LTC 2600 Series
Video Multiplexers

Installation Instructions

Philips
Communication,
Security & Imaging

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IMPORTANT SAFEGUARDS

1. Read Instructions - All the safety and operating instructions should be read before the unit is operated.

2. Retain Instructions - The safety and operating instructions should be retained for future reference.

3. Heed Warnings - All warnings on the unit and in the operating instructions should be adhered to.

4. Follow Instructions - All operating and use instructions should be followed.

5. Cleaning - Unplug the unit from the outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.

6. Attachments - Do not use attachments not recommended by the product manufacturer as they may cause hazards.

7. Water and Moisture - Do not use this unit near water - for example, near a bath tub, wash bowl, kitchen sink, or laundry tub; in a wet basement; near a swimming pool; in an unprotected outdoor installation; or any area which is classified as a wet location.

8. Accessories - Do not place this unit on an unstable stand, tripod, bracket, or mount. The unit may fall, causing serious injury to a person and serious damage to the unit. Use only with a stand, tripod, bracket, or mount recommended by the manufacturer or sold with the product. Any mounting of the unit should follow the manufacturer's instructions and should use a mounting accessory recommended by the manufacturer.

   An appliance and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the appliance and cart combination to overturn.

9. Ventilation - Openings in the enclosure, if any, are provided for ventilation, to ensure reliable operation of the unit, and to protect it from overheating. These openings must not be blocked or covered. This unit should not be placed in a built-in installation unless proper ventilation is provided or the manufacturer's instructions have been adhered to.

10. Power Sources - This unit should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power supply you plan to use, consult your appliance dealer or local power company. For units intended to operate from battery power or other sources, refer to the operating instructions.

11. Grounding or Polarization - This unit may be equipped with a polarized alternating-current line plug (a plug having one blade wider than the other). This plug will fit into the power outlet only one way. This is a safety feature. If you are unable to insert the plug fully into the outlet, try reversing the plug. If the plug should still fail to fit, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the polarized plug.

    Alternately, this unit may be equipped with a 3-wire grounding-type plug, a plug having a third (grounding) pin. This plug will only fit into a grounding-type power outlet. This is a safety feature. If you are unable to insert the plug into the outlet, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the grounding-type plug.

12. Power Cord Protection - Power supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords and plugs, convenience receptacles, and the point where they exit from the appliance.

13. Power Lines - An outdoor system should not be located in the vicinity of overhead power lines or other electric light or power circuits or where it can fall into such power lines or circuits. When installing an outdoor system, extreme care should be taken to keep from touching such power lines or circuits as contact with them might be fatal. U.S.A. models only - refer to the National Electrical Code Article 820 regarding installation of CATV systems.

14. Overloading - Do not overload outlets and extension cords as this can result in a risk of fire or electric shock.

15. Object and Liquid Entry - Never push objects of any kind into this unit through openings, as they may touch dangerous voltage points or short out parts that could result in a fire or electric shock. Never spill liquid of any kind on the unit.

16. Servicing - Do not attempt to service this unit yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.

17. Damage Requiring Service - Unplug the unit from the outlet and refer servicing to qualified service personnel under the following conditions:

    a. When the power supply cord or plug is damaged.

    b. If liquid has been spilled or objects have fallen into the unit.

    c. If the unit has been exposed to rain or water.

    d. If the unit does not operate normally by following the operating instructions. Adjust only those controls that are covered by the operating instructions, as an improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the unit to its normal operation.

    e. If the unit has been dropped or the cabinet has been damaged.

    f. When the unit exhibits a distinct change in performance--this indicates a need for service.

18. Replacement Parts - When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer or have the same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock, or other hazards.

19. Safety Check - Upon completion of any service or repairs to this unit, ask the service technician to perform safety checks to determine that the unit is in proper operating condition.

20. Coax Grounding - If an outside cable system is connected to the unit, be sure the cable system is grounded. U.S.A. models only--Section 810 of the National Electrical Code, ANSI/NFPA No.70-1981, provides information with respect to proper grounding of the mount and supporting structure, grounding of the coax to a discharge unit, size of grounding conductors, location of discharge unit, connection to grounding electrodes, and requirements for the grounding electrode.

21. Lightning - For added protection of this unit during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet and disconnect the cable system. This will prevent damage to the unit due to lightning and power line surges.
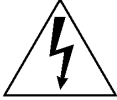
FCC & ICES INFORMATION
(U.S.A. and Canadian Models Only)

WARNING - This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules and ICES-003 of Industry Canada. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and radiates radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense. Intentional or unintentional changes or modifications not expressly approved by the party responsible for compliance shall not be made. Any such changes or modifications could void the user's authority to operate the equipment.

If necessary, the user should consult the dealer or an experienced radio/television technician for corrective action . The user may find the following booklet prepared by the Federal Communications Commission helpful: "How to Identify and Resolve Radio-TV Interference Problems." This booklet is available from the U.S. Government Printing Office, Washington, DC 20402, Stock No.004-000-00345-4.

> **Warning:** This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

Safety Precautions

CAUTION

RISK OF ELECTRIC
SHOCK. DO NOT OPEN!

Caution: To reduce the risk of electrical shock, do not open covers. No user serviceable parts inside. Refer servicing to qualified service personnel

This label may appear on the bottom of the unit due to space limitations.

The lightning flash with an arrowhead symbol within an equilateral triangle is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

Warning: To prevent fire or shock hazard, do not expose units not specifically designed for outdoor use to rain or moisture.
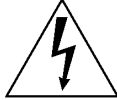
Attention: Installation should be performed by qualified service personnel only in accordance with the National Electrical Code or applicable local codes.

Power Disconnect. Units with or without ON-OFF switches have power supplied to the unit whenever the power cord is inserted into the power source; however, the unit is operational only when the ON-OFF switch is in the ON position. The power cord is the main power disconnect for all units.

SECURITE

ATTENTION

RISQUE DE CHOC ELECTRIQUE.
NE PAS OUVRIR.

Danger: Pour ,éviter tout risque d'électrocution, ne pas ouvrir le boîtier. Il n'y a pas de pièces remplaçables à l'intérieur. Pour toute révision, s'adresser à un technicien spécialisé.

En raison de limitation de place, cette étiquette peut être placée sur le dessous de l'appareil.

L'éclair fléché dans un triangle équilatéral, avertit l'utilisateur de la présence d'une "tension dangereuse" non isolée à l'intérieur de l'appareil et d'une valeur suffisante pour constituer un risque d'électrocution.

Le point d'exclamation contenu dans un triangle équilatéral, avertit l'utilisateur de la présence, dans la documentation qui accompagne l'appareil, de consignes d'utilisation et de maintenance importantes.

Attention: Pour éviter le risque d'électrocution ou d'incendie, ne pas exposer à la pluie ou à l'humidité un appareil non conçu pour une utilisation extérieure.

Attention: L'installation doit être effectuée uniquement par du personnel de service qualifié conformément à la réglementation du Code Electrique National ou à la réglementation locale.

Disjonction de l'alimentation. Les appareils avec ou sans commutateurs ON-OFF sont alimentés à chaque fois que le cordon d'alimentation est branché à la source d'alimentation; toutefois, les appareils disposant de commutateurs ON-OFF ne fonctionnnent que lorsque le commutateur ON-OFF est sur la position ON. Le cordon d'alimentation est la disjonction d'alimentation principale pour tous les appareils.

SICHERHEITSVORKEHRUNGEN

VORSICHT

RADIO-INTERFERENZEN
SCHLAGES NICHT ÖFFNEN

VORSICHT: Um einen elektrischen schlag zu vermeiden, abdeckung nicht entfernen. Wartungen aller art qualifiziertem personal überlassen.

Aus Platzgründen kann diese Warnung auf der Unterseite des Gerätes angebracht sein.

Das Blitzsymbol im gleichseitigen Dreieck soll den Benutzer auf nicht isolierte "Hochspannung" im Gehäuse aufmerksam machen, die eventuell stark genug ist, um einen elektrischen Schlag zu verursachen.

Das Ausrufezeichen im gleichseitigen Dreieck soll den Benutzer auf wichtige Bedienungs- und Wartungsanleitungen in der dem Gerät beigefügten Literatur aufmerksam machen.

Warnung

Um Feuer oder elektrische Schläge zu vermeiden, setzen Sie das Gerät niemals Regen oder Feuchtigkeit aus.

Achtung! Die Installation sollte nur von qualifiziertem Kundendienstpersonal gemäß jeweilig zutreffender Elektrovorschriften ausgeführt werden.
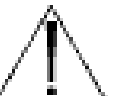
Netzanschluß. Geräte mit oder ohne Netzschalter haben Spannung am Gerät anliegen, sobald der Netzstecker in die Steckdose gesteckt wird. Das Gerät ist jedoch nur betriebsbereit, wenn der Netzschalter (EIN/AUS) auf EIN steht. Wenn man das Netzkabel aus der Steckdose zieht, dann ist die Spannungszuführung zum Gerät vollkommen unterbrochen.

PRECAUCIONES DE SEGURIDAD

PRECAUCION

RIESGO DE CHOQUE
EL POTPO21 ¡NO ABRIR!

Precaucion: Para Reducir El Riesgo De Choque Eléctrico, Favor No Abrir La Cubierta. Este Equipo No Consta De Piezas O Partes Que Requieren Servicio O Mantenimiento. Para Reparaciones Favor Referirse A Un Técnico Calificado.

Debido a limitaciones de espacio, esta etiqueta puede aparecer en la parte inferior de la unidad.

El símbolo representado por un relámpago con punta de flecha dentro de un triángulo equilátero, se muestra con el objetivo de alertar al usuario que existen "voltages peligrosos" sin aislamiento, dentro de la cubierta de la unidad. Dichos voltages pueden ser de tal magnitud que constituyen un riesgo de choque eléctrico a personas.

El símbolo de exclamación dentro de un triángulo equilátero, se muestra con el objetivo de alertar al ususario de que instrucciones de operación y mantenimiento importantes acompañan al equipo.

Peligro

Para evitar el peligro de incendio ó choque eléctrico, no exponga a la lluvia ó humedad, equipos que no han sido para uso exterior.

Atención: La instalación de este equipo debe ser realizada por personal capacitado, solo en acuerdo, y en cumplimiento de normas del "National Electric Code" (Código Eléctrico Nacional) ó las normas del Gobierno Nacional Local.

Para Desconectar la Alimentación: Unidades no equipadas con interruptores ON/OFF, son alimentadas cuando el cable de alimentación es conectado a la corriente eléctrica. Las unidades equipadas con interruptores son alimentadas de igual forma, pero adicionalmente requieren que el interruptor esté posicionado en ON. El cable de alimentación es el medio principal de desconexión del equipo.

ATTENTION
OBSERVE PRECAUTIONS
FOR HANDLING
ELECTROSTATIC
SENSITIVE DEVICES

WARNING: Electrostatic-sensitive device. Use proper CMOS/MOSFET handling precautions to avoid electrostatic discharge.

NOTE: Grounded wrist straps must be worn and proper ESD safety precautions observed when handling the electrostatic-sensitive printed circuit boards.

SECTION 1: INTRODUCTION TO THE LTC 2600 SERIES VIDEO MULTIPLEXERS

1.1 Guide to This Manual

This manual contains all the information necessary to safely install, program, and operate the LTC 2600 Series Video Multiplexer. Consult the Table of Contents for a detailed list of topics covered. Step-by-step procedures and sample menus guide you through each phase of multiplexer setup and programming.

Installation of the multiplexer includes mounting, connecting the multiplexer to system peripherals (i.e. monitors, cameras, VCRs), and learning the multiplexer controls.

Instructions for **programming** the multiplexer are divided into three sections for easy reference and understanding:

* **QUICK SETUP:** provides complete instructions for the QUICK SETUP programming menus which allow set up of all basic, general multiplexer functions.

* **ADVANCED SETUP:** provides complete instructions for the ADVANCED programming menus which allow set up of all basic, general multiplexer functions plus special operations including Action Setup, Alarm Setup, etc.

* *System4* **PROGRAMMING:** provides specific programming instructions pertaining only to the additional operating functions offered by *System4* multiplexer models.

Operating instructions cover all basic and enhanced (combined) operating modes. Those operating functions specific only to *System4* models are detailed in a separate section. *Firmware version 3.02 or greater*.

This manual also contains detailed technical reference materials, including **programming menu trees** and **sample system configuration diagrams**, which are located in the Appendixes.

1.2 Unpacking

Unpack carefully. This is electronic equipment and should be handled with care to prevent damage to the unit. Check for the following items:

- ☑ LTC 2600 Series Video Multiplexer
- ☑ Installation Instructions (manual)
- ☑ Quick Reference Guide
- ☑ One 25-pin D-type connector with screw terminal (used for Alarm/Accessory connections to include biphase connections when the LTC 2622/90 is used)
- ☑ Rack mount kit
- ☑ One 15-pin D-type connector with screw terminal (used for Biphase output – LTC 2672 and LTC 2682 only)
- ☑ Two power cords

If any items appear to have been damaged in shipment, replace the item(s) properly in the shipping carton and notify the shipping company. If any items are missing, notify your Philips Communication, Security & Imaging Sales Representative or Customer Service Representative.

> **NOTE:** The shipping carton is the safest container in which to transport the unit. Save it and all packing materials for future use.

1.3 Understanding Video Multiplexers

The LTC 2600 Series Video Multiplexers are designed to control multichannel recording and playback with the added capability of multiscreen viewing. The units allow monitoring of multiple camera sites without the need for multiple monitors and VCRs. They can be programmed easily via front panel control keys and on-screen display menus.

Video multiplexers are available in the following main categories:

*   **Standard Models** provide high quality multiplexing. They are designed to be plug-and-play, therefore simplifying installation.
*   *System4* **Triplex Models** provide a variety of advanced system features such as control via remote keypad, PC control, system camera control (i.e. Pan/Tilt/Zoom control for controllable cameras), as well as enhanced multiplexing (e.g. two multiscreen outputs and two VCRs to increase recording speed).

And, each type of multiplexer may operate in one of the following modes:

*   **Simplex Models** allow live multiscreen monitor viewing **or** playback **or** VCR recording.
*   **Duplex Models** allow live multiscreen monitor viewing **or** playback **and** at the same time record all video.
*   **Triplex Models** allow live multiscreen monitor viewing **and** playback **and** at the same time record all video.

To identify your specific LTC 2600 Series Video Multiplexer model, refer to the following chart which also provides basic operating specifications:

Model No.	Mode	Rated Voltage	Voltage Range	Power
6-channel: Color				
LTC 2622/90	**Duplex**	120/230 VAC, 50/60 Hz	108 to 253	30 W
9-channel: Monochrome	**Duplex**	120/230 VAC, 50/60 Hz	108 to 253	30 W
LTC 2632/90				
9-channel: Universal				
LTC 2642/90	**Duplex**	120/230 VAC, 50/60 Hz	108 to 253	30 W
9-channel: *System4*				
LTC 2672/90	**Triplex**	120/230 VAC, 50/60 Hz	108 to 253	30 W
16-channel: Monochrome	**Duplex**	120/230 VAC, 50/60 Hz	108 to 253	30 W
LTC 2652/90				
16-channel: Universal				
LTC 2661/90	**Simplex**	120/230 VAC, 50/60 Hz	108 to 253	30 W
16-channel: Universal				
LTC 2662/90	**Duplex**	120/230 VAC, 50/60 Hz	108 to 253	30 W
16-channel: *System4*				
LTC 2682/90	**Triplex**	120/230 VAC, 50/60 Hz	108 to 253	30 W

SECTION 2: INSTALLING THE VIDEO MULTIPLEXER

2.1 Mounting

The multiplexer is supplied as a desktop unit. If desired, the unit may be rack mounted using the included rack mount kit.

2.2 Connecting the Video Multiplexer System

1. Refer to Figures 2A, 2B, and/or 2C for details on the input/output connections supplied by the multiplexer. (Be sure to reference the appropriate drawing for your multiplexer model.)

2. Review the typical installation diagrams provided in Appendix B at the back of the manual, and determine the number of cameras, monitors, and VCRs to be incorporated into the system.

3. Connect all peripherals (e.g. cameras, monitors, VCRs) to the corresponding inputs/outputs on the multiplexer rear panel.

    NOTE: The **Quick Reference Guide** supplied with your multiplexer provides additional easy-to-follow instructions and diagrams for completing system connections.

4. When all connections have been completed, apply power to the system.
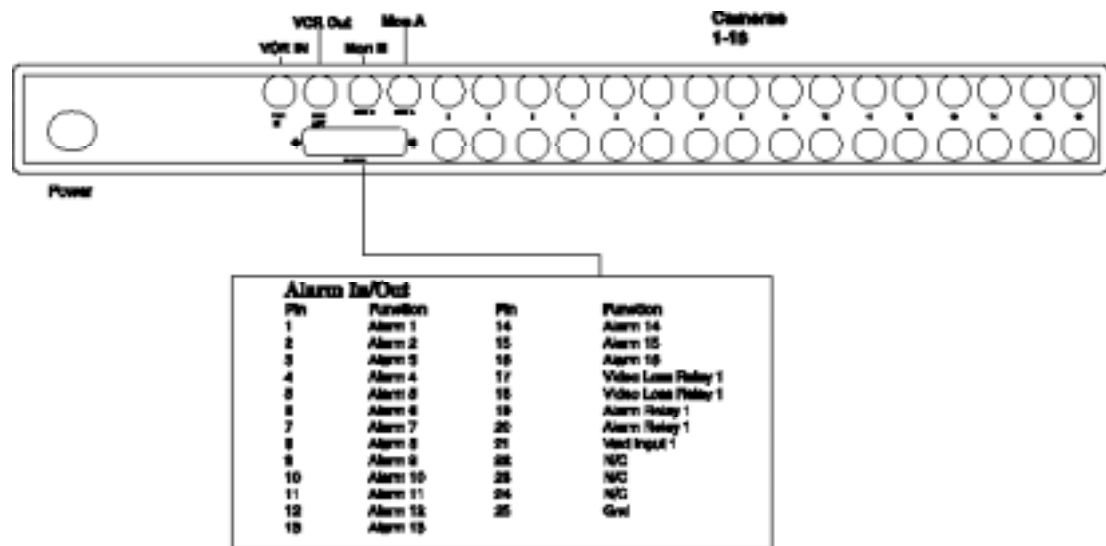
Figure 2A: 16-channel Back Panels
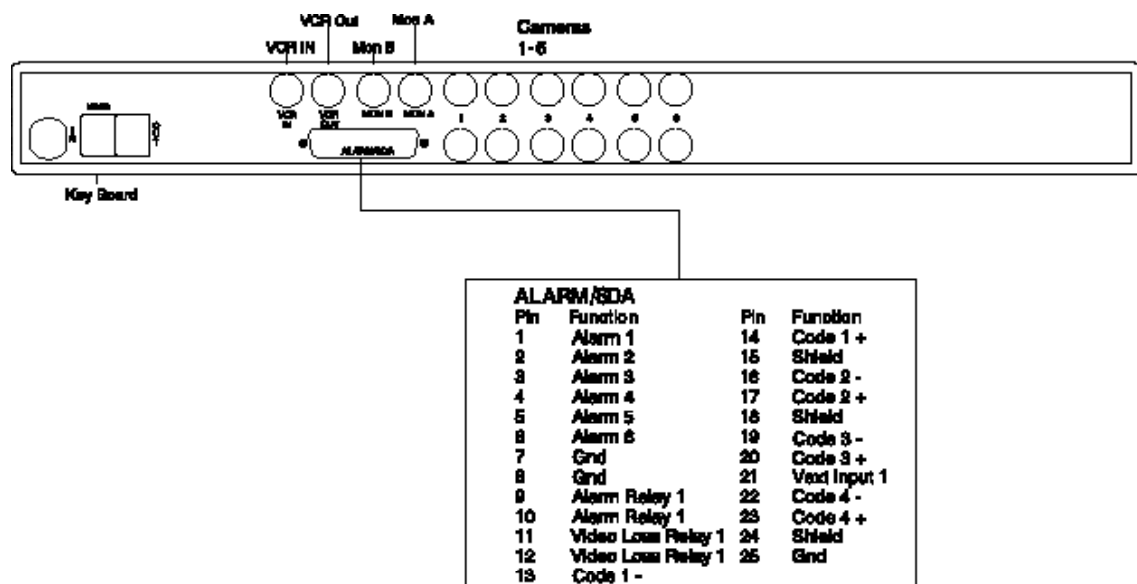
Figure 2B: 6-channel Back Panels

**From Console port of *System4* to RS-232 port of Philips VCRs.

9-pin D sub	to	25-pin D sub
2		2
3		3
4		6
5		7
6		20
7		5
8		4
Jumper 1+6		

or purchase a S1383 cable.

