loops 1 through 4 may be used in this device. Loops 5 through 8 should be disabled.

Loops should be set as follows:

Trigger polarity positive
No swinger elimination on Loops 1, 2, and 3
Swinger elimination optional on Loop 4 (reduces central station traffic caused by hourly low battery or status trouble reports)
Primary phon # (1,2, or 3)
Secondary phone # (1, 2, or 3, but different from primary)
No lop restoral reports
Loop response time 0
Loop Priority (Loop 1=6, Loop 2=7, Loop 3=5, Loop 4=4)
Audio Loops as required for Loops 1,2 and 3. No audio on Loop 4.

Other loop parameters such as report codes are dependent on individual installations and are left to the installer. Loop report codes should be different and recognizable as to the purpose intended.

Enter RCM Direction

[ENTER DIRECTION FOR RCM? (Y/N)]

This feature is not used. Respond with an "N".

Enable Remote Access

[ENABLE REMOTE ACCESS?]

This feature allows the communicator to be reprogrammed over the phone line without assistance at the communicator. If unassisted programming over the phone line is required, enable this function. If disabled, the communicator will not respond to a ring, and will have to be programmed locally or with on-site assistance.

Lock Communicator

[LOCK COMMUNICATOR? (Y/N)]

If remote access is enabled, the communicator may be "locked". If the communicator is locked, access will be granted only if the P-9A programmer provides the correct 4-character access code when communications are first established. If the communicator is not locked, any P-9A programmer will be able to call and establish communication with the communicator.

Keep Same Access Code [KEEP SAME ACCESS CODE? (Y/N)]

If the communicator has an access code and you do not wish to change it, answer "Y". If you wish to enter a new access code answer "N".

Access Code Entry [ENTER ACCESS CODE? (Y/N)]

Enter "Y" to select your own 4-character access code. If "Y" is entered you will be prompted to enter the 4-character code. Enter "N" to allow the P-9A to generate a random access code. The access code will then be displayed. It should be written down and stored, so it isn't forgotten. Should an access code be lost, the communicator will have to be reprogrammed locally.

Save Master File? [SAVE MASTERFILE? (Y/N)]

Enter "Y" to save the file. Enter "N" to erase the file.

ESTABLISHING COMMUNICATIONS

Local Communications

To program the communicator locally, connect the P-9A directly to the communicator with an appropriate modular phone cord. Enter the Local Communication function on the P-9A. To write the file created above into the communicator's permanent memory either select the Write File command from menu mode or enter "WR" if in command mode (Refer to P-9A Instructions for details). You will then be prompted for the File Number (1 to 8) you wish to write from. Enter the file number of the program you wish to place in the communicator. The P-9A will prompt you to "Depress Communicator Switch" to begin data transfer. This switch may be accessed through a hole located on the bottom of the console between the wire troughs (see Figure 8 on Page 7). When the transfer is completed you will be prompted for further commands. Select Disconnect if in menu mode or enter "DIS" if in command mode.

Remote Communications

To program the communicator remotely, connect the P-9A to the phone network using an appropriate modular cord. Enter the Remote Communication menu on the P-9A. Select Establish Communications command from menu mode or enter "EC" if in command mode. The P-9A will prompt you for the phone number the communicator is attached to. Enter it as if you were calling from a phone. The P-9A will now prompt you for the 4-character access code. Enter it or any 4 characters if the communicator is not locked. Once communications have been established you will be prompted for further commands. Select the Write Communicator function from the menu mode or enter "WR" if in command mode. The P-9A will then ask for the file number. Enter the number of the file created for this location. When the file has been transferred you will once again be prompted for a command. Select the Disconnect function from menu mode or enter "DIS" if in command mode.

For other functions refer to the P-9A user instructions.

SYSTEM TESTING

✶ WARNING! BEFORE TESTING A FULLY PROGRAMMED AND CONNECTED CONSOLE, NOTIFY THE CENTRAL STATION THAT A TEST IS IN PROGRESS. FAILURE TO DO THIS WILL CAUSE THE CENTRAL STATION TO RESPOND AS IF AN ACTUAL ALARM OCCURRED!

To test the system follow these steps:

STEP 1: Call the central station and notify the operator that testing is in progress, and to log, but not respond to, each alarm and restoral report.

STEP 2: Trigger each alarm transmitter, one at a time.

STEP 3: Verify that the Console has gone into alarm.

STEP 4: Reset the Console and verify that each transmitter was received.

➥ ***NOTE: Steps 2-4 should be repeatedfrom various locations in the installation to verify the effective radio range of the transmitters.***

STEP 5: Call the central station and verify that the proper communicator zone reported an alarm and restoral the appropriate number of times.

STEP6: Press the EMERGENCY button and then the TEST/CANCEL button on the Console.

STEP 7: Call the central station and verify that the proper communicator zone reported for emergency and test/cancel.

After testing call the central station and notify the operator that testing is complete.

✶ **NOTICE: FULLY INSTRUCT THE END USER ON THE OPERATION OF THE SYSTEM, EXPLAINING THE- CENTRAL STATION'S RESPONSE TO EACH TYPE OF ALARM AND SUPERVISORY EVENT.**

SPECIFICATIONS

Coding Formats

MegacodeTM 24 bit A 1 D PPM	I ,048,567 x 8 Channels
Linear Sl 16 bit A1A PPM	256 x 32 Channels

Power Requirements

Primary Supply	9 VDC 500 mA DC Supply
Backup Supply	6 V 1.2 Ah Battery
Quiescent Operating Current	S-724: 23 mA, S-724/V: 110 mA
Alarm Operating Current	S-724: 100 mA, S-724N 420 mA
Backup Operation Duration	S-724 UL Tested @24 Hrs min. S-724N UL Tested @ 4 Hrs min.
Battery Life Expected	3 Years

RF Characteristics

Receiver Type	R5V Super-regenerative
RF Sensitivity	-97 dBm Typical
Radio Frequency	315 Mhz
Maximum Range (Line-of-sight, open range)	150 Feet

Communicator

Type	1704 Upload/Download
Formats Supported	SESCOA Super Speed & Std. Radionics Hex
Programmer Required	Linear P-9A Programmer

Temperature Requirements

Operating Temperature	32" to 120" F (0 to 50°C)

Dimensions

Width	9.5" (24.13 cm)
Length	6.75" (17.15 cm)
Height	3" (7.62 cm)

IMPORTANT NOTICE!!!

Linear radio controls provide a reliable communications link and fill an important need in portable wireless signaling. However, there are some limitations which must be observed.

- For U.S. installations only: The radios are required to comply with FCC Rules and Regulations as Part 1.5 devices. As such, they have limited transmitter power and therefore limited range.
- A receiver cannot respond to more than one transmitted signal at a time and may be blocked by radio signals that occur on or near their operating frequencies, regardless of code settings.
- Changes or modifications to the device may void FCC compliance.
- Infrequently used radio links should be tested regularly to protect against undetected interference or fault.
- A general knowledge of radio and its vagaries should be gained prior to acting as a wholesale distributor or dealer, and these facts should be communicated to the ultimate users.

REGULATORY NOTICES

F. C. C.

This equipment generates and uses radio frequency energy and if not installed and used properly, that is, in strict accordance with the manufacturer's instructions, may cause interference to radio and television reception. It has been type tested and found to comply with the limits for a Class B computing device in accordance with the specifications in Pan 15 of FCC Rules, which are designed to provide reasonable protection against such interference in a residential installation. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- **Relocate the console away from the TV/radio receiver.**
- **Plug the console into a different wall outlet so that the console is on a different branch circuit.**
- **Re-orient the TV/radio antenna.**

If necessary, the user should consult the dealer or an experienced radio/television technician for additional suggestions.

D. O. C.

This digital apparatus does not exceed the Class B limits for radio noise emissions from digital apparatus as set out in the Radio **Interference Regulations** of the Canadian Department of Communications.

LE PRÉSENT APPAREIL NUMÉRIQUE N'ÉMET PAS DE BRUITS RADIOÉLECTRIQUES, DÉPASSANT LES LIMITES APPLICABLES AUX APPAREILS NUMÉRIQUES DE CLASSE B PRESCRITES DANS LE REGLEMENT SUR LE BROUILLAGE RADIOÉLECTRIQUE ÉDICTÉ PAR LE MINISTÉRE DES COMMUNICATIONS DU CANADA.

LINEAR LIMITED WARRANTY

This Linear product is warranted against defects in material and workmanship for twelve (12) months. The Warranty Expiration Date is labeled on the product. **This warranty extends only to wholesale customers** who buy direct from Linear or through Linear's normal distribution channels. **Linear does not warrant this product to consumers.** Consumers should inquire from their selling dealer as to the nature of the dealer's warranty, if any. **There are no obligations or liabilities on the part of Linear corporation for consequential damages arising out of or in connection with use or performance of this product or other indirect damages with respect to loss of property, revenue, or profit, or cost of removal, installation, or reinstallation.** All implied warranties, including implied warranties for merchantability and implied warranties for fitness, are valid only until Warranty Expiration Date as labeled on the product. **This Linear Corporation Warranty is in lieu of all other warranties express or implied.**

For warranty service on Linear equipment return product, at sender's expense to:

Linear Corporation
2580 Pioneer Avenue, Suite C
Vista, CA 92083
Attention: Repairs Department

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