PC/Printer

Pin	Function
1	N/C
2	Rx
3	Tx
4	N/C
5	Gnd
6	N/C
7	RTS
8	CTS
9	N/C

S-VHS Input

Pin	Function
1	Gnd
2	Gnd
3	Y In
4	C In

VCR Out Mon A
VCR IN Mon B

Cameras
1-16

VCR IN MON B MON A CONSOLE VCR IN VCR OUT MON B MON A 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
VCR OUT
POWER KYBD SDA ALARM

S-VHS Output

Pin	Function
1	Gnd
2	Gnd
3	Y Out
4	C Out

Alarm In/Out (Cable Supplied)

Pin	Function	Pin	Function
1	Alarm 1	14	Alarm 14
2	Alarm 2	15	Alarm 15
3	Alarm 3	16	Alarm 16
4	Alarm 4	17	Video Loss Relay 1
5	Alarm 5	18	Video Loss Relay 1
6	Alarm 6	19	Alarm Relay 1
7	Alarm 7	20	Alarm Relay 1
8	Alarm 8	21	Vext Input 1
9	Alarm 9	22	Vext Input 2
10	Alarm 10	23	Alarm Relay 2
11	Alarm 11	24	Alarm Relay 2
12	Alarm 12	25	Gnd
13	Alarm 13		

Biphase Outputs

Pin	Function
1	Code 1 -
2	Code 1+
3	Shield
4	Code 2 -
5	Code 2 +
6	Shield
7	Code 3 -
8	Code 3 +
9	Shield
10	Code 4 -
11	Code 4 +
12	Shield
13	Code 5 -
14	Code 5 +
15	Shield

Figure 2C: 16-channel *System4* Back Panels

* S-VHS (IN/OUT)
  Limited distance need S-VHS Monitor, S-VHS VCR, and S-VHS tape.

** Please refer to **Appendix F** for cable details.

2.3 Guide to the Multiplexer Controls

Before attempting any multiplexer programming, you should become familiar with the function of the multiplexer controls. This section provides a summary of the front panel controls and indicators. Refer to Figures 2D, 2E, and/or 2F for the appropriate front panel illustration.
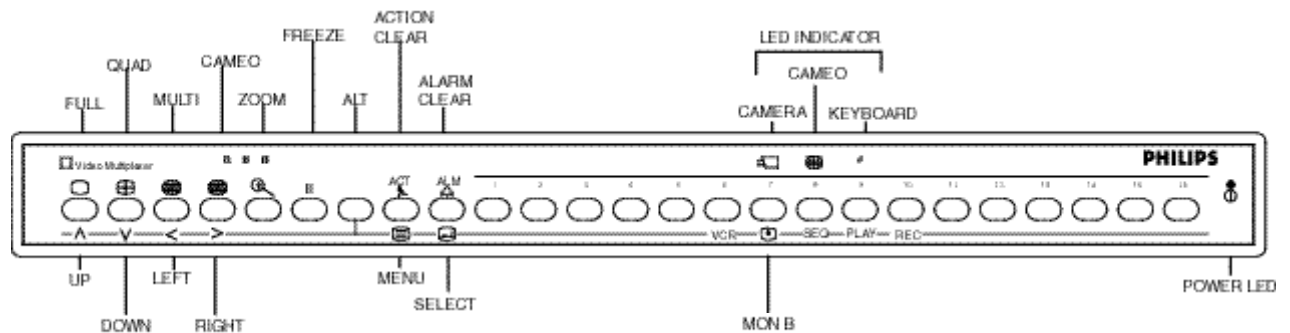
Figure 2D: 16-channel Front Panel
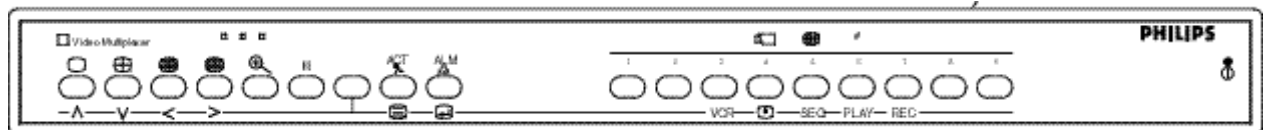
Figure 2E: 9-channel Front Panel
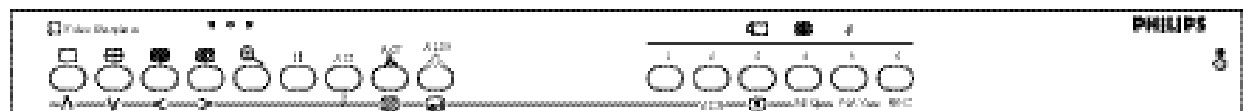
Figure 2F: 6-channel Front Panel

Front Panel Indicators

LED	Indication
POWER	Power supplied to unit
ALT	Primary indication: Alternate functions (Flashing): Camera-to-cameo mode (ALT + SELECT)
RECORD	Record mode enabled (LED LIT)
PLAYBACK	Playback mode enabled (LED LIT)
VCR Test	VCR Test enabled (LED LIT)
MON B	Monitor B enabled (Front panel keys control monitor B display) (LED LIT)
SEQ	Sequence mode enabled (LED LIT)
CAMEO	Cameo mode enabled (Camera keys control cameo images)
CAMERA	Camera mode enabled (Camera keys control camera images)
KEYPAD	Numeric mode enabled (Camera keys act as numeric keys)
ZOOM	Enlarge/zoom mode enabled
ACT	Steady: Action is enabled Flashing: Action has occurred Off: Action Disabled
ALM	Steady: Alarm is enabled Flashing: Alarm has occurred Off: Action Disabled

Controls

Primary Selections		**Secondary Selections**	
Description	**Icon**	**Description**	**Icon**
FULL	▢	UP	⌃
QUAD	⊞	DOWN	⌄
MULTI	⊞	LEFT	<
CAMEO	⊞	RIGHT	>
ZOOM	⊕		
FREEZE	‖		
ALT	▭		
ACTION CLEAR	ACT ⚡	MENU	☰
ALARM CLEAR	ALM (🔔)	SELECT	▭

SECTION 3: PROGRAMMING – QUICK SETUP

NOTE: The programming section of this manual is divided into 3 parts: QUICK SETUP, ADVANCED SETUP, and *System4* ADVANCED SETUP. Programming of all Philips LTC 2600 Series multiplexers is included in the QUICK SETUP and ADVANCED SETUP sections. Additional setup parameters for the *System4* version multiplexers **only** are included in the *System4* ADVANCED SETUP section.

3.1 Using QUICK SETUP

For typical multiplexer system operation, QUICK SETUP allows quick and easy programming of vital system data and operating parameters. The QUICK SETUP program includes the following:

*   Time/Date

*   AutoSet (automatic programming of system cameras)

*   VCR Setup

The following programming information applies to all LTC 2600 Series multiplexer models. If you need help at any point in the programming, consult the built-in HELP feature by pressing the ALT ▢ key.

   NOTE: Upon power up, the multiplexer will be using the factory-set default parameters. (See Appendix C for complete listing of the Factory Default Settings.) *During QUICK SETUP programming, the menus will be displayed on Monitor A in the system.*

1.   To access the menu screens, press the ALT ▢ key followed by the MENU ▤ key. The Main Menu (as shown below) displays both programming setup options: QUICK SETUP and ADVANCED SETUP.

    Choose the **QUICK SETUP** option by using the direction (arrow) keys, then press SELECT ▢ .

```
 MAIN MENU  3.00
  SETUP 1
>QUICK SETUP
 ADVANCED SETUP




 Choose:SELECT      More v
                 Exit:ZOOM
```
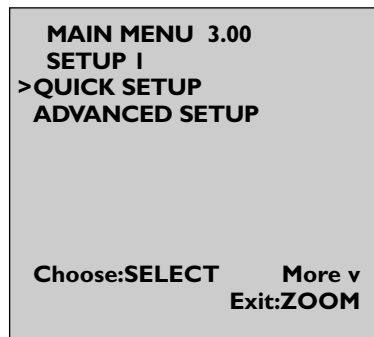
2. Select **TIME/DATE** from the QUICK SETUP menu. Enter the time format (12 or 24 hours), time, date format (dd/mm/yyyy; mm/dd/yyyy; yyyy/mm/dd), and date information as requested. (Refer to the following sample menus which correspond to the on-screen Time/Date menus—read each row from left to right.) When you have finished programming all time/date parameters, use the ZOOM ⊕ key to return to the QUICK SETUP menu.

```
   QUICK SETUP 3.00              TIME/DATE                  TIME FORMAT
    SETUP I                       TIME FORMAT     12hr
  >TIME/DATE                    >TIME         04:57:30AM     Set the time format to
    AUTOSET                       DATE FORMAT MM/DD/YYYY      12 hr or 24 hr clock
    VCR SETUP                     DATE          01/01/2000
                                                                              12 hr
                                                                               ^

    Choose:SELECT    More v       Choose:SELECT    More v    Default:FREEZE      Edit:^v
                 Exit:ZOOM         Edit:<>         Exit:ZOOM  Save:SELECT    Exit:ZOOM
```

```
    TIME                          DATE FORMAT                DATE

  Set system time for display    Select Date   MM/DD/YYYY   Set system date for display
  and recording                               ^            and recording      01/01/2000
                  01:15:45AM                                                   ^
                  ^

  MOVE CURSOR: <>                                            MOVE CURSOR: <>


                   Edit: ^v      Default:FREEZE    Edit:^v                     Edit:^v
  Save:SELECT    Exit:ZOOM       Save:SELECT   Exit:ZOOM     Save:SELECT    Exit:ZOOM
```

3. Select **AUTOSET** from the QUICK SETUP menu to automatically configure the video multiplexer for the number of cameras connected. (See the following sample menus.) Recording, camera sequence, and video loss list are also configured in this menu.

```
   QUICK SETUP 3.00                 AUTOSET
    SETUP I                          SETUP1
    TIME/DATE                      >AUTOSET ALL BELOW
  >AUTOSET                           RECORD LIST
    VCR SETUP                        VIDEO LOSS LIST
                                     SEQUENCES



    Choose:SELECT    More^v          Choose:SELECT    More^v
                 Exit:ZOOM                        Exit:ZOOM
```

4. Selecting **AUTOSET ALL BELOW** will automatically set the record list, sequence, and video loss list (according to the number of camera inputs detected by the multiplexer). Selecting any of the other options in this menu will set only the selected option.

5. When AUTOSET is completed, a message will be displayed for nine seconds. The camera inputs detected in the setup process are displayed as shown in this sample screen. Return to the QUICK SETUP menu by pressing the ZOOM ⊕ key.

```
   AUTOSET ALL
    SETUP I
   01 02 03 04 05 06 07 -- -- -- --
   -- -- -- -- -- -- -- -- -- -- -- -- --
   the above cameras were
   included inselected system
   list(s)




   Hit any Key to Continue
```

6. From the QUICK SETUP menu, select **VCR SETUP** (sample menus are shown below). Then select
    RECORD SETUP to specify the VCR model and time-lapse mode.

```
 QUICK SETUP 3:00              VCR SETUP                    RECORD SETUP
 SETUP I                       SETUP I                      *VCR OUT* SETUP I
 TIME/DATE                    >RECORD SETUP *VCR OUT*      >VEXT INPUT          OFF
 AUTOSET                       PLAYBACK FORMAT LTC2600      SELECT VCR
>VCR SETUP                     RECORD LOCK         OFF      TIME LAPSE      2hr  SP
                                                            RECORD LIST
                                                            VCR OUT


 Choose:SELECT     ^ More      Choose:SELECT      More v    Choose:SELECT      More v
                   Exit:ZOOM                      Exit:ZOOM Edit: <>          Exit:ZOOM
```

7. From the RECORD SETUP menu, select the **SELECT VCR** option. Select the appropriate VCR model by
    scrolling through the different selections listed with the TYPE parameter until you find your VCR model.

    NOTE: If your VCR type is not listed in the SELECT VCR menu, refer to the ADVANCED SETUP
    programming section for instructions on setting a custom VCR model.

```
 RECORD SETUP                  SELECT VCR                   SELECT VCR
 *VCR OUT* SETUP I             *VCR OUT* SETUP I            *VCR OUT* SETUP I
 VEXT INPUT          OFF      >TYPE        LTC399I          Match VCR type with the VCR
>SELECT VCR                    EDIT CUSTOM VCR              connected to optimize
 TIME LAPSE      2hr  SP                                    recording speeds.
 RECORD LIST                                                        LTC399I
 VCR OUT                                                               ^


 Choose:SELECT     ^ More      Choose:SELECT      More v    Default:FREEZE      Edit: ^v
                   Exit:ZOOM                      Exit:ZOOM Save:SELECT     Exit:ZOOM
```

8. Once the VCR has been selected, press the SELECT ⌨ key followed by the ZOOM ⊕ key to return to the
    RECORD SETUP menu. Select **TIME LAPSE** from the menu. Scroll through the time-lapse speeds until you find
    the appropriate recording speed of your VCR.

```
       RECORD SETUP                    TIMELAPSE
       *VCR OUT* SETUP I               *VCR OUT* SETUP I
       VEXT INPUT          OFF         Set the time lapse speed
       SELECT VCR
      >TIME LAPSE      2hr  SP
       RECORD LIST                            2 hr - SP
       VCR OUT


       Choose:SELECT     ^ More        Default:FREEZE      Edit: ^v
       Edit: <>        Exit:ZOOM       Save:SELECT     Exit:ZOOM
```

NOTE: After you specify the VCR model, the multiplexer will present the time-lapse settings available for the
selected VCR. Ensure the same setting is entered in the VCR time-lapse menu as selected on the VCR for
recording.

9. **Optional VCR SETUP Programming: PLAYBACK FORMAT**

    To play back a tape that has been previously recorded on a nonPhilips multiplexer, use the PLAYBACK FORMAT option to program the unit accordingly. From the VCR Setup menu, select the **PLAYBACK FORMAT** option, then select the appropriate tape format. (The factory-set default for this option is LTC 2600 format.)

    PLAYBACK FORMAT options:

    *   **LTC 2600** (Same as TC82XXC, TC825X-X Series)
    *   **TC8298B** Series (Same as TC82XXA Series)
    *   **DM** (Same as Uniplex II, Sprite Series)
    *   **Robot** (Same as MV90X Series)
    *   **Pelco**
    *   **Vicon**

10. **Optional VCR SETUP Programming: RECORD LOCK**

    When enabled (ON), this feature locks the multiplexer in the record mode; recording cannot be stopped from the front panel or keyboard unless the lock option is turned OFF in the VCR Setup menu.

SECTION 4: PROGRAMMING – ADVANCED SETUP

NOTE: Please refer to **Page 13** for details.

4.1 Using ADVANCED SETUP

For specialized multiplexer system operation, use the ADVANCED SETUP programming menus to customize your system configuration. The ADVANCED SETUP program includes the following:

*   Time/Date (as described in QUICK SETUP)

*   Auto Set (as described in QUICK SETUP)

*   VCR Setup

*   Action Setup

*   Alarm Setup

*   Camera Titles

*   Camera Sequences

*   Configure Setups (in which preconfigured modes of operation are stored in memory for use at a specified time)

*   Configure Displays (in which the format of the information shown on the displays is configured)

*   Video Loss (in which the system functioning is set for when a video loss occurs)

*   Default Settings (enables changes to the factory-set default parameters)

*   Languages (allows the menu language to be changed)

    NOTE: For information regarding **QUICK FUNCTION KEYS** enabling "instant access" to the programming lists on the LTC 2600 Video Multiplexer, please refer to Appendix E at the back of this manual.

IMPORTANT! The following procedure assumes that all options will be programmed (all options, however, are not necessarily required for your system configuration). If you do not wish to program any particular ADVANCED SETUP feature, simply skip over that step and move on to the next one (as applies to your system configuration).

---

1.   To access the menu screens, press the ALT ⬜ key followed by the MENU ☰ key. The Main Menu (as shown below) displays both programming setup options: QUICK SETUP and ADVANCED SETUP.

```
   MAIN MENU 3.00
   SETUP 1
   QUICK SETUP
  >ADVANCED SETUP




   Choose:SELECT     ^ More
                   Exit:ZOOM
```
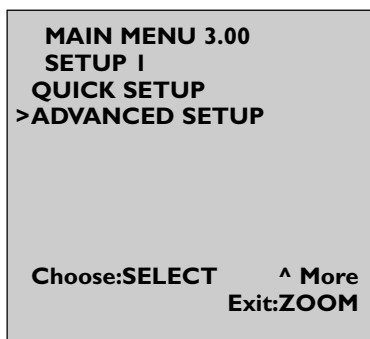
Choose the **ADVANCED SETUP** option by using the direction (arrow) keys, then press SELECT ⬒ .

```
   ADVANCED SETUP 3.00
    SETUP 1
    TIME/DATE
    AUTOSET
   >VCR SETUP
    ACTION SETUP
    ALARM SETUP
    CAMERA TITLES

   Choose:SELECT     More ^
                   Exit:ZOOM
```
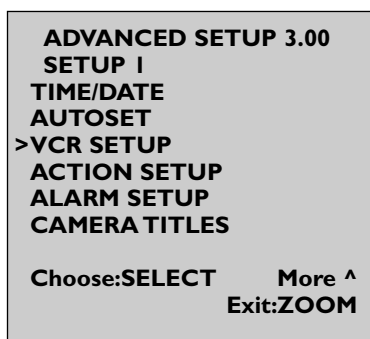
2.   For **TIME/DATE** programming, please refer to the information provided in the QUICK SETUP section of this manual. Programming this parameter is identical for both ADVANCED SETUP and QUICK SETUP.

3.   For **AUTOSET** programming, please refer to the information provided in the QUICK SETUP section of this manual. Programming this parameter is identical for both ADVANCED SETUP and QUICK SETUP.

4.   The LTC 2600 Series multiplexers are configured to record and playback from a wide range of VCRs. The VCR provides a pulse (VEXT) each time a video field is recorded to tape. This signal lets the multiplexer know that it can switch to a new camera. This feature also simplifies installation by synchronizing the normal and alarm recording speeds. You will need to decide how you are going to synchronize the multiplexer and the VCR. Either accomplish the following steps for synchronization using the VEXT input (recommended), or perform the alternate method (programming the VCR model and corresponding time-lapse speed).

   NOTE: VCR SETUP is an involved programming sequence with many options. Please read through the information in this section carefully to understand all the options available.

Synchronizing the VCR using the VEXT Signal

If provided by the VCR, use of a VEXT signal is the preferred method of synchronizing the Multiplexer and the VCR. The VEXT pulse is a signal provided by the VCR that causes the Multiplexer to sequence to the next camera. It is highly recommended to use this method if supported by the VCR as it will ensure optimal update rate and performance of the Multiplexer. Select **VCR SETUP** (menu shown below).

•   Connect and enable the VEXT output from the VCR, then choose the recording speed of the VCR.

•   Connect the VEXT output from the VCR (CAM SW Out or Record Out) to Pin 21 and Ground to Pin 25 of the Alarm In/Out.

•   From the VCR SETUP menu, select the **RECORD SETUP** option.

•   From the RECORD SETUP menu, select **VEXT INPUT**. Switch it to the ON setting (the factory default is OFF). Using this feature will bypass the time-lapse setting in the multiplexer VCR selection menu (i.e. programming SELECT VCR and TIMELAPSE are not required.)

```
   QUICK SETUP 3.00
    SETUP 1
    TIME/DATE
    AUTOSET
   >VCR SETUP




   Choose:SELECT      ^ More
                     Exit:ZOOM
```

```
    VCR SETUP
    SETUP 1
   >RECORD SETUP  *VCR OUT
    PLAYBACK FORMAT LTC2600
    RECORD LOCK         OFF




   Choose:SELECT        More v
                      Exit:ZOOM
```

```
    RECORD SETUP
    *VCR OUT* SETUP 1
   VEXT INPUT          OFF
   SELECT VCR
   >TIME LAPSE      2 hr   SP
   RECORD LIST
   VCR OUT


   Choose:SELECT     More ^
   Edit: <>          Exit:ZOOM
```

```
    VEXT INPUT
    *VCR OUT* SETUP 1
   Select 'ON' to synchronize the
   mux with the VCR recording
   speed
                            OFF
                            ^

   Default:FREEZE      Edit:^v
   Save:SELECT    Exit:ZOOM
```

Alternate Method for Synchronizing the VCR

The alternate method for synchronization of the multiplexer and the VCR requires selecting the appropriate VCR model, then selecting the identical setting in the VCR time-lapse menu.

• From the VCR SETUP menu, select **RECORD SETUP**.

• From the RECORD SETUP menu, select the **SELECT VCR** option.

• Scroll through the different selections listed with the **TYPE** parameter (using the arrow keys) until you find your VCR model.

• Return to the RECORD SETUP menu, and select the **TIME LAPSE** option.

Scroll through the time-lapse speeds (using the arrow keys) until you find the corresponding recording speed of your VCR.

```
  VCR SETUP
  SETUP I
>RECORD SETUP  *VCR OUT
 PLAYBACK FORMAT LTC2600
 RECORD LOCK        OFF




  Choose:SELECT    More v
                 Exit:ZOOM
```

```
  RECORD SETUP
  *VCR OUT* SETUP I
 VEXT INPUT         OFF
>SELECT VCR
 TIME LAPSE      2 hr   SP
 RECORD LIST
 VCR OUT


  Choose:SELECT    More v
  Edit : <>      Exit:ZOOM
```

```
  SELECT VCR
  *VCR OUT* SETUP I
>TYPE           LTC3991
 EDIT CUSTOM VCR




  Choose:SELECT    More ^
  Edit: <>       Exit:ZOOM
```

```
  SELECT VCR
  *VCR OUT* SETUP I
 |Match VCR type with the VCR
  connected to optimize
  recording speeds.
                 LTC3991
                    ^

  Default:FREEZE    Edit: ^v
  Save:SELECT    Exit:ZOOM
```

```
  RECORD SETUP
  *VCR OUT* SETUP I
 VEXT INPUT         OFF
 SELECT VCR
>TIME LAPSE     2 hr   SP
 RECORD LIST
 VCR OUT


  Choose:SELECT    More v
  Edit: <>       Exit:ZOOM
```

```
  TIMELAPSE
  *VCR OUT* SETUP I
 Set the time lapse speed

                 2 hr - SP
                    ^


  Default:FREEZE    Edit: ^v
  Save:SELECT    Exit:ZOOM
```

Custom VCR Option

If Vext option will not be used and programming VCR cannnot be accomplished through Quick Setup, choose the Custom VCR option. Up to six custom set ups can be stored in the VCR list. The field rate must be determined for each of the VCR time-lapse modes. Field rates are available in the VCR's instruction manual or may be obtained by contacting the VCR manufacturer's technical support. Enter this information in the time-lapse menu. All video recording rates must be in **fps** (**fields per second**). All available recording rates for the VCR must be included.

- From the VCR SETUP menu, select **RECORD SETUP**.

- From the RECORD SETUP menu, select the **SELECT VCR** option.

- From the SELECT VCR menu, select the **EDIT CUSTOM VCR** option.

- Select **CUSTOM VCR 1**, and program the **VCR SETUP TITLE** and **TIME LAPSE SETTING** as shown in the menus below.

```
     SELECT VCR
      *VCR OUT* SETUP 1
      TYPE              LTC3991
     >EDIT CUSTOM VCR




      Choose:SELECT      ^ More
                      Exit:ZOOM
```

```
     EDIT CUSTOM VCR
     >CUSTOM VCR 1
      CUSTOM VCR 2
      CUSTOM VCR 3
      CUSTOM VCR 4
      CUSTOM VCR 5
      CUSTOM VCR 6


      Choose:SELECT      More v
                      Exit:ZOOM
```

```
     EDIT CUSTOM VCR
      CUSTOM VCR 1
     >VCR SETUP TITLE
      TIMELAPSE SETTING




      Choose:SELECT      More v
                      Exit:ZOOM
```

```
     VCR SETUP TITLE
      CUSTOM VCR 1
     Each VCR setup can be given a
     12-character name.
          CUSTOM.VCR. 1
          ^

     Move Cursor: <>
     Default:FREEZE      Edit:^v
     Save:SELECT     Exit:ZOOM
```

```
     TIME LAPSE SETTINGS
      CUSTOMER VCR 1
     HOUR    FIELD    SP/HD
     01-003    50.00 SP
     02-012    12.50    SP
     03-024    06.25    SP
     04-048    03.10    SP

     Move Cursor:<>
     Default:FREEZE   Edit:^v
     Save:SELECT      Exit:ZOOM
```

Record List Option

The **RECORD LIST** option (in the RECORD SETUP menu) is used to customize the list of cameras to be recorded. Enter the information as requested in the sample menus shown below.

```
     RECORD SETUP
      *VCR OUT* SETUP 1
     VEXT INPUT           OFF
     SELECT VCR
     TIME LAPSE        2 hr   SP
     >RECORD LIST
      VCR OUT


     Choose:SELECT      ^ More
                      Exit:ZOOM
```

```
     RECORD LIST
      *VCR OUT* SETUP 1
     01 02 03 04 -- -- -- -- -- -- -- --
     -- -- -- -- -- -- -- -- -- -- -- --
     Use camera keys to select
     camera for list


     Camera: 1 to 16
     Default:FREEZE
     Save:SELECT     Exit:ZOOM
```

VCR OUT Option

The VCR OUT option (in the RECORD SETUP menu, as shown below) is used to program the function of the VCR output relay. The VCR OUTPUT relay controls external devices such as changing the recording speed when an action and/or alarm occurs. The VCR output relay will remain active while there are active alarms or action. The following functions can be programmed:

- **Output**: The output relay can be activated on an action, alarm, action and alarm, or off, enabling the installer to prioritize the recording of camera pictures.

- **Alarm speed**: The VCR recording speed can be set to match the alarm recording speed of the VCR for an action/alarm input, ensuring that no part of any incident is missed.

- **Output relay**: The output relay can be set to operate as normally closed (N/C) or normally open (N/O) contacts. Typical VCR inputs are normally open contacts.

```
    RECORD SETUP
    *VCR OUT* SETUP I
  VEXT INPUT            OFF
  SELECT VCR
  TIME LAPSE      2 hr    SP
  RECORD LIST
 >VCR OUT


  Choose:SELECT    ^ More v
                  Exit:ZOOM
```

```
    VCR OUTPUT
    SETUP I
 >OUTPUT               OFF
  ALM/ACT SPEED  3 HR - SP
  ALARM REC    INTERLEAVE
  ACTION REC INTERLEAVE
  OUPUT RELAY         N/O


  Choose:SELECT     More v
  Edit: <>        Exit:ZOOM
```

(This completes the VCR SETUP programming.)

5. Return to the ADVANCED SETUP menu. Select the **ACTION SETUP** option. The LTC 2600 Series multiplexer includes a **Digital Motion Detection** feature that detects movement within the camera scene. When this feature is programmed and motion is detected, the record/display rates will increase. Using the ACTION LIST facility, the priority of recording can be changed to include recording of camera pictures and at the same time prioritize picture display on the monitor.

```
   ADVANCED SETUP 3.00
   SETUP I
   TIME/DATE
   AUTOSET
   VCR SETUP
  >ACTION SETUP
   ALARM SETUP
   CAMERA TITLES

  Choose:SELECT    ^ More v
                  Exit:ZOOM
```

```
   ACTION SETUP
   SETUP I
  >ACTION DWELL        08 sec
   ACTION LIST
   ACTION ZONES
   WALKTHROUGH
   DIRECTION ZONE


  Choose:SELECT     More v
  Edit:<>         Exit:ZOOM
```

The parameters in the **ACTION SETUP** menu are defined and programmed as follows:

ACTION DWELL: The action will be held for monitor display (full video on monitor B, when applicable) and recording for the programmed duration (3 to 60 seconds). Press the <left / >right keys to increment/decrement.

> **NOTE**: For *6-channel models only* (**LTC 2622/90**).

ACTION LIST: Selects cameras to have motion detection. Entering the ACTION LIST menu enables this list to be customized to a specific configuration.

ACTION DISPLAY: Action display is available for MON A and MON B. Action display MON A setting will allow customized action viewing. Multiple actions will override programmed setting(s) and display a 5+1 multiscreen with ACTION flashing in the text display area. MON B will show full screen on action and at 2 second intervals when multiple actions are sensed.

ACTION ZONES: The screen is divided into a 14 X 16 grid (224 zones). Enabling or Disabling zones will allow the installer to specify which areas of the scene will detect action. For example, for an outdoor application, some of the scene includes a view of the sky. In this case, the grid areas covering the sky can be disabled.

```
   ACTION SETUP              x x x x x x x x x x x x x x
   SETUP 1                   Camera 1 x x x x x x x x x x
   ACTION DWELL     08 sec   x x x x x x x x x x x x x x
   ACTION LIST               x x x x x x x x x x x x x x
  >ACTION ZONES              x x x x x x x x x x x x x x
   WALKTHROUGH               x x
   DIRECTION ZONE


   Choose:SELECT    More v    Zone [Edit: MENU] =ENABLE (x)  Move Cursor:^v
   Edit:<>          Exit:ZOOM  Camera: 1 to 16  Freeze: DEFAULT    Exit: ZOOM
```

• Once in the ACTION ZONE setup, select the camera requiring setup by depressing the corresponding camera number.

• To **enable zones**, select the MENU ☰ key, and ensure ZONE (EDIT:MENU) = ENABLE (X) is displayed. Move the cursor using the up, down, left, and/or right arrow keys to enable zones. Enabled zones will display an X.

• To **disable zones**, select the MENU ☰ key, and ensure ZONE (EDIT:MENU) = DISABLE (O) is displayed. Move the cursor using the up, down, left, and/or right arrow keys to disable zones. Disabled zones will be blank.

• To select the **Default Enabled Zones**, select the FREEZE ❚❚ key (12 X 14 grid, 168 zones).

• To exit the Action Zone setup, select the ZOOM ⊕ key.

WALKTHROUGH: The walkthrough section of the Action Setup is used to set action zone sensitivity and target size within the scene to provide greater accuracy in defining the target (i.e. eliminating nuisance alarms).

```
   ACTION SETUP
    SETUP 1
   ACTION DWELL      08 sec
   ACTION LIST
   ACTION ZONES
 >WALKTHROUGH
   DIRECTION ZONE



   Choose:SELECT     ^ More v
                     Exit:ZOOM
```

```
 Camera 1





 Sensitivity [Edit: v^] =MED   Object Size [Edit: <>] =3x3
 Camera: 1 to 16 Freeze: DEFAULT Exit: ZOOM  Status: NO ACTION
```
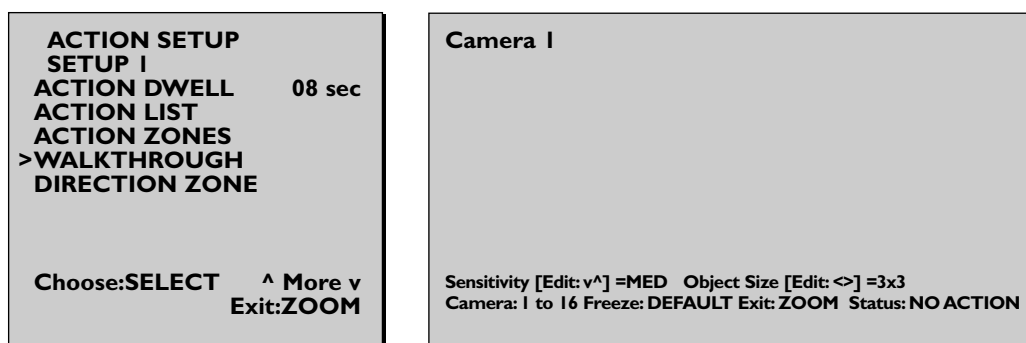
- Once in the WALKTHROUGH setup, select the camera requiring setup by depressing the corresponding camera number.

- Set the **Sensitivity** parameter by using the up/down arrow keys to increase/decrease the zone sensitivity.

- Program the **Object Size** by using the cursor keys to select the desired target size (corresponding to the number of zone coordinates covering the target size/area—from 1x1 up to 5x5).

- Press SELECT ⌷ to store the information, and press ZOOM ⊕ to exit.

DIRECTION ZONES: A dual set of action areas to be programmed such that both areas must be activated in sequence for an action alarm to occur.

- To program this feature, select the **DIRECTION ZONE** option from the ACTION SETUP menu.

- Press the MENU ☰ key to enable the Zone 1. Use the cursor keys to position the Zone 1 brackets in the desired screen area.

- Repeat these steps for Zone 2.

- Press SELECT ⌷ to store the information, and press ZOOM ⊕ to exit.

```
   ACTION SETUP
    SETUP 1
   ACTION DWELL      08 sec
   ACTION LIST
   ACTION ZONES
   WALKTHROUGH
 >DIRECTION ZONE



   Choose:SELECT     ^ More v
                     Exit:ZOOM
```

```
 Camera 1
   ┌      ┐
    |  |  |
               ┌      ┐
    |  |  |     2  2  2
   └      ┘
               2  2  2
             └      ┘
 Zone [Edit: MENU]=ENABLE (1's) Move Cursor:^v
 Camera: 1 to 16  Freeze: DEFAULT       Exit: ZOOM
```
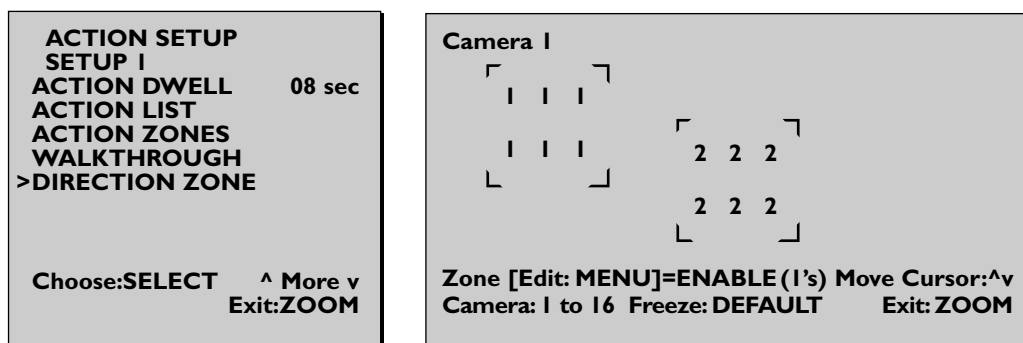
6. Return to the ADVANCED SETUP menu. Select the **ALARM SETUP** option. Depending on your multiplexer model, up to 9 or 16 alarm inputs can be connected to the multiplexer and are associated with their corresponding video input. Alarm inputs can be configured as normally open or normally closed. These inputs correspond to the camera inputs so that when an alarm input is initiated, the respective camera picture is displayed or recorded.

```
   ADVANCED SETUP 3.00
    SETUP 1
   TIME/DATE
   AUTOSET
   VCR SETUP
   ACTION SETUP
 >ALARM SETUP
   CAMERA TITLES

   Choose:SELECT     ^ More v
   Edit: <>          Exit:ZOOM
```

```
   ALARM SETUP
    SETUP 1
   ALARM DWELL        08 sec
   ALARM LIST
   ALARM INPUT
   BEEPER             DISABLE



   Choose:SELECT       More v
   Edit:<>           Exit:ZOOM
```

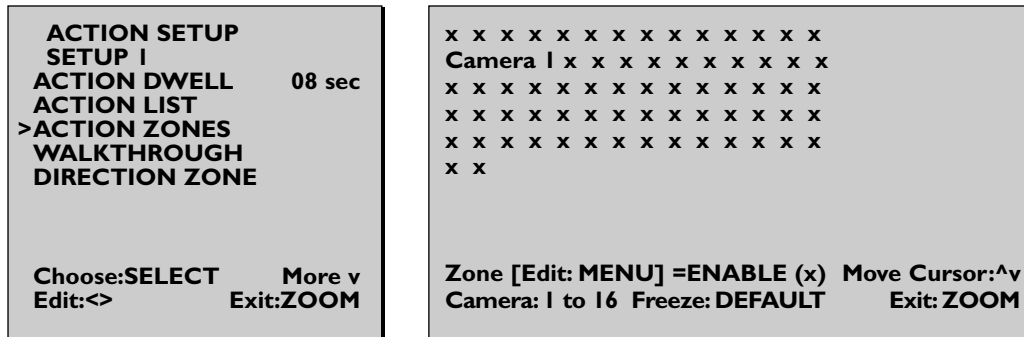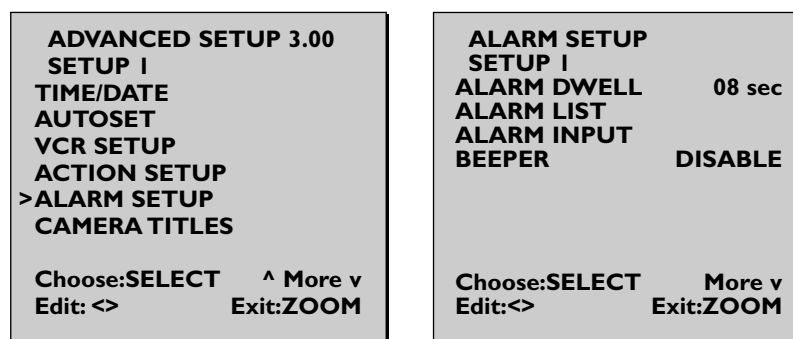The parameters in the **ALARM SETUP** menu are defined and programmed as follows:

ALARM DWELL: The alarm will be held for monitor display (full video on monitor B, when applicable) and recording for the programmed duration (3 to 60 seconds). Individual alarms will be recorded for the programmed ALARM DWELL time or until the alarm is cleared. If two or more alarms are active at the same time, video is alternately recorded until the dwell time expires or the alarm conditions are cleared.

   NOTE: If Alarm Dwell is set to FOLLOWS, alarms will follow the alarm input. These alarms cannot be cleared until the alarm contact is reset.

ALARM LIST: The ALARM LIST defines which alarm inputs are enabled and will follow programming as established in the VCR OUT option if applicable. Alarming camera numbers are selected by pressing the corresponding camera # key on the front panel or keyboard.

```
 ALARM LIST
 SETUP 1
-- -- -- -- -- -- -- -- -- -- -- -- --
-- -- -- -- -- -- -- -- -- -- -- -- --
Use camera keys to select
camera for list
Camera: 1 to 16



Default:FREEZE
Save:SELECT      Exit:ZOOM
```
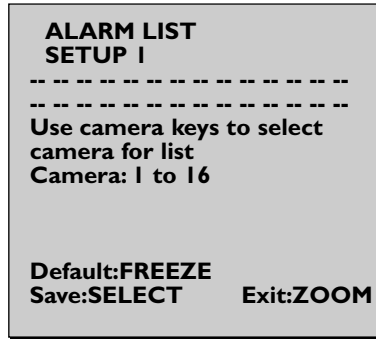
   NOTE: *For 6-channel models only* (**LTC 2622/90**).

ALARM DISPLAY: Alarm display is available for MON A and MON B. Alarm display MON A settings will allow customized alarm viewing and camera pre-position showing. MON B will show full screen on alarm and at 2 second intervals when multiple alarms are activated.

ALARM INPUT: The Alarm Input menu sets the type of input to **Normally Open** or **Normally Closed** for an individual alarm input.

BEEPER: The LTC 2600 Series provides an audible alarm. If the beeper is enabled, the beeper will sound for the duration of the alarm. Press any key to turn the beeper off once it has sounded. Setting the beeper to disable will prevent the beeper from sounding.

   NOTE: The multiplexer has one alarm output relay. This relay can be programmed to switch ON for alarms.

7.   Return to the ADVANCED SETUP menu. Select the **CAMERA TITLES** option. Each camera can be designated with a 16-character name, if desired. The factory-set default name for each camera is simply a numerical designation (e.g. camera 01).

8. Return to the ADVANCED SETUP menu. Select the **SEQUENCES** option. Camera sequencing on Monitor A and Monitor B is a function available to all multiplexer models.

•   Quad sequencing is a function available on Monitor A. There are four Quad screens available and each Quad page can be customized to suit each application.

•   Camera sequencing is programmable for cameo 1 of the 5+1 multiscreen display mode of the 6-channel models **LTC 2622/90** (as shown below).

```
┌─────────────┬───────┐
│             │       │
│             ├───────┤
│ Sequencing  │       │
│             ├───┬───┤
│             │   │   │
└─────────────┴───┴───┘
```
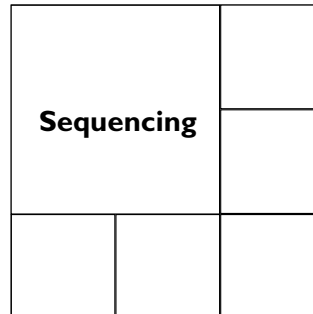
9. Return to the ADVANCED SETUP menu. Select the **CONFIGURE SETUPS** option. The LTC 2600 Series multiplexer has the capability to provide up to six individually configured setups that are retained in the multiplexer memory. By using these setups, the multiplexer can be programmed to automatically change its mode of operation based on a timer setting. This allows different configurations to be used (e.g. day, night, weekend and holidays). The Record option allows recording to be accomplished during a timed event.

```
┌─────────────────────────┐   ┌─────────────────────────┐
│   ADVANCED SETUP 3.00   │   │    CONFIGURE SETUP      │
│    SETUP 1              │   │ >LOAD SETUP             │
│   ACTION SETUP          │   │  COPY SETUP             │
│   ALARM SETUP           │   │  SETUP TITLE            │
│   CAMERA TITLES         │   │  TIME EVENTS            │
│   SEQUENCES             │   │                         │
│  >CONFIGURE SETUP       │   │                         │
│                         │   │                         │
│                         │   │                         │
│   Choose:SELECT  ^ More v│  │   Choose:SELECT   More v │
│            Exit:ZOOM     │  │            Exit:ZOOM     │
└─────────────────────────┘   └─────────────────────────┘
```

The following options can be programmed for each setup:

•   **Load Setup**: The setup can be configured and then loaded into memory, making it the current operating configuration.

•   **Copy Setup**: A setup can be copied and then saved as another setup.

•   **Setup Title**: Each setup can have an individual title of 12 characters. (This title will displayed on line two of the multiplexer menus).

•   **Time Events**: The Time Event function allows each of the six setups to be programmed for several parameters including start time, duration, and frequency (daily schedule) of recording. A sample menu is shown below. Note that these parameters must be set for each setup (1-6).

```
┌──────────────────────┐ ┌──────────────────────┐ ┌──────────────────────────┐
│  CONFIGURE SETUP     │ │   TIME EVENTS        │ │   TIME EVENTS            │
│  LOAD SETUP 1        │ │ >SETUP 1             │ │   SETUP 1                │
│  COPY SETUP          │ │  SETUP 2             │ │ >SETUP ON/OFF       OFF  │
│  SETUP TITLE         │ │  SETUP 3             │ │  START TIME       00:00  │
│ >TIME EVENTS         │ │  SETUP 4             │ │  DAYS           SMTWTFS  │
│                      │ │  SETUP 5             │ │  RUN ONE TIME        ON  │
│                      │ │  SETUP 6             │ │  RECORD             OFF  │
│                      │ │                      │ │                          │
│  Choose:SELECT  More v│ │  Choose:SELECT  More ^│ │  Choose:SELECT   More ^ │
│           Exit:ZOOM   │ │           Exit:ZOOM   │ │  Edit:<>        Exit:ZOOM│
└──────────────────────┘ └──────────────────────┘ └──────────────────────────┘
```
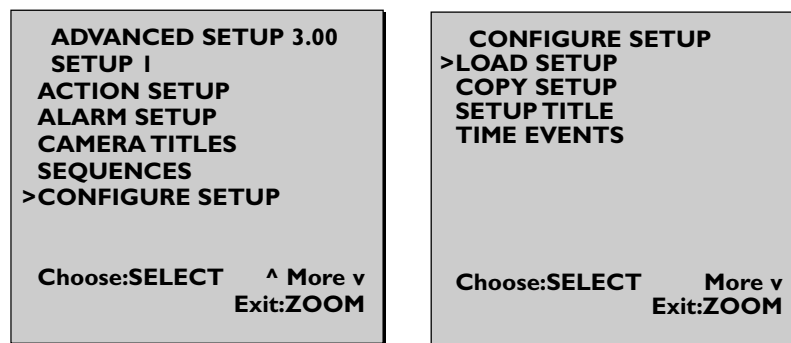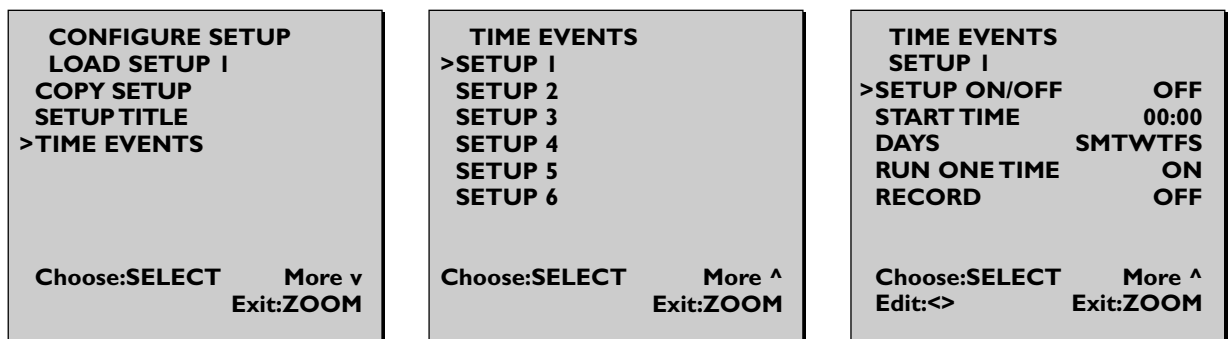
NOTE: RUN ONE TIME allows for individual events to be programmed and then run only one time. After the event, the multiplexer reverts to its "normal" programmed setup(s).

10. Return to the ADVANCED SETUP menu. Select the **CONFIGURE DISPLAY** option. The monitor displays can be configured to show time/date and camera titles. The format of the text can be changed, as well as the border of the cameo picture. The CONFIGURE DISPLAY parameters are defined and programmed as follows:

```
   ADVANCED SETUP 3.00            CONFIGURE DISPLAY
    SETUP 1                        SETUP 1
    ACTION SETUP                 >TIME DATE MON A      ON
    ALARM SETUP                   TIME DATE MON B      ON
    CAMERA TITLES                 SCREEN POSITION BOTTOM
    SEQUENCES                     CAMERA  TITLE MON A  ON
    CONFIGURE SETUP               CAMERA TITLE MON B   ON
   >CONFIGURE DISPLAY             TEXT         WHITE/BLACK

    Choose:SELECT    ^ More v      Choose:SELECT      More v
                     Exit:ZOOM     Edit:<>            Exit:ZOOM
```

• **Time/Date**: Each monitor can have the time/date display selected on or off. Note that the time and date are only displayed per screen and not per cameo picture.

• **Cameo Borders**: The cameo border format can be selected, enabling easy definition of the picture. The border can be set to white, gray, or black.

• **VCR Status**: On/Off for on-screen display of VCR status.

• **Display Lock List**: For security purposes, designated cameras can be programmed to be blocked out on the display (i.e. NOT displayed). Note that recording of those specified cameras will continue. When enabled, VCR test mode is disabled.

• **Keypad Assign**: Up to 4 with keyboard port expander. Allows operation of MON A or MON B or Both from the respective keyboard.

• **Screen Position**: Use the position command to select top, middle, or bottom of display for the location of the time/date/camera title information. In the cameo mode, only the time/date position will change; camera titles will remain at the bottom of each cameo image.

• **Menu Timeout**: 15 minute timer/inactivity exits program menu.

• **Auto Gain Control**: Video levels of camera inputs may vary. To maintain constant video quality, each camera input has individual automatic gain circuits that are suitable for most applications. Each input can be manually adjusted to optimize performance when desired (to access this function, switch Auto Gain to OFF).

• **Text**: Each monitor can have the camera title display selected on or off. This ensures that the text can be viewed regardless of what type of background is shown, (i.e. very dark backgrounds can have white text displayed). The text can be displayed in a number of formats as shown in the following chart.

11. Return to the ADVANCED SETUP menu. Select the **VIDEO LOSS** option. The LTC 2600 Series detects loss of video from any camera input by monitoring the camera sync signal. When a loss of video input occurs, the multiplexer provides an output which can be used to activate a warning device (e.g. buzzer, warning light, videoloss message on screen) to alert the operator that a video signal from one of the system cameras has been lost. The VIDEO LOSS function contains the following parameters which can be programmed as described:

   • **Video Loss List**: Enable/disable individual cameras for the video loss list.

   • **Video Loss Output**: The video loss output can be enabled or disabled.

   • **Video Loss Relay**: The video loss output relay can be set to operate as normally closed contacts or normally open contacts.

```
   ADVANCED SETUP 3.00             VIDEOLOSS
    SETUP 1                        SETUP 1
    ALARM SETUP                   >VIDEOLOSS LIST
    CAMERA TITLES                  VIDEOLOSS O/P    ENABLE
    SEQUENCES                      VID LOSS RLAY        N/O
    CONFIGURE SETUP
    CONFIGURE DISPLAY
   >VIDEOLOSS

    Choose:SELECT    ^ More v      Choose:SELECT      More ^
                     Exit:ZOOM                        Exit:ZOOM
```

12. Return to the ADVANCED SETUP menu. Select the **DEFAULT SETTINGS** Option. The multiplexer is supplied with default parameters that are set up at the factory (see Appendix at the back of this manual). These settings allow normal operation of the multiplexer, enabling easy installation, setup, and use. However, any parameter can be changed to suit local conditions or customized configurations. If changes are made, you always have the option of returning to the default settings by selecting this command from the ADVANCED SETUP menu.

```
   ADVANCED SETUP
    SETUP I
    CAMERA TITLES
    SEQUENCES
    CONFIGURE SETUP
    CONFIGURE DISPLAY
    VIDEOLOSS
   >DEFAULT SETTINGS

    Choose:SELECT     More ^
    Edit:<>           Exit:ZOOM
```

```
   DEFAULT SETTINGS

    Yes = use factory
    default settings.
                      NO
                      ^



    Default:FREEZE     Edit: ^v
    Save:SELECT     Exit:ZOOM
```

13. Return to the ADVANCED SETUP menu. Select the **LANGUAGES** option. To simplify the setup process, the menus of the LTC 2600 Series can be displayed in any one of six different languages. These languages are as follows:

English	French
German	Spanish
Dutch	Italian
Polish	

```
   ADVANCED SETUP
    SETUP I
    SEQUENCES
    CONFIGURE SETUP
    CONFIGURE DISPLAY
    VIDEOLOSS
    DEFAULT SETTINGS
   >LANGUAGE     ENGLISH

    Choose:SELECT    ^ More ^
    Edit:<>          Exit:ZOOM
```

```
   LANGUAGE

    Select English, German
    French, Spanish,
    Italian, Dutch, or Polish
                      ENGLISH
                      ^

    Default:FREEZE      Edit: ^v
    Save:SELECT     Exit:ZOOM
```

SECTION 5: System4 PROGRAMMING

The *System4* multiplexers offer additional programming options for greater system customization. *System4* multiplexer initial programming requirements are outlined in the QUICK SETUP and/or ADVANCED SETUP sections of this manual. Additional features outlined in this section: VCR SETUP, ACTION SETUP, ALARM SETUP, CONFIGURE DISPLAY, CAMERA SEQUENCES, PC PRINTER SETUP, LOG, PASSWORD, and EXPAND SYSTEM are accessed through the **ADVANCED SETUP** menu as shown below.

```
     ADVANCED SETUP
     SETUP 1
    >TIME/DATE
     AUTOSET
     VCR SET UP
     ACTION SETUP
     ALARM SETUP
     CAMERA TITLES
     SEQUENCES
     CONFIGURE SETUP
     CONFIGURE DISPLAY
     PC/PRINTER
     VIDEOLOSS
     LOG
     PASSWORD
     EXPAND SYSTEM
     DEFAULT SETTING
     REMOTE SYSTEM4 SETUP
     LANGUAGE
     Choose: SELECT     More ^
     Edit: <>          Exit: ZOOM
```

> **Please refer to the ADVANCED SETUP programming section in this manual for the standard ADVANCED SETUP programming features available to all multiplexer models. The following sections describe those programming options unique to *System4* multiplexers—this information is intended to be supplemental to the information provided in the ADVANCED SETUP section.**

5.1 *System4* Advanced Setup: VCR Setup

System4 multiplexers provide several *additional* options for VCR SETUP programming. These options are shown in the sample menus below and include **two separate RECORD SETUPS** (VCR OUT and monitor B as an alternate VCR output) and **two RECORD LISTS** (accessed through each RECORD SETUP menu). **VCR REMOTE SETUP** is an added bonus for quick and easy system setup. Optional programming for **RECORD FORMAT** is also provided.

```
     VCR SETUP
     SETUP 1
    >RECORD SETUP *VCR OUT*
     RECORD SETUP *MON B*
     PLAYBACK FORMATLTC2600
     RECORD FORMAT   LTC2600
     RECORD LOCK          OFF


     Choose: SELECT     v More ^
                        Exit:ZOOM
```

```
     RECORD SETUP
     *VCR OUT* SETUP1
     VEXT INPUT          OFF
     SELECT VCR
     TIME LAPSE       2 hr -SP
     RECORD LIST
     VCR OUT
    >VCR REMOTE SETUP

     Choose: SELECT    v More ^
                        Exit:ZOOM
```

```
     VCR REMOTE SETUP



                        YES
                         ^


     Default:FREEZE        Edit:^v
     Save:SELECT      Exit:ZOOM
```

VCR REMOTE SETUP, when selected, will configure the VCR recording speed and format of the remote VCR automatically (provided the RS232 connections have been established) based on information contained in the RECORD SETUP menu. This option is not available for RECORD SETUP Mon B (see following menus) as there is only one serial port on the multiplexer.

RECORD SETUP MON B is similar to the RECORD SETUP VCR OUT programming.

```
       VCR SETUP                           RECORD SETUP
       SETUP1                             *MON B* SETUP 1
      RECORD SETUP *VCR OUT*       >VEXT INPUT            OFF
     >RECORD SETUP *MON B*          SELECT VCR
      PLAYBACK FORMATLTC2600        TIME LAPSE         2 hr - SP
      RECORD FORMAT LTC2600         RECORD LIST
      RECORD LOCK          OFF      VCR OUT


      Choose: SELECT     ^ More     Choose:SELECT       More ^
                     Exit: ZOOM     Edit:<>           Exit:ZOOM
```

Optional VCR SETUP Programming for *System4*: RECORD FORMAT

System4 provides the capability of recording in three types of teletext (Recording) formats:

*   TC8298B (Includes
    TC82XXA, TC82XXB Series)

*   LTC 2600
    (Includes TC82XXC Series)

*   VITC

5.2 *System4* Advanced Setup: Action Setup

In *System4* models, Monitor A has the capability of displaying a customized view during ACTION detection. Camera selection will be completed by selecting the corresponding camera # key on the front panel or the keyboard. Program the ACTION DISPLAY MON A menu as follows:

*   **Full**: If Full is selected, the selected camera will be displayed in the full screen format.

*   **Quad**: If Quad is selected, any combination of up to *4 separate* cameras may be displayed as selected. There must be a camera selected for the first position.

*   **Multi**: If Multi is selected, such as 4+3, 3x3, 8+2, 12+1, or 4x4, it will display the multiscreen view as it was originally programmed in the live view setup. Individual cameras may not be selected from this menu.

```
   ADVANCED SETUP             ACTION SETUP              ACTION DISPLAY MON A
   SETUP 1                    SETUP1                     INPUT 1
   TIME/DATE                  ACTION DWELL    08 sec     MODE               CAM
   AUTOSET                    ACTION LIST               >QUAD                01
   VCR SETUP                 >ACTION DISPLAY MON A                            --
  >ACTION SETUP               ACTION ZONES                                   --
   ALARM SETUP                WALKTHROUGH                                    --
   CAMERA TITLES              DIRECTION ZONE
                                                        Input: 1 to 16
   Choose:SELECT   ^ More v   Choose:SELECT    More v   Default: FREEZE
              Exit:ZOOM       Edit:<>        Exit:ZOOM  Save:SELECT    Exit:ZOOM
```

> **NOTE**: When multiple cameras are selected in the Quad or Multi Action Display Options and when the action is active, the selected cameras become a group and the group will be included in the exclusive or interleave recording function as programmed in the ACTION SETUP menu.

5.3 *System4* Advanced Setup: Alarm Setup

In *System4* models, Monitor A has the capability of displaying a customized view during ALARM input. Camera selection will be completed by selecting camera # key on the front panel or the keyboard. Program the ALARM DISPLAY MON A menu as follows:

*   **Full**: If Full is selected, the selected camera will be displayed in the full screen format. If the camera call-up is a pan/tilt unit with pre-position option or AutoDome®, pre-position call up may also be programmed from 1-16.

*   **Quad**: If Quad is selected, any combination of up to *4 separate* cameras may be displayed as selected. There must be a camera selected for the first position. If the camera selected is a pan/tilt unit with pre-position option or AutoDome, pre-position call up may also be programmed for each selected camera from 1-16.

- **Multi**: If Multi is selected, it will display the multiscreen view as it was originally programmed in the live view setup. *Four separate* cameras may be selected for pre-position activation during alarm input. Pre-positions programmed for selected cameras may be from 1-16 if the camera selected is a pan/tilt unit with pre-position option or an AutoDome.

```
   ADVANCED SETUP 3.00          ALARM SETUP                  ALARM DISPLAY MON A
    SETUP I                      SETUP I                       INPUT I
    TIME/DATE                    ALARM DWELL      08 sec      MODE            CAM   PP
    AUTOSET                      ALARM LIST                   >----
    VCR SETUP                   >ALARM DISPLAY MON A
    ACTION SETUP                 ALARM INPUT
   >ALARM SETUP                  BEEPER          DISABLE
    CAMERA TITLES                                            Input: I to I6
                                                             Default: FREEZE
   Choose:SELECT    ^ More v     Choose:SELECT     More v    Save:SELECT    Exit:ZOOM
                    Exit:ZOOM     Edit:<>         Exit:ZOOM
```

```
   ALARM DISPLAY MON A          ALARM DISPLAY MON A          ALARM DISPLAY MON A
    INPUT I                      INPUT I                      INPUT I
   MODE     CAM     PP          MODE     CAM     PP          MODE     CAM     PP
   >FULL      01     16         >QUAD      01     16         >8+2       01     16
                                - - --    ----    ----        ----     ----    ----
                                - - --    ----    ----        ----     ----    ----
                                - - --    ----    ----        ----     ----    ----

   Input: I to I6               Input: I to I6               Input: I to I6
   Default: FREEZE              Default: FREEZE              Default: FREEZE
   Save:SELECT    Exit:ZOOM     Save:SELECT    Exit:ZOOM     Save:SELECT    Exit:ZOOM
```

NOTE: When multiple cameras are selected in the Quad or Multialarm Display Options and the alarm is active, the selected cameras become a group and the group will be included in the exclusive or interleave recording function as programmed in the ALARM SETUP menu. When multiple alarms are detected, Monitor A will automatically display a multiscreen view (3x3 for the nine channel and 4x4 on the 16 channel model).

5.4 *System4* Advanced Setup: Configure Display

System4 multiplexers provide an *additional* option for programming through the CONFIGURE DISPLAY menu. To access this option, you must scroll (arrow key) beyond TEXT in the menu.

```
   CONFIGURE DISPLAY            VCR STATUS
    SETUP I
    CAMERA  TITLE MON A  ON     Set to ON for VCR status to
    CAMERA TITLE MON B   ON     be shown on MON A
    TEXT         WHITE/BLACK
    CAMERA BORDERS    BLACK        ON
   > VCR STATUS         ON          ^
    DISPLAY LOCK LIST

   Choose:SELECT      More v     Default:FREEZE       Edit:^v
   Edit:<>          Exit:ZOOM     Save:SELECT     Exit:ZOOM
```

5.5 *System4* Advanced Setup: Camera Sequences

The *System4* models allow sequential display of cameras on the monitor in FULL or QUAD viewing modes. Cameras can be repeated in sequencing displays to enable important scenes to be viewed at greater frequency.

Sequences can be set for monitor A and monitor B as shown in the sample menu.

- **FULL screen display** can be set for sequencing with programmable dwell time from 1 to 60 seconds. The camera pictures can be sequenced in any order in 16 sequence steps, for example 1, 5, 8, 4, 1, 2, 3, 1, 6, 8, 1. In this sequence, camera 1 is viewed every fourth time of the sequence.

- **QUAD screen display** can be set for sequencing with programmable dwell time from 1 to 60 seconds. Note that each quadrant can be programmed to show any individual camera(s). And, the camera(s) (programmed for each quad) can be sequenced in any order. For example, the following sequences could be set up for monitor A:

CAMEO 1:	01, 05, 09, 13
CAMEO 2:	02, 06, 10, 14
CAMEO 3:	03, 07, 11, 15
CAMEO 4:	04, 08, 12, 16

```
   SEQUENCES
   SETUP 1
 >SEQ DWELL B FULL  08 sec
  SEQ DWELL B QUAD 08 sec
  MON A FULL
  MON A QUAD
  MON B FULL
  MON B QUAD

  Choose:SELECT      More v
  Edit:<>          Exit:ZOOM
```

   NOTE: If this feature is not programmed for a custom configuration, the factory default setting takes the cameras in order (e.g. first quad - cameras 1,2,3,4; second quad - cameras 5,6,7,8, etc.)

5.6 *System4* Advanced Setup: PC Printer Setup

(RS-232 Setup for PC/Printer/VCRs)

The *System4* multiplexer has a console port which can be configured for a PC, CCL, printer, or connected to a VCR.

- **PC**: When connected to a PC, new software can be downloaded to the multiplexer. Additionally, the LTC 2650 Graphical User Interface software and a PC running Windows 95, 98, or NT can be used to control the multiplexer.

- **CCL**: When connected to a PC, CCL commands may be used for programming and controlling the multiplexer.

- **VCR**: When connected to selected Philips VCRs, LTC 2601/00 or LTC 2602/00 keyboard will control primary VCR functions (Record, Play, Stop, Fast Forward, Rewind).

- **Printer**: When a printer is connected, a copy of the logged events can be printed.

- **Autoprint**: When enabled, will automatically print log events as they occur. The print commands are not displayed in the PC/Printer menu until the CONNECT TO parameter is set to PRINTER.

```
   ADVANCED SETUP            PC/PRINTER
    SETUP 1
  ALARM SETUP
  CAMERA TITLES
  SEQUENCES                 >CONNECT TO        VCR
  CONFIGURE SETUPS           SERIAL PORT     96,N,8,1
  CONFIGURE DISPLAY
 >PC/PRINTER

  Choose:SELECT   ^ More v    Choose:SELECT     More v
             Exit:ZOOM        Edit:<>         Exit:ZOOM
```

5.7 *System4* Advanced Setup: Log

The LOG option allows the operator to view a history of action, recording, and alarm activity. Up to 300 events are retained in the log. The AUTOPRINT command will automatically print log events, therefore providing a larger event history. When the log is full, the oldest events are overwritten.

The LOG option includes:

*   **View Log**: View the list of logged events.

*   **Log Setup**: Select which events are recorded to the log—these can be alarm, action, event, and video loss.

5.8 *System4* Advanced Setup: Password

In *System4* multiplexers, access to the multiplexer setup menus can be password protected to prevent unauthorized entry. If the first number of the password is between 5 and 9, the Quick Edit Key operation will be disabled (see Appendix E for more information on the Quick Function keys).

5.9 *System4* Advanced Setup: Expand System Setup

The EXPAND SYSTEM SETUP feature provides the ability to program the system for operation with numerous interconnected multiplexers. Expanded camera identification is also provided, as well as automatic time synchronization which is necessary for the proper operation of an expanded multiplexer system.

```
   ADVANCED SETUP
    SETUP 1
   PC/PRINTER
   VIDEOLOSS
   LOG
   PASSWORD
  >EXPAND SYSTEM
   DEFAULT SYSTEM

   Choose:SELECT     ^ More v
                      Exit:ZOOM
```

```
   EXPAND SYSTEM

  >NUMBER MUX          01
   CAMERA RENUMBER
   TIME  SYNC  NOW




   Choose:SELECT       More v
   Edit:<>            Exit:ZOOM
```

NUMBER MUX: To ensure proper operation with multiple multiplexers, the following steps are recommended:

*   Use the LTC 2609/00 black cable kit when making a connection between multiplexers.

*   Program the Mux ID for each multiplexer from the front panel only. To properly control multiple multiplexers from a system keyboard, a unique number from 1 to 30 must be assigned to each multiplexer. This number is then used to select the multiplexer from any system keyboard.

    NOTE: In installations requiring multiple video multiplexers, the LTC 2601 and LTC 2602 system keyboards can control up to 30 interconnected *System4* multiplexers. See Appendix B for illustrations of these special system configurations.

CAMERA RENUMBER: To provide unique identification of cameras in a large installation, camera numbering can be redesignated up to 999. Regardless of camera renumbering, cameras are selected using camera numbers 1 to 16 via the front panel or system keyboard. Selected monitors will show the redesignated camera number.

TIME SYNCHRONIZATION: Expanded systems may require internal clock synchronization providing identical time information across each of the interconnected *System4* multiplexers. For this purpose, TIME SYNC NOW must be enabled. The multiplexer will send a broadcast command to synchronize the clock every day.

5.10 *System4* Advanced Setup: Remote *System4* Setup

When using the **System4** multiplexer with a **System4** Server for digital recording and network access, this setup parameter is used. Select YES only if used with the **System4** Server. Default is NO.

SECTION 6: OPERATING THE LTC 2600 SERIES VIDEO MULTIPLEXER

Operating the LTC 2600 Series Video Multiplexer requires a general knowledge of basic and combined operating modes as described in this section. **Basic operating modes** are LIVE (Display), RECORD, and PLAYBACK.

Duplex multiplexer models provide **combinations** of the basic modes (e.g. simultaneous recording plus playback when two VCRs are used). When operating access is a concern, the multiplexer's security lockout feature can be enabled. Three levels of access are provided as described at the end of this section.

6.1 Live Display Mode

Live camera pictures can be displayed on monitors A and B.

- **Monitor A** is the main functional monitor and can be displayed in FULL, QUAD, or MULTI. Alarm, action, and video loss warnings are displayed on this monitor.

- **Monitor B** will display the selected camera in full screen or sequencing under normal operating (recording) modes. When an alarm or action input is detected, the corresponding camera picture with the flashing Alarm/Action indicator will be displayed on Monitor B for the programmed dwell time. When multiple alarms or actions occur, camera pictures will be sequenced on Monitor B at the two-second dwell time.

- **Multiscreen display modes** can be displayed on both Monitors (A and B). All alarm action and video loss warnings are displayed on both monitors. The alarm/action call-up will occur only when Monitor B is in full screen mode. Multiscreen will not be available on Monitor B during recording operations.

Displaying Live Camera Pictures

Full Screen Display: Shows one camera, full screen on one monitor. Press the FULL SCREEN ☐ key on the front panel, then press the appropriate camera number key for the camera you wish to be displayed.

Quad Screen Display: Divides the screen into four separate areas. Press the QUAD ⊞ key once to enable the feature. Press the key repeatedly to toggle through different viewing configurations. Pressing ALT ▣ , then SEQ will sequence through all quad screens available with model in use.

Multiscreen Display: Enabling this feature shows different multiscreen configurations.

> **6 channel**: 5+1
>
> **9 channel**: 4+3, 3X3
>
> **16 channel**: 4+3, 8+2, 12+1, 3X3, and 4X4

Press the MULTI ▦ key repeatedly to toggle through the different multiscreen display options.

Cameo Mode: When in MULTI or QUAD modes, the screen area where a camera is displayed is called a CAMEO. Note that the numbered front panel keys can refer to either cameras or cameos. Press the CAMEO ▦ key to enable the operation of these keys in the cameo function. (The CAMEO LED is illuminated when the multiplexer is in the CAMEO mode.) Press the CAMEO ▦ key again to revert to the camera function.

Cameras can be assigned to any selected cameo and can be changed as often as required. This can be done by one of the following:

- **Assigning all cameras**: Press the ALT ▣ key. The ALT LED will illuminate, then press the SELECT ▭ key. The first cameo will be selected and show a flashing camera title. By pressing the desired camera key, that camera will be assigned to the cameo, and the next cameo is automatically selected (shown by the flashing camera titles). Again press the selected camera key; this is assigned and the process repeated until all cameos have been assigned a camera. Press the ALT ▣ key to exit.

- **Individual assignments**: In the MULTI or QUAD mode, the Camera keys are assigned as Cameo keys automatically. Select relevant cameo key, 1 to 16. The relevant cameo is selected. Press the CAMEO ▦ key. The cameo keys revert back to selecting cameras. Press camera key to assign the selected camera to cameo. Press CAMEO ▦ to exit.

Zoom: Enables the active camera display (a cameo in multi or quad display) to be digitally enlarged by a factor of 4:1. "Zoom" will be displayed on the monitor screen. Selecting any other camera (using the camera keys) will display that camera image in full screen enlarged mode. The arrow keys allow closer inspection of any part of the selected image.

Freeze: Holds the selected camera picture on either full screen or cameo. The currently selected camera image will be frozen, and "FREEZE" will be displayed on the screen. This feature allows closer inspection of any part of the selected image. Press the FREEZE ‖ key again to release the image from this function. Changing the display screen mode releases the freeze mode from all cameos.

Alarms and Actions: The ALM or ACT LED will flash when an alarm or action condition occurs. If viewing in a mulitscreen view or quad view, "ALARM"/"ACTION" will flash in the corresponding cameo if the affected camera is in view. When an alarm or action is detected, the corresponding camera picture is displayed in full screen on Monitor B only when Monitor B is in the full screen viewing mode. Clearing an Alarm/Action will stop any recording associated with that function.

Clearing Alarm/Action: Press the ALM(🔔) or ACT 🏃 key, and all alarms/actions will be reset.

6.2 Record

To record live pictures:

1. Press the green ALT ⬜ key, then press the camera number key above the REC LED. This key combination toggles (ON/OFF) the RECORD mode.

2. Ensure the REC LED is illuminated for proper recording functions.

    NOTE: If the REC LOCK has been enabled in system programming, the REC LED cannot be disabled. When the REC LED is illuminated, there will be no multiscreen viewing capability on Monitor A if a simplex unit is used or on Monitor B if a duplex unit is used.

6.3 Playback

To playback the recorded pictures:

1. Press the green ALT ⬜ key, then press the camera number key above PLAY LED. This key combination toggles (ON/OFF) the PLAYBACK mode.

2. Ensure the PLAY LED is illuminated for proper recording functions.

    NOTE: Recorded video will be played back on Monitor A only allowing FULL, QUAD, or MULTI screen viewing capabilities.

6.4 Combined Modes

The Duplex multiplexer models also provide combinations of the basic modes of operation as described in this section.

Record Plus Multiscreen Display (See Appendix B):
Allows live pictures to be displayed on Monitor A in either FULL, QUAD, or MULTI screen mode. FULL screen or sequencing of all cameras can be displayed on Monitor B while recording selected cameras onto the VCR.

Simultaneous Record plus Playback (See Appendix B):
Allows recorded camera pictures to be played back and displayed on Monitor A in either FULL, QUAD, or MULTI screen mode; live FULL screen display of the selected camera picture or sequencing all cameras on Monitor B; and at the same time, record the selected live camera pictures onto the VCR. Two VCRs are required for this operation.

When *not* recording, the following mode can be programmed:

Live Multiscreen on Monitor A and Monitor B: The duplex unit provides two independent output monitors, each with the capability to provide FULL, QUAD, or MULTI screen display.

Simultaneous Playback plus Multiscreen Display: The Duplex units allow live pictures to be displayed on monitor B in either FULL, QUAD, or MULTI screen mode and playback recorded camera pictures to be displayed on monitor A in either FULL, QUAD, or MULTI screen mode.

6.5 Security Lockout

The LTC 2600 Series Multiplexer provides three levels of access for operation: (1) Full Access, (2) Limited Access, and (3) Lockout (i.e. No access/no front panel manipulation possible).

The key commands controlling this feature are as follows:

*   **QUAD + ZOOM + ALM**   All user functions and menus.
*   **QUAD + CAMEO + ALT**   All user functions except menus.
*   **QUAD + CAMEO + FREEZE**   Lock out the front panel.

6.6 VCR Test Mode

Toggles between viewing the output of the VCR (the VCR monitor mode) and viewing a camera input. Press ALT ▢ , then VCR key and the VCR LED will light. The VCR mode is used to examine the video which will be recorded by the VCR during recording or to adjust the tracking for optimal playback picture of the VCR. This function will also be required for on-screen programming of VCR units. It should only be used if both the input and output of a single VCR are connected to the multiplexer.

SECTION 7: *System4* ENHANCED OPERATION

NOTE: The following information pertains to *System4* multiplexer models only.

System4 multiplexers provide special operating modes which enable enhanced operation and special customized system configurations, including expanded systems with control from system keyboards. This section describes the operating features/modes specific to *System4* models. Keyboard descriptions and operating functions are also provided.

7.1 *System4* Special Operating Features

> **Please refer to the OPERATING THE LTC 2600 MULTIPLEXER section in this manual for the standard operating features available to all multiplexer models. The following sections describe those operating features/modes unique to *System4* multiplexers—this information is intended to be supplemental to the information provided in the OPERATING THE LTC 2600 section.**

Two Output Relays for Actions/Alarms

System4 triplex multiplexers provide two output relays for actions or alarms. These relays may be programmed through the ACTION SETUP or ALARM SETUP menus in ADVANCED SETUP.

Simultaneous Record to Two VCRs (See Appendix B for an illustration of this system configuration):
System4 triplex models allow the following:

• Display of full screen live video on Monitor A.

• Record the selected camera pictures (as defined in the VCR1 RECORD LIST) to VCR 1.

• Record the selected camera pictures (as defined in the VCR2 RECORD LIST) to VCR 2.

Two VCRs are required for this operation—one to record the output from the VCR OUT connector and one to record the output from the MON B connection (Monitor B becomes a VCR output for VCR 2). By using two recorders, customized record lists can be generated for each VCR. For example, while the first VCR is recording normally, the second VCR can be set up to record only alarm or action video pictures.

To program the unit to operate in this mode, press ALT ☐ , then 2, then the REC key. This will engage the multiplexer to send video to both VCRs. Pressing ALT ☐ , then REC will disable this option. Normal viewing modes will not be available on MON B if being used as an alternate VCR OUTPUT.

Simultaneous Playback plus Multiscreen Display: The *System4* triplex models allow live pictures to be displayed on Monitor B in either FULL, QUAD, or MULTI screen mode and playback recorded camera pictures to be displayed on Monitor A in either FULL, QUAD, or MULTI screen mode.

Simultaneous Playback on Monitor A and Monitor B: The *System4* triplex models allow simultaneous playback on both Monitors A and B of multiple recorded images. Monitor A is selectable for any screen display mode, while Monitor B can select any of the recorded cameras in full screen display only. To perform simultaneous playback, press ALT ☐ , then 2, then PLAY.

Time/Date Search on VCR Analog Tapes: Select the quick key sequence "ALT-1-VCR-PLAY," and the playback search menu window will be displayed.

NOTE: If playback is not selected or a VCR is not connected to the RS232 port, a "NO PLAYBACK" error message will be displayed and the playback search menu will not start.

```
        PLAYBACK SEARCH
 >SEARCH TIME          00:00
  SEARCH DATE    02/03/1999
  START SEARCH




  Choose:SELECT      More v
  Edit:<>           Exit:ZOOM
```

The search time and date will reflect the last time and date read from the previously recorded tape.

Set the Search Time as shown below:

```
   SEARCH TIME
   SETUP 01
   This is the time of the
   picture to be viewed from the
   VCR tape.
      23:06:00
       ^

   Move Cursor:<>
   Default:FREEZE        Edit:^v
   Save:SELECT      Exit:ZOOM
```
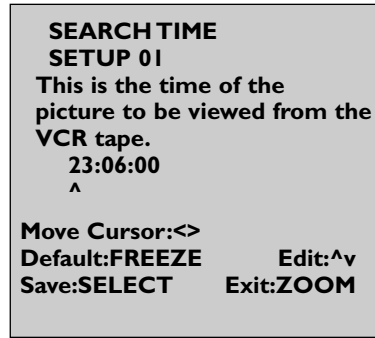
Set the Search Date as shown below:

```
   SEARCH DATE

   This is the date of the
   Picture to be viewed from
   the VCR tape.

       12/11/2001
        ^

   Move Cursor:<>
   Default:FREEZE        Edit:^v
   Save:SELECT      Exit:ZOOM
```
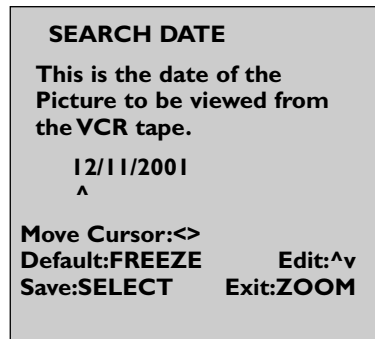
To start the search:

•   Select the quick key sequence "ALT-1-VCR-PLAY," and the playback search window menu will be displayed.

•   Set the required date/time (Note the current playback time will appear as a default).

•   Select START SEARCH. The search display window will appear showing the desired time, the last date and time read from the recorded tape, and the VCR status.

•   The multiplexer will automatically forward/rewind the tape to the required time/date.

•   When the required time/date is found, the message "Search Completed" will be displayed. The beeper will sound, and after 3 seconds, the initial playback screen will be displayed on MON A.

•   If the multiplexer cannot find the required time/date, it will prompt the user and discontinue the search, returning to the initial playback screen.

•   To abort the search at any time, press the ZOOM ⊕ key.

```
   SEARCHING...
   11:30:00 07/16/99




   CANCEL SEARCH: ZOOM
   10:35:26 07/16/99 PB
```
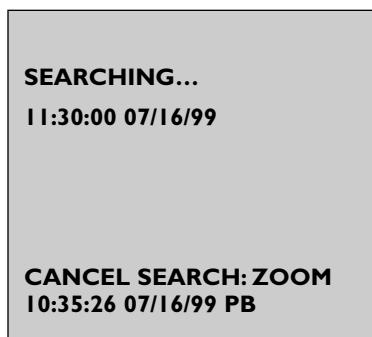
7.2 System Keyboards

The LTC 2601/00 and LTC 2602/00 are full function keyboards designed for system control, programming, and Pan/Tilt/Zoom (Philips Allegiant R/D or AutoDome) operation with the *System4* Model multiplexers. By using the keyboard port expander LTC 2604 Series unit, purchased separately, up to four keyboards may be connected. Optional hardware for remote location of keyboards includes the following:

- **LTC 8558/00 Keyboard Extension Cable**: Six conductor extension cable provides data/power for remote LTC 2601 and LTC 2602 keyboards to 30 meters (100 feet) away from the multiplexer unit.

- **LTC 8557 Series Keyboard Extension Kits**: Interface kits used to permit remote LTC 2601 and LTC 2602 keyboards up to 1.6 km (5000 ft) away from the multiplexer. Customer supplied 24-gauge shielded twisted pair (Belden 9841 or equivalent) required between the multiplexer and the keyboard. Kits provide two junction boxes, interface cable, and appropriate power supply (in each version).
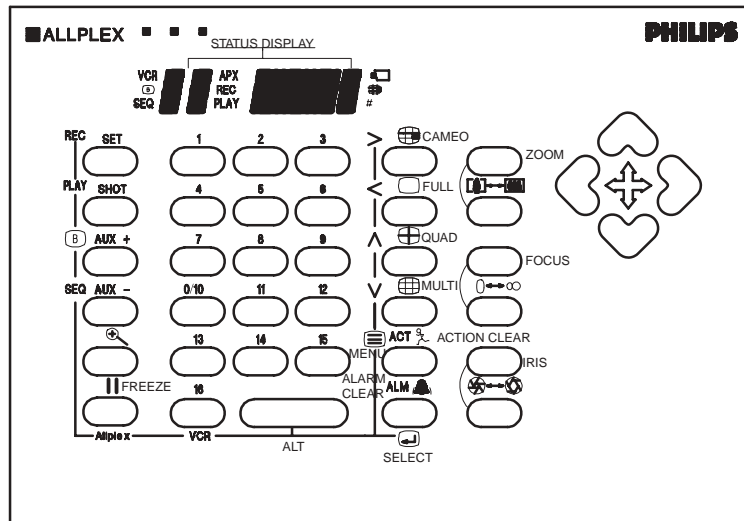
LTC 2601/00 Keyboard
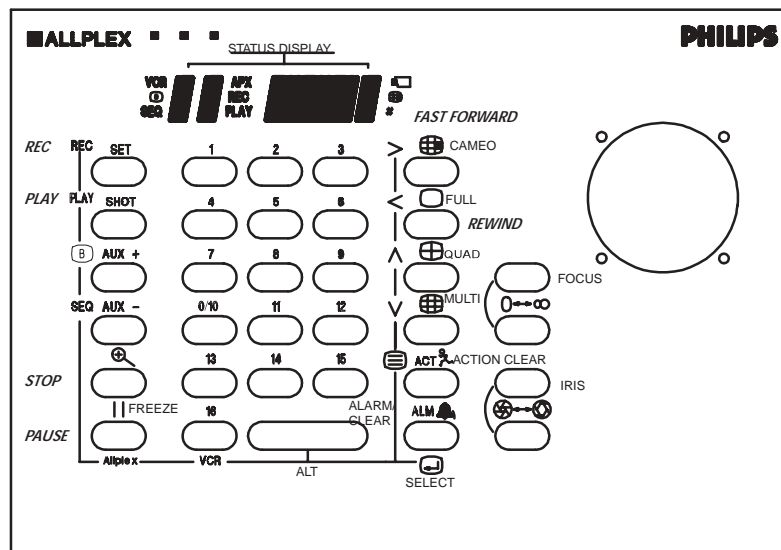
Note:
Italic Font
for VCR Functions

LTC 2602/00 Keyboard

Keyboard Operation

Numeric Display: The numeric display is a three-digit display that shows the number of the multiplexer that the keyboard is currently controlling. There are two modes for this display.

- The first mode displays the multiplexer number (default mode).

- The second mode is called the keyboard test mode which displays the key code for the individual key pressed.

Status Display: The status display indicators are located on either side of the numeric display at the top of the keyboard. On the right side of the numeric display, there are three status display indicators: Camera, Cameo, and Pound. On the left side of the numeric display, there are six status display indicators: VCR, Monitor B, Sequence, Allplex, Record, and Playback.

LED Display: Certain keys have an LED indicator to light up or flash to indicate that the function is either enabled or in the alarm state. The keys that are tied to an LED are: Cameras 1 – 16, ALT, ACT, and ALM. The operation of these LEDs is identical to those on the front panel of the multiplexer.

Numeric Keypad: The numeric keypad is designed to serve three purposes: selecting cameras, selecting cameos, and numeric entry. The operation of the numeric keypad keys is identical to the multiplexer front panel.

Additional Function Keys: The system keyboards contain additional function keys not available on the front panel of the multiplexer. They are as follows:

Allplex Selection - (Requires two-key combination: "Allplex") then #, then SELECT ▢ key to select new Allplex number. The system accepts only valid Allplex numbers 1 through 30.

SET - Set is a pre-position function of an AutoDome or Pan/Tilt and Zoom lens.
Press SET to record a preset scene at remote camera site. (Up to 99 presets can be recorded for Philip's R/D or AutoDome.) Set a preset function of a camera: Press "Full" then camera numbers (1-16). Use the joystick to move the camera to the scene that you want to store, then press SET, # (1-99), then SELECT ▢ .

SHOT - Press SHOT to call up a preset scene at remote camera site.
Call up a preset function of a camera: Press SHOT, # (1-99), then SELECT ▢ .

AUX+ - Press AUX+ to select a receiver/driver auxiliary function at the camera location.

AUX- - Press AUX- to deselect any receiver/driver auxiliary functions currently in the "ON" state.
(Note: Refer to Philip's R/D or AutoDome Instruction Manual for Auxiliary function)

Multikey Access Functions: *Simultaneously* press the multiple keys listed to enable the function as described.

QUAD + CAMEO + Allplex: Set the keyboard user level to NO ACCESS.
QUAD + CAMEO + ALT: Set the keyboard user level to LIMITED ACCESS.
QUAD+ ENTER+ ENLARGE: Set the keyboard user level to FULL ACCESS.

VCR Control
VCR + SELECT - To toggle the VCR CONTROL mode ON and OFF.

Use the following keys for VCR functions:

VCR Function	Press Key
RECORD	REC/SET
PLAYBACK	PLAY/SHOT
STOP	ZOOM
PAUSE	FREEZE
FAST FORWARD	CAMEO/>
FAST REWIND	FULL/<

Allplex + SELECT: To switch control to another multiplexer.
Allplex + ALT: To Enter and Exit the keyboard TEST mode.

Pan/Tilt Control: For Pan/Tilt controllable units, operation of the joystick (LTC 2602) or four directional keys (LTC 2601) will make the selected camera tilt up or down, pan left or right, or move diagonally.

Lens Control: The joystick of the LTC 2602 keyboard is used to provide zoom control by rotating the knob in either a clockwise or counterclockwise direction. The LTC 2601 provides two additional keys required to operate the zoom functions. Push buttons are included with both keyboards to control focus near or far and to open or close the iris (on applicable lenses).

Appendix A: FEATURES AND SPECIFICATIONS

LTC 2600 Series Model Features

FEATURES	LTC 2622/90	LTC 2632/90	LTC 2642/90	LTC 2652/90	LTC 2661/90	LTC 2662/90	LTC 2672/90	LTC 2682/90
Camera inputs	6	9	9	16	16	16	9	16
Color **Simplex** operation	Yes	No	Yes	No	Yes	Yes	Yes	Yes
Monochrome **Simplex** operation	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Color **Duplex** operation	Yes	No	Yes	No	Yes	Yes	Yes	Yes
Monochrome **Duplex** operation	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Color **Triplex** operation	No	No	No	No	No	No	Yes	Yes
Simultaneously record **and** display live multiscreen	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
Simultaneously record **and** play back	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
Simultaneously play back **and** display live multiscreen	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
Simultaneously record **and** play back **and** display live multiscreen	No	No	No	No	No	No	Yes	Yes
Camera display lock-out	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Digital motion detection with direction sensing	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Programmable VCR outputs	1	1	1	1	1	1	2	2
Monitor outputs	2	2	2	2	2	2	2	2
Remote keyboard with P/T/Z (biphase outputs for P/T/Z)	Yes (4)	No	No	No	No	No	Yes (5)	Yes (5)
Video loss detection	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Custom alarm display on Mon A with multiple preset call-up	No	No	No	No	No	No	Yes	Yes
Vext inputs (5 Volt to 12 Volt)	1	1	1	1	1	1	2	2
Alarm inputs	6	9	9	16	16	16	9	16
Alarm output relays	1	1	1	1	1	1	2	2
S-VHS for Monitor A and B	No	No	No	No	No	No	Yes	Yes
S-VHS for VCR In/Out	No	No	No	No	No	No	Yes	Yes
Auto-terminating BNCs	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
PC programmable	No	No	No	No	No	No	Yes	Yes

Appendix B: SPECIAL APPLICATIONS/SYSTEM CONFIGURATIONS
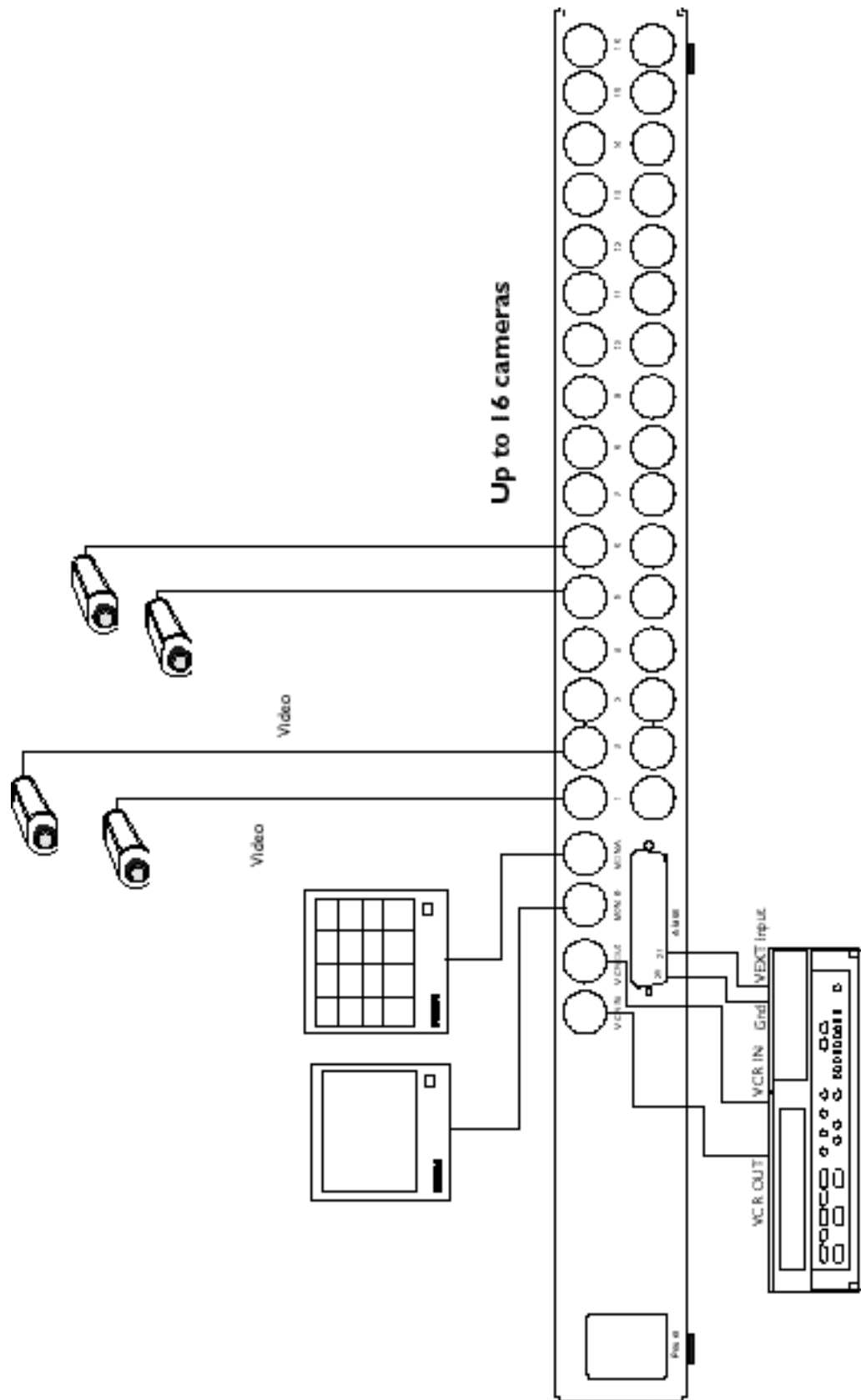
Figure B1: Record Plus Multiscreen Display
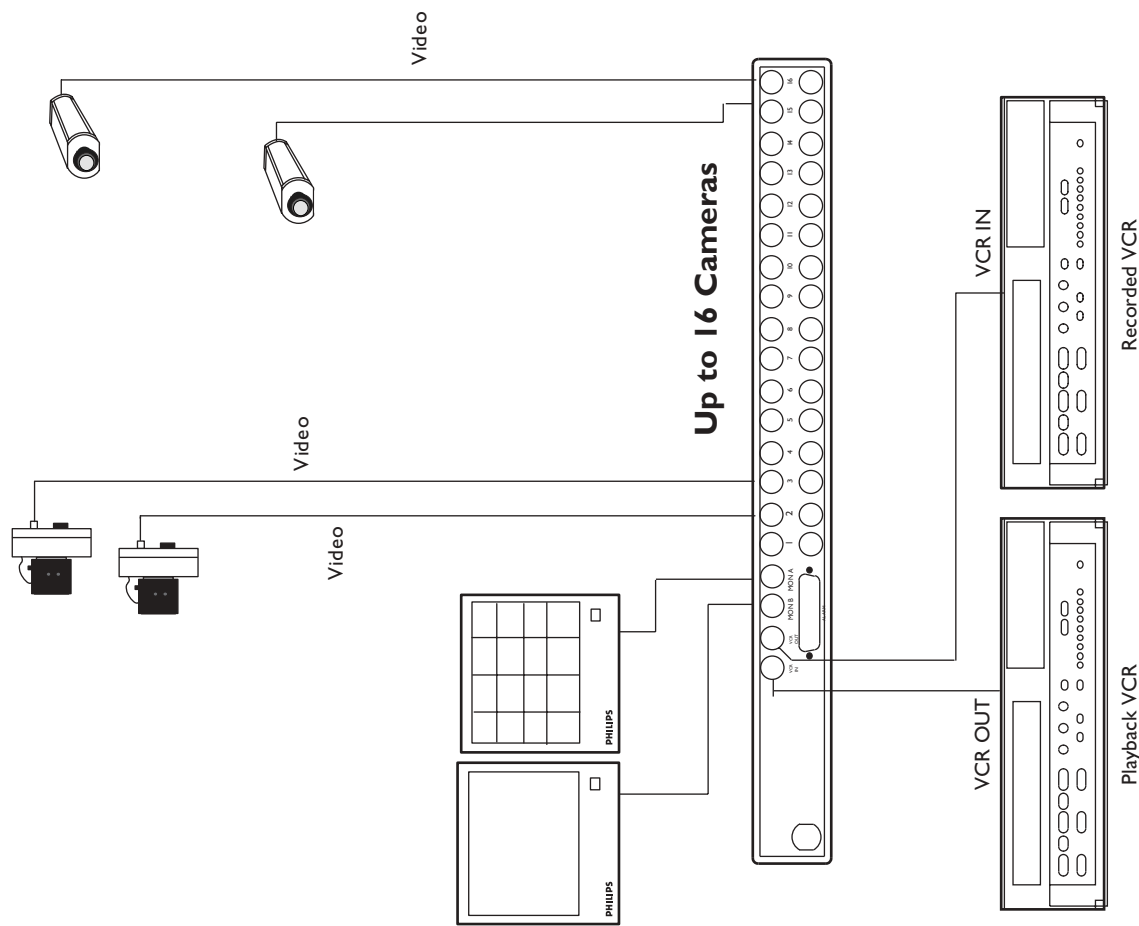
Figure B2: Simultaneous Record Plus Playback

The LTC 2682 provides two independent VCR outputs. Each output can be programmed to encode camera sequences. Using the LTC 2682 in this mode offers the flexibility to distribute the number of cameras between two VCRs to provide a fast update rate for each camera.

Two VCRs may also be programmed so that one VCR may be used for normal encoding while the other is used for action/alarm encoding. In this triplex mode of operating, Mon A will always display camera either in Multiscreen, Quad, Full, or multiple camera in a sequence mode.

Figure B3: Simultaneous Record to Two VCRs (Triplex Operation)
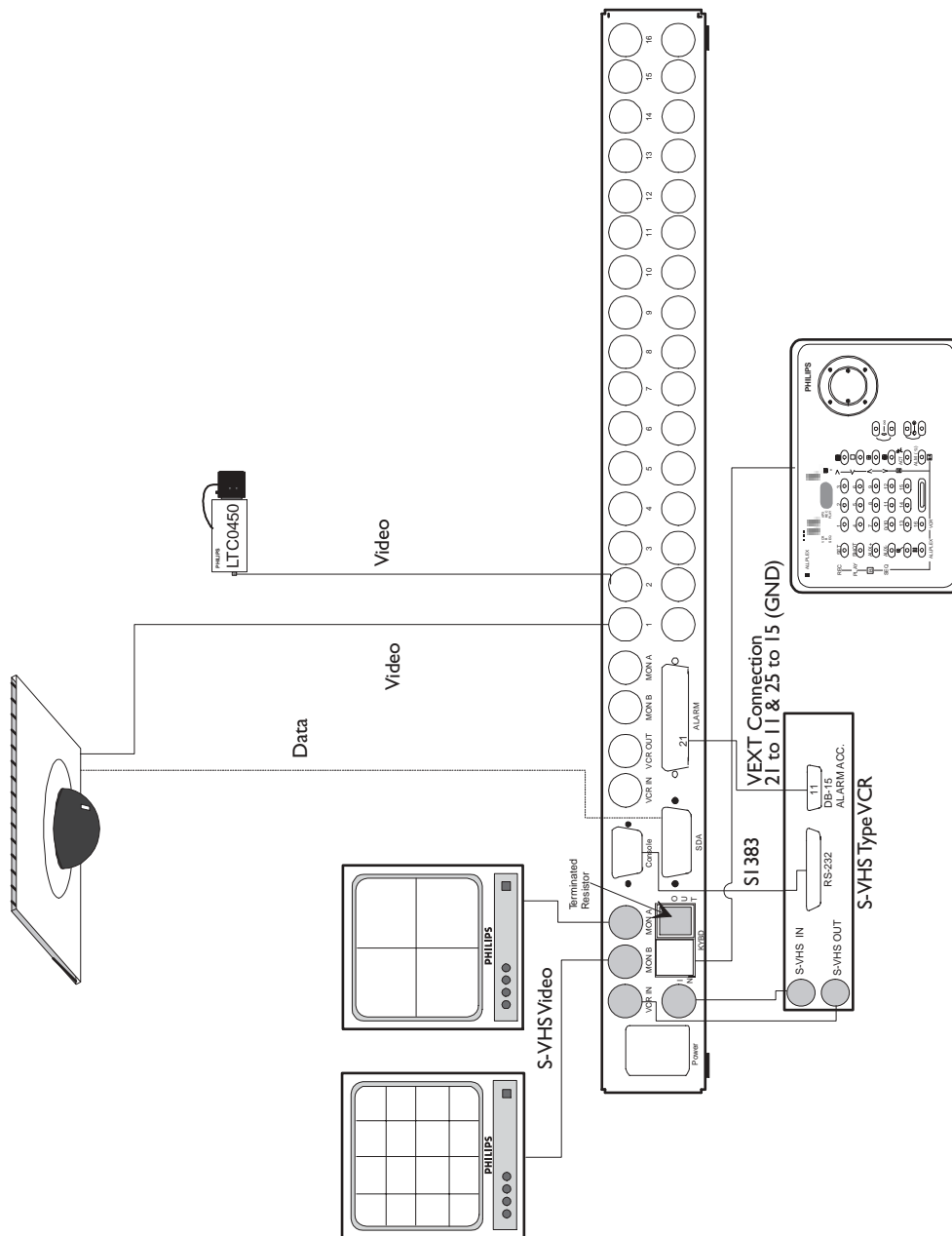
Figure B4: System4 Triplex Typical Operation
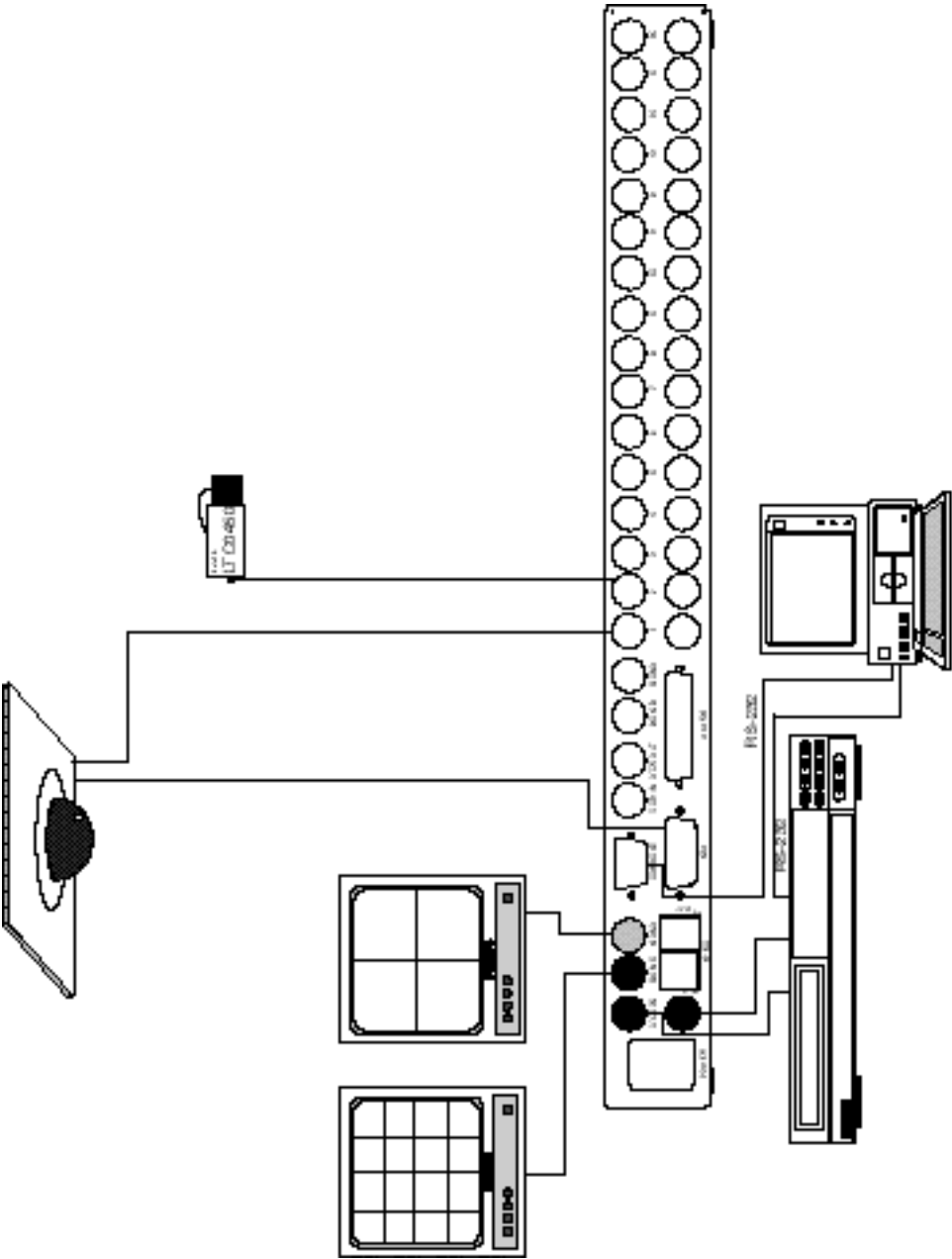
Figure B5: LTC 2672 and LTC 2682 Series with LTC 2650 GUI

LTC0450

LTC0450

MON A

MON B

ALARM

VCR IN

VCR OUT

VCR out

VCR in

SDA

CONSOLE

RS-232

terminate resistor

PHILIPS

PHILIPS

PHILIPS

MON A

VCR IN

POWER

LTC 2609/00
LTC 8557 Series Up to 5000 Feet

MON B

MON A

ALARM

VCR OUT

VCR IN

SDA

CONSOLE

PHILIPS

PHILIPS

PHILIPS

S-VHS

POWER

VCR IN

MON A
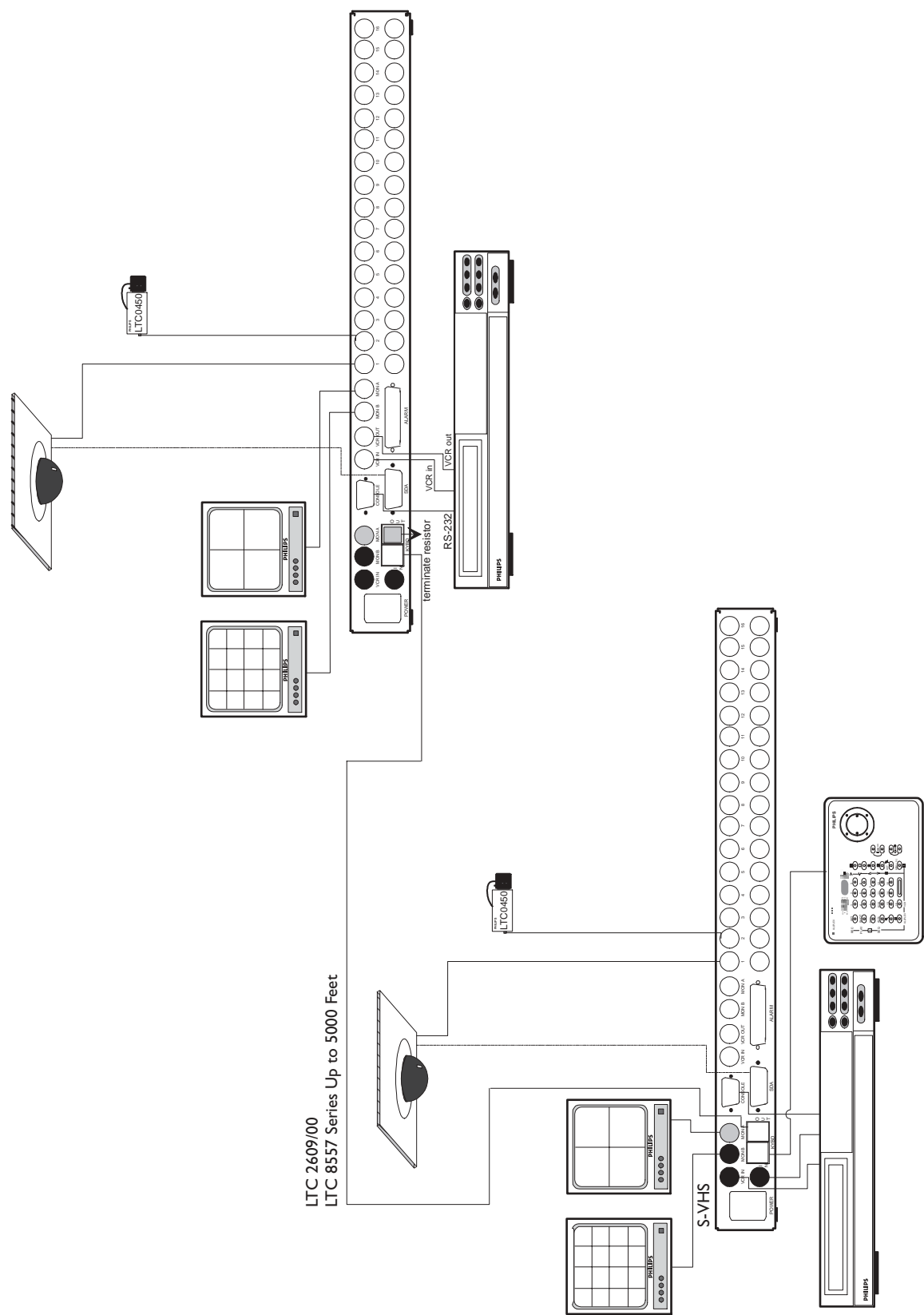
Figure B6: Control of Multiple Multiplexers from a Single Keyboard
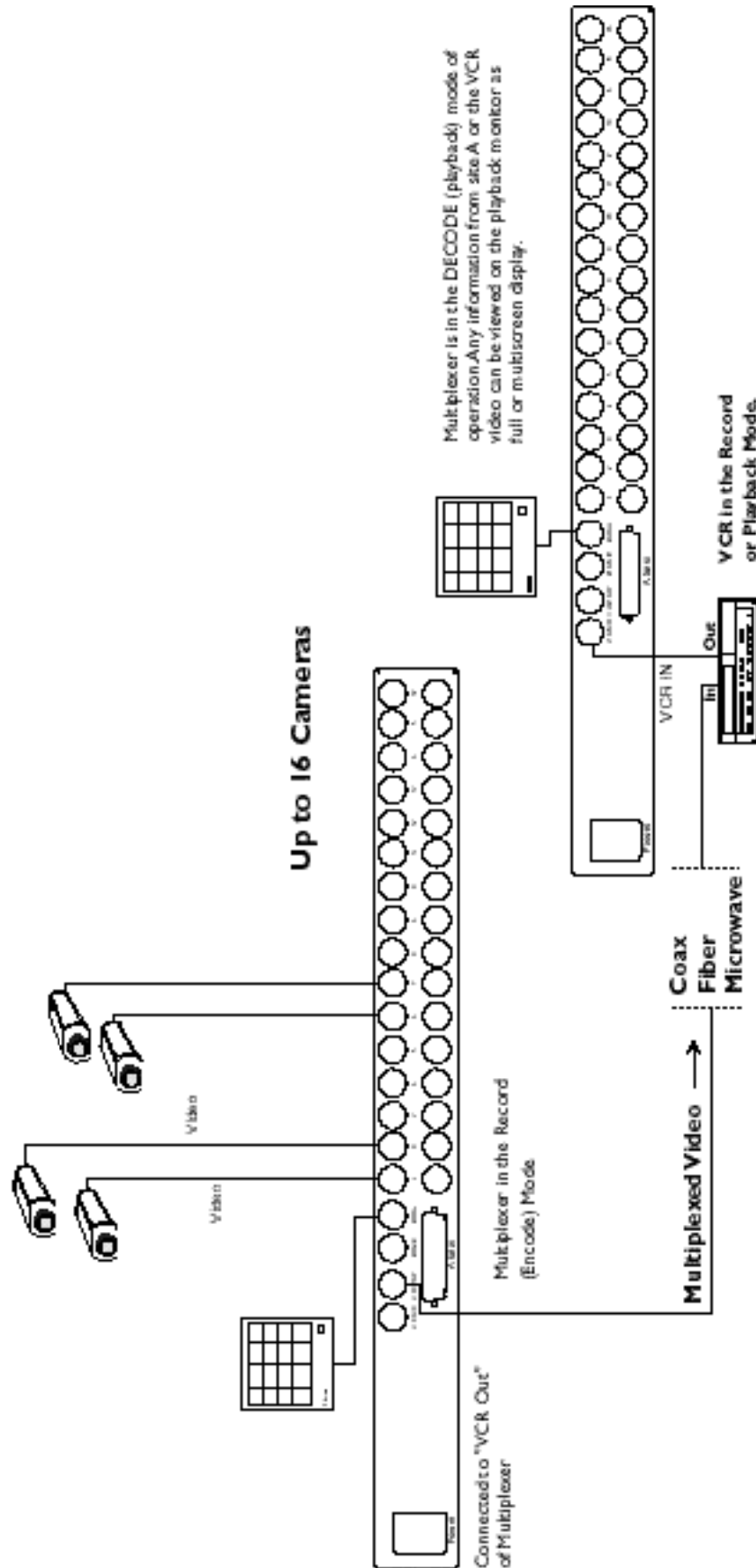
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Figure B7: Transmitting 16 Videos over One Single Coax

Appendix C: FACTORY DEFAULT SETTINGS

ITEM	DEFAULT	OPTIONS
DATE/TIME:		
Date	01/01/1998	
Time	12/00/00	
Time Format	24 hr	12 hr, 24 hr
Date Format	dd/mm/yy (PAL)	mm/dd/yy dd/mm/yy yy/mm/dd
	mm/dd/yy (NTSC)	
VCR SETUP:		
Time-lapse	3 hr (PAL)	PAL: 3 to 720 hrs or as programmed
	2 hr (NTSC)	NTSC: 2 to 720 hrs or as programmed
Record List	01-16	01-16. Any camera in a 16 camera sequence
		i.e. 1, 5, 8, 4, 2, 3, 4
Playback Format	LTC 2600	LTC 2600, TC8298B, Robot, DM, Pelco, Vicon
Record Format	LTC 2600	LTC 2600, TC8298B, VITC
Record Lock	Off	Off, On
VEXT	Off	Off, On for both VCR OUT and MON B
Remote VCR Setup	On (Sys4 models)	Off, On
CREATE VCR SETUP:		
VCR Title	Custom VCR 1	
VCR/Field Table	3 hrs (PAL)	PAL: 3 to 720 hrs or as programmed
	2 hrs (NTSC)	NTSC: 2 to 720 hrs or as programmed
VCR OUTPUT		
Output	Off	Off, ACT, ALM, ACT/ALM
Output Relay	N/O	N/O, N/C
ALM/ACT Speed	3 hrs (PAL)	3 to 720 hrs
	2 hrs (NTSC)	2 to 720 hrs
Alarm Record	INTERLEAVE	INTERLEAVE, Exclusive
Action Record	INTERLEAVE	INTERLEAVE, Exclusive
ALARM SETUP:		
Alarm Dwell	8 sec	1 - 60 sec FOLLOWS
Alarm Display Mon A	Full	Full, Quad, 4+3, 8+2, 3x3,12+1,4x4
(Sys4 models only)		
Alarm List	All off	Select any camera
Alarm Inputs	N/O	N/O, N/C
Beeper	Disable	Enable, disable
ACTION SETUP:		
Action Dwell	8 sec	1 - 60 sec
Action Display Mon A	Full	Full, Quad, 4+3, 8+2, 3x3,12+1,4x4
(Sys4 models only)		
Action List	All off	
Action Zones	On Except Outer	On/Off (All Zones)
Direction Sensing		
Walkthrough	MED	MIN, LOW, MED, HI
Beeper	Disable	Enable, disable

ITEM	DEFAULT	OPTIONS
CAMERA TITLE:		
Camera Title	CAMERA 1	
SEQUENCES:		
Seq Dwell Full A	8 sec	1 - 60 sec
Seq Dwell Quad A	8 sec	1 - 60 sec
Seq Dwell Full B	8 sec	1 - 60 sec
Seq Dwell Quad B	8 sec	1 - 60 sec
Mon A Full	1-16	1-16. Any camera in a 16 camera sequence i.e.1, 5, 8, 4, 2, 3, 4
Mon A Quad	1-4, 5-8, 9-12, 13-16	Any camera to cameo assignment is allowed **NOTE**: 9-channel product has only 3 Quads instead of 4
Mon B Full	1-16	1-16. Any camera in a 16 camera sequence i.e.1, 5, 8, 4, 2, 3, 4
Mon B Quad	1-4, 5-8, 9-12, 13-16	Any camera to cameo assignment is allowed **NOTE**: 9-channel product has only 3 Quads instead of 8
CONFIGURE SETUPS:		
Setup Title	SETUP 1	Any 12 character title
***System4* Models ONLY:**		
PC/PRINTER/VCR:		
Connect to	VCR	Printer; GUI, CCL, VCR
Serial Port	96, n, 8, 1	Baud: 6, 12, 24, 48, 96, 192 Parity: o(odd), e(even), n(none) Data bits: 7, 8 Stop bit 1
Autoprint	Disable	Enable, disable
LOG:		
Log Setup	All off	ACT, ALM, EVT, VL, ERR - All can be either selected or not selected
PASSWORD:		
Password	1111	1111 - 9999, where 1111 = no password
EXPAND SYSTEM:		
Number Mux	01	01 to 30
TIME EVENTS:		
Setup on/off	Off	On, off
Start Time	00:00	
Days	SMTWTFS	SMTWTFS - Any day or days of the week
Run One Time	Off	On, off
Record	Off	On, off

ITEM	DEFAULT	OPTIONS
CONFIGURE DISPLAY:		
Time/Date Mon A	On	On, off
Time/Date Mon B	On	On, off
Show Text Mon A	On	On, off
Show Text Mon B	On	On, off
Text	White:Black	Clear:White, Clear:Gray, Clear:Black White:Clear, White:Gray, White:Black Gray:Clear, Gray:White, Gray:Black Black:Clear, Black:White, Black:Gray
Cameo Borders	Black	White, Gray Black
VCR Status	Off	On/off
Display Lock List	1-16	1-16. Any camera in a camera sequence
Menu Timeout	On	On, off
Auto Gain Control	On	On, off
VIDEO LOSS:		
Video Loss o/p	Enable	Enable, disable
Video Loss Relay	N/O	N/C, N/O
Video Loss List	No Cameras Selected	Any Camera or Cameras
LANGUAGE:		
Language	English	English, French, German, Spanish, Italian, Dutch

Appendix D: PROGRAMMING REFERENCE

Menu Trees: Advanced Setup

The following menu trees are provided for reference in locating advanced programming functions. Descriptions of all these functions are located in the ADVANCED SETUP programming section.

```
MAIN MENU              3.00
 SETUP 1
 QUICK SETUP
▶ADVANCED SETUP

 Choose: SELECT   More ▲
              Exit: ZOOM
```

```
 ADVANCED SETUP
  SETUP 1
 TIME/DATE
 AUTOSET
 VCR SETUP
 ACTION SETUP
 ALARM SETUP
 CAMERA TITLES
 SEQUENCES
 CONFIGURE SETUPS
 CONFIGURE DISPLAY
★ PC/PRINTER
 VIDEOLOSS
★ LOG
★ PASSWORD
★ EXPAND SYSTEM
 DEFAULT SETTINGS
 LANGUAGE        ENGLISH

 Choose: SELECT    More ▲
              Exit: ZOOM
```

```
 TIME/DATE
  TIME FORMAT          12 hr
 TIME          04:15:30PM
 DATE FORMAT    MM/DD/YYYY
 DATE          05/07/1998

 Choose: SELECT       More ▲
 Edit: ◀ ▶        Exit: ZOOM
```

```
 AUTOSET
  SETUP 1
 AUTOSET ALL BELOW
 RECORD LIST
 VIDEOLOSS LIST
 SEQUENCES

 Choose: SELECT      More ▲
              Exit: ZOOM
```

```
 VCR SETUP
  SETUP 1
 RECORD SETUP *VCR OUT*
★ RECORD SETUP *MON B*
 PLAYBACK FORMAT    LTC2600
★ RECORD FORMAT     LTC2600
 RECORD LOCK           OFF

 Choose: SELECT      More ▲
              Exit: ZOOM
```

```
 ACTION SETUP
  SETUP 1
 ACTION DWELL         08 sec
 ACTION LIST
★ ACTION DISPLAY MON A
 ACTION ZONES
 WALKTHROUGH
 DIRECTION ZONE
 BEEPER            DISABLE

 Choose: SELECT      More ▲
              Exit: ZOOM
```

```
 ALARM SETUP
  SETUP 1
 ALARM DWELL          08 sec
 ALARM LIST
★ ALARM DISPLAY MON A
 ALARM INPUTS
 BEEPER            DISABLE

 Choose: SELECT      More ▲
              Exit: ZOOM
```

*** System4** *only*

Menu Trees: Advanced Setup (continued)

```
MAIN MENU          3.00
  SETUP 1
 QUICK SETUP
▶ADVANCED SETUP


Choose: SELECT    More ▲
              Exit: ZOOM
```

```
   ADVANCED SETUP
    SETUP 1
  TIME/DATE
  AUTOSET
  VCR SETUP
  ACTION SETUP
  ALARM SETUP
  CAMERA TITLES
  SEQUENCES
  CONFIGURE SETUPS
  CONFIGURE DISPLAY
  PC/PRINTER
  VIDEOLOSS
* LOG
* PASSWORD
* EXPAND SYSTEM
  DEFAULT SETTINGS
  LANGUAGE      ENGLISH


  Choose: SELECT    More ▲
              Exit: ZOOM
```

```
  CAMERA TITLES
   SETUP 1
Each camera can be given
a 16 character title.
  (1) CAMERA.1 .............
  ▲
MOVE CURSOR:<>
Default: FREEZE      Edit:▲▼
Save: SELECT
                  Exit: ZOOM
```

```
   SEQUENCES
    SETUP 1
  SEQ DWELL A FULL      08 sec
  SEQ DWELL A QUAD      08 sec
† SEQ DWELL A 5+1       08 sec
  SEQ DWELL B FULL      08 sec
  SEQ DWELL B QUAD      08 sec
  MON A FULL
  MON A QUAD
† MON A 5+1
  MON B FULL
  MON B QUAD

  Choose: SELECT      More ▲
  Edit: ◀▶            Exit: ZOOM
```

```
   CONFIGURE SETUPS
    LOAD SETUP
  COPY SETUP
  SETUP TITLE
  TIME EVENTS

  Choose: SELECT      More ▲
                  Exit: ZOOM
```

* *System4* only
† LTC 2622 only

```
   CONFIGURE DISPLAY
    SETUP 1
  TIME/DATE MON A          ON
  TIME/DATE MON B          ON
  SCREEN POSITION    BOTTOM
  CAM TITLE MON A          ON
  CAM TITLE MON B          ON
  TEXT            WHITE:BLACK
  CAMEO BORDERS        BLACK
* VCR STATUS              ON
  DISPLAY LOCK LIST
* KEYPAD ASSIGN
  MENU TIMEOUT             ON
  AUTO GAIN CONTROL        ON


  Choose: SELECT      More ▲
  Edit: ◀▶            Exit: ZOOM
```

```
  PC/PRINTER
   CONNECT TO            VCR
  SERIAL PORT        96,N,8,1


  Choose: SELECT      More ▲
  Edit: ◀▶            Exit: ZOOM
```

Menu Trees: Advanced Setup (continued)

```
MAIN MENU          3.00
 SETUP 1
 QUICK SETUP
▶ADVANCED SETUP ───

Choose: SELECT   More ▲
              Exit: ZOOM
```

```
    ADVANCED SETUP
     SETUP 1
    TIME/DATE
    AUTOSET
    VCR SETUP
    ACTION SETUP
    ALARM SETUP
    CAMERA TITLES
    SEQUENCES
    CONFIGURE SETUPS
    CONFIGURE DISPLAY
  ✴ PC/PRINTER
    VIDEOLOSS ────
  ✴ LOG ──
  ✴ PASSWORD ──
  ✴ EXPAND SYSTEM ──
    DEFAULT SETTINGS ──
    LANGUAGE      ENGLISH ──

  Choose: SELECT   More ▲
                Exit: ZOOM
```

```
    VIDEOLOSS
     SETUP 1
    VIDEOLOSS LIST
    VID LOSS O/P       ENABLE
    VID LOSS RELAY        N/C

  Choose: SELECT   More ▲
                Exit: ZOOM
```

```
    LOG
     VIEW LOG
    LOG SETUP

  Choose: SELECT   More ▲
                Exit: ZOOM
```

```
    NEW PASSWORD
   Setting a password will
   limit access to the menus.

     •   •   •   •
     ▲

  Choose: SELECT      Exit: ZOOM
```

```
    EXPAND SYSTEM
   NUMBER MUX           01
   CAMERA RENUMBER
   TIME SYNCH NOW

  Choose: SELECT   More ▲
  Edit: ◆▶          Exit: ZOOM
```

```
    DEFAULT SETTINGS
   Yes – Use factory
   default settings.
       NO
       ▲

  Default: FREEZE   More ▲
  Save: SELECT      Exit: ZOOM
```

```
    LANGUAGE
   Select English, German,
   French, Spanish,
   Italian, or Dutch
       ENGLISH
       ▲

  Default: FREEZE   More ▲
  Save: SELECT      Exit: ZOOM
```

* System4 only

Menu Trees: Advanced Setup - VCR SETUP

```
VCR SETUP
 SETUP 1
RECORD SETUP *VCR OUT* ──────┐
* RECORD SETUP *MON B*
PLAYBACK FORMAT    LTC2600
* RECORD FORMAT     LTC2600
RECORD LOCK          OFF

Choose: SELECT      More ▲
                    Exit: ZOOM
```

```
RECORD SETUP
 *VCR OUT* SETUP 1
VEXT INPUT              OFF
SELECT VCR ──────────────────┐
TIMELAPSE         2 hr - SP
RECORD LIST ─────┐
VCR OUT ─────────┼───┐
* VCR REMOTE SETUP │   │

Choose: SELECT      More ▲
                    Exit: ZOOM
```

```
SELECT VCR
 *VCR OUT* SETUP 1
TYPE        PHILIPS TC3990A
EDIT CUSTOM VCR



Choose: SELECT      More ▲
Edit: ◄►            Exit: ZOOM
```

```
RECORD LIST
 *VCR OUT* SETUP 1
CAMERA 1
01 02 03 04 05 06 07 08
09 10 11 12 13 14 1 5 16



Camera: 1 to 16
Default: FREEZE
Save: SELECT        Exit: ZOOM
```

```
VCR OUTPUT
 SETUP 1
OUTPUT                 OFF
ALM/ACT SPEED     2 hr - SP
ALARM REC        INTERLEAVE
ACTION REC       INTERLEAVE
OUTPUT RELAY           N/C

Choose: SELECT      More ▲
Edit: ◄►            Exit: ZOOM
```

* *System4* only

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Menu Trees: Advanced Setup - ACTION SETUP

```
ACTION SETUP
 SETUP 1
ACTION DWELL          08 sec
ACTION LIST ──────────────────
* ACTION DISPLAY MON A ─────────
ACTION ZONES ─────────────────
WALKTHROUGH ──────────────────
DIRECTION ZONE ───────────────
BEEPER                ENABLE

Choose: SELECT        More ▲
Edit: ◆               Exit: ZOOM
```

```
ACTION LIST
 SETUP 1
-- -- -- -- -- -- -- --
-- -- -- -- -- -- -- --
Use camera keys to
select camera for list.


Camera: 1 to 16
Default: FREEZE
Save: SELECT          Exit: ZOOM
```

```
ACTION DISPLAY MON A
 INPUT 1
MODE               CAM
▶ -- -- --          -- --
```

```
ACTION ZONES
 SETUP 1




Zone [Edit: MENU] < ENABLE [X]: More Cursor◆
Camera: 1 TO 16   Freeze: DEFAULT   EXIT: ZOOM
```

```
Camera 1




ENABLE: TR [ZONE ◆ NUMBER OF ZONES: FOR WALK ON [ZONE ◆] 1-16
Camera: 1 TO 16   Freeze: DEFAULT   Exit: ZOOM
```

```
Camera 1
     ⌐1   1⌐
     L1   1L
              ⌐2   2⌐
              L2   2L
Zone [Edit: MENU] < ENABLE [X]: More Cursor■
Camera: 1 TO 16   Freeze: DEFAULT   Exit: ZOOM
```

* System4 only

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Menu Trees: Advanced Setup - **ALARM SETUP**

```
ALARM SETUP
  SETUP 1
ALARM DWELL          05 sec
ALARM LIST
* ALARM DISPLAY ON MON A
ALARM INPUTS
BEEPER               DISABLE


Choose: SELECT       More ▲
Edit: ◄►             Exit: ZOOM
```

```
ALARM LIST
  SETUP 1
-- -- -- -- -- -- -- --
-- -- -- -- -- -- -- --
Use camera keys to
select camera for list.


Camera: 1 to 16
Default: FREEZE
Save: SELECT         Exit: ZOOM
```

```
ALARM DISPLAY MON A
  INPUT  1
MODE       CAM      PP
▶ -- -- --   -- --    -- --
             -- --    -- --
             -- --    -- --
             -- --    -- --


Input: 1 to 16
Default: FREEZE
Save: SELECT         Exit: ZOOM
```

```
ALARM INPUTS
  SETUP 1
-- -- -- -- -- -- -- --
-- -- -- -- -- -- -- --
Use camera keys to
select normally closed
inputs.


Camera: 1 to 16
Default: FREEZE
Save: SELECT         Exit: ZOOM
```

* *System4* only

Menu Trees: Advanced Setup - CONFIGURE SETUPS

```
 CONFIGURE SETUPS
LOAD SETUP ————————
COPY SETUP ————————
SETUP TITLE ————————
TIME EVENTS ————————

Choose: SELECT        More ▲
                      Exit: ZOOM
```

```
 LOAD SETUP
SETUP 1
SETUP 2
SETUP 3
SETUP 4
SETUP 5
SETUP 6

Choose: SELECT        More ▲
                      Exit: ZOOM
```

```
 COPY FROM
Copy a memory setup
(1-6) to a different
memory setup location.
  COPY FROM:  (1) to  (2)
                 ▲
Move Cursor: ◆▶
Default:  FREEZE
Save:  SELECT        Exit: ZOOM
```

```
 SETUP TITLE
Each setup can be given
a 12 character title.

  (1) SETUP 1 . . . . .
      ▲
Move Cursor: ◆▶
Default:  FREEZE
Save:  SELECT        Exit: ZOOM
```

```
 TIME EVENTS
SETUP 1 ————————
SETUP 2
SETUP 3
SETUP 4
SETUP 5
SETUP 6

Choose: SELECT        More ▲
                      Exit: ZOOM
```

```
 TIME EVENTS
  SETUP 1
SETUP ON/OFF           OFF
START TIME         12:00AM
DAYS              SMTWTFS
RUN ONE TIME           OFF
RECORD                 OFF

Choose: SELECT        More ▲
Edit: ◆▶              Exit: ZOOM
```

Appendix E: QUICK FUNCTION KEYS

The LTC 2600 Series Video Multiplexer provides Quick Function Keys which enable "instant access" to the programming lists critical for multiplexer operation. To access the list commands, you will have to press a sequence of keys.

First, press the ALT ▢ key, followed by 1, and then one of these additional keys to select the required list:

ALM (🔔)	To access the Alarm List
ACT 🏃	To access the Action List
ZOOM ⊕	To access the Video loss List
RECORD	To access the Record List
FULL ▢	To access the Sequence List for monitor A in Full Screen mode
QUAD ⊞	To access the Sequence List for monitor A in Quad mode
MON B ▣, FULL	To access the Sequence List for monitor B in Full Screen mode
PLAY	To access the Playback Format selection

System4 models provide additional quick function key combinations which apply to the operation of the second record list. Press ALT ▢ followed by 1, ▣ (MON B).

RECORD	To access the VCR2 Record List
MON B▣, QUAD	To access the Sequence List for monitor B in Quad mode
MON B▣, REC	To access the Record List on Monitor B

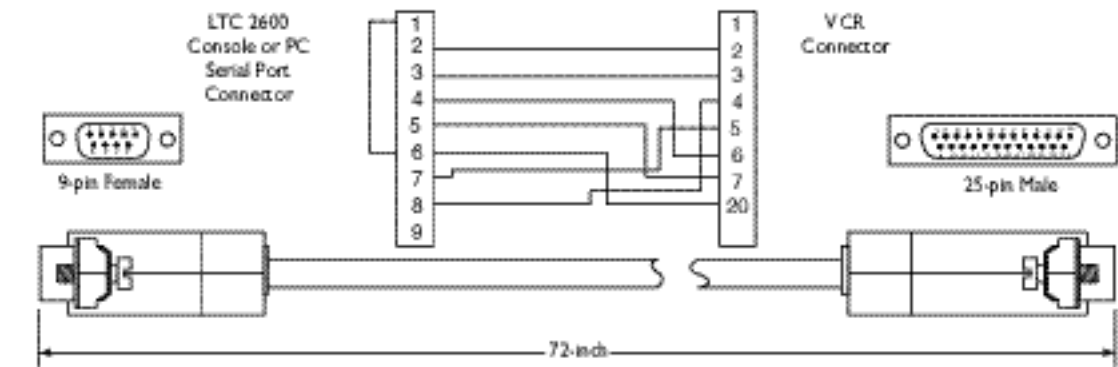## Appendix F: ACCESSORY CABLES FOR THE LTC 2600 SERIES MULTIPLEXERS
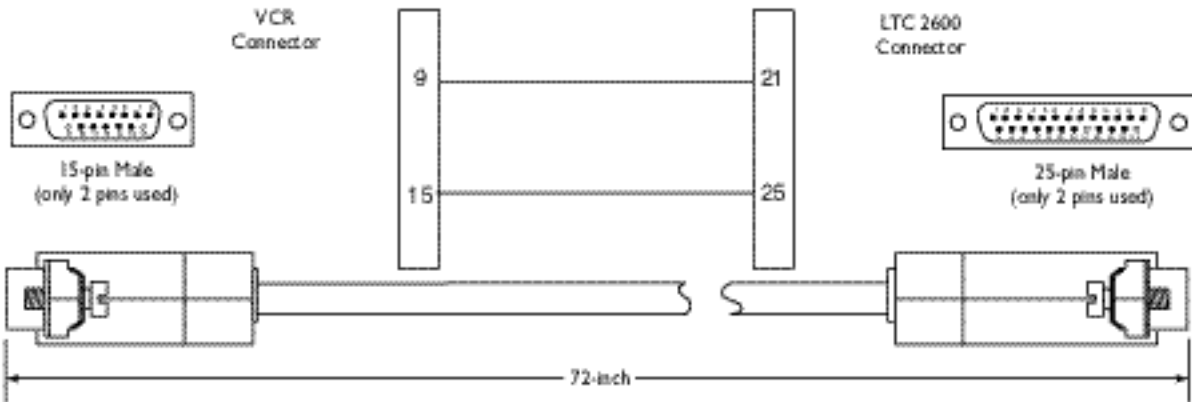

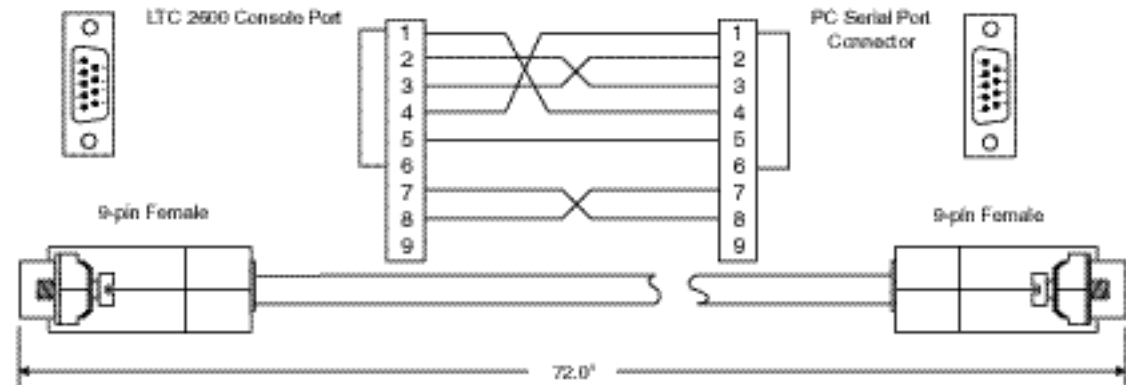Figure F1: S1383 RS-232 VCR/Multiplexer Cable

Figure F2: S1386 VEXT Cable

Figure F3: *System4 Cable – S1385 Console to PC Cable*