

**TC8286C Series, TC8296C Series
Monochrome Allplex[®] Sixteen Channel
TC8288C Series, TC8298C Series
Color Allplex[®] Sixteen Channel
Video Multiplexers**

**Installation and
Operating Instructions**



IMPORTANT: Read-Me-First

Proper operation of the Philips Series Allplex multiplexers requires correct configuration of various menu settings. The most typical application for the product is to "encode" multiple camera signals to a VCR. These recordings can then later be "decoded" for viewing as desired. For typical applications, the procedure below can be used to ensure all settings are followed and correctly configured. For non-standard configurations, refer to the Installation and Operation manual directly.

1. Connect up system cameras, at least one monitor to Monitor A output, and the VCR.
2. Apply AC power to the unit.
3. Enter the on-screen menu by pressing the MENU button and using the arrow keys found on the left side of the front panel, select AUTASET. Select SET SEQUENCES, press MENU; then select SET ENCODE LIST, and press MENU. This will automatically enter the attached cameras into default sequences and encoding lists. There are other functions listed as well, but as a minimum, make sure that you do the two described above. Exit the Autoset menu.
4. Enter and scroll down the menu to VCR SETUP, press MENU.
5. Select VCR FORMAT, press MENU. Select either FIELD or FRAME setting, then press MENU. Note that most VCRs today, including all Philips models, are field types. If unsure, refer to literature supplied with VCR or contact the manufacturer's technical support department.
6. Next select TIME LAPSE FRMT, press MENU. For standard time lapse VCRs (those types which can operate in a 2 hour mode for NTSC signals or a 3 hour mode for PAL signals), select HOURS, then press MENU. If using "real time" VCRs that provide SLP or HD tape speeds, select FIELDS, and press MENU. If unsure, refer to literature supplied with VCR.
7. Next select TIME LAPSE MODE, and press MENU. Either HOURS or FIELDS will be shown based on the previous selection. If HOURS is displayed, directly enter the time lapse speed in hours that the VCR will be operated at, and press MENU. If FIELDS is displayed, refer to the "VCR LOOKUP TABLE" found near the end of the **Installation and Operation Instructions** to find the correct value.

If your VCR model is not listed in the table, you can calculate the correct number from the field rate (the number of fields per second), or the frame rate (the number of frames per second) that the VCR will use at the desired recording speed. If you don't know the VCR's field (or frame) rate, it can usually be found in the VCR installation manual or by contacting the manufacturer's technical support department. If the manual lists a "recording interval" (the time period in seconds during which a single field is recorded to tape for either a field or a frame recorder), simply take the reciprocal of this value to determine the field rate in fields per second.

Calculate the TIME LAPSE MODE in FIELDS by taking the standard number of fields per second (60 for NTSC, 50 for PAL) and dividing it by the field rate (the number of fields per second, or twice the number of frames per second) the VCR will use at the desired recording speed. If you are dealing with a **frame recorder**, multiply this number by 2. Round any decimal answer to the next larger whole number. For a **field recorder**, if the whole number is even, add one to make it an odd number. For a frame recorder, if the whole number is odd, add one to make it an even number. For example, several new "real time" NTSC field VCRs record 20 fields per second (10 frames per second) when operated at the 24 hour speed. This would make the "Fields" number equal to 60 divided by 20 or 3. The number 3 would be entered directly into the multiplexer. If an NTSC field VCR had 10 fields per second (5 frames per second), the "Fields" number would be 6, an even number, so you add 1 to make it 7. The number 7 would be entered directly into the multiplexer.

8. If the unit is being used with tapes recorded on an older model Allplex, select the DECODE ALGORITHM menu and select EARLIER VERSION. If not sure, leave the unit set to 140 or LATER. If decoding does not operate properly, this can be easily changed later.
9. You now can program other features as desired. Usually, Camera Titles and Time/Date settings are done. Follow the on-screen menu and refer to the Installation and Operation manual as necessary.
10. You are now ready to record and playback encoded video. To record, place the VCR into the record mode. Press ENCODE. To review previously encoded tapes, place the VCR into play mode, select DECODE.

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 and 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 B 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 residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.



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.

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.

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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.		

Cet étiquette peut apparaître en dessous de l'appareil dû aux limitations d'espace.



L'éclair fléché dans un triangle équilatéral avertit l'utilisateur de la présence d'une haute tension non isolée à l'intérieur de l'appareil. Elle peut être d'une magnitude suffisante pour constituer un risque d'électrocution.



Le point d'exclamation à l'intérieur d'un triangle équilatéral avertit l'utilisateur de la présence d'instructions importantes d'utilisation et de maintenance dans la documentation accompagnant l'appareil.

Attention

Pour éviter un incendie ou une électrocution, ne pas exposer les appareils qui ne sont pas conçus spécifiquement pour usage extérieur à la pluie ou à l'humidité.



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 fonctionnent 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.

Sicherheitsvorkenhrungen



ACHTUNG!

HOCHSPANNUNGSGEFAHR
NICHT ÖFFNEN!



Warnung: Verhindern Sie einen möglichen Elektroschlag, indem Sie die Abdeckung nicht entfernen. Wenden Sie sich bei der Wartung an dafür qualifiziertes Personal.

Dieses Zeichen kann aus Platzgründen auf der Unterseite des Gerätes angebracht sein.



Dieses Zeichen weist den Benutzer auf die nicht isolierte Hochspannung innerhalb der Anlage hin. Es besteht die Gefahr eines Elektroschlages.



Das Ausrufezeichen in dem gleichseitigen Dreieck ist dazu da, den Benutzer auf wichtige Inbetriebnahme- und Instandhaltungsvorschriften hinzuweisen, die dem Gerät in Form einer Broschüre beigelegt sind.

Warnung: Um das Risiko von Feuer oder Elektroschlag zu vermeiden, darf weder das Gerät selbst, noch das Netzgerät Regen oder Feuchtigkeit ausgesetzt werden.



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
ELECTRICO INO 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 "voltajes peligrosos" sin aislamiento, dentro de la cubierta de la unidad. Dichos voltajes 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 usuario 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 diseñados 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.



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.



ATTENTION: These Operating and Installation Instructions are applicable to TC8286C Series, TC8296C Series, TC8288C Series, and TC8298C Series units with Serial Numbers 20000 or higher.

UNPACKING

Unpack carefully. This is electronic equipment and should be handled carefully.

Check for the following items:

- A TC8286C, TC8296C, TC8288C, TC8298C, TC8286CX, TC8296CX, TC8288CX, or TC8298CX unit.
- Installation and Operating Instructions.
- Two shielded cables with a 15-pin connector on one end. Used for Alarm/Accessory connections.

If an item appears to have been damaged in shipment, replace it properly in its carton and notify the shipper. If any items are missing, notify your Philips Communication & Security Systems Inc. Sales Representative or Customer Service.

The shipping carton is the safest container in which the unit may be transported. Save it for possible future use.

SERVICE

If the unit ever needs repair service, the customer should contact the nearest Philips Communication & Security Systems Inc. Service Center for return authorization and shipping instructions.

Service Centers

U.S.A. & Canada: 800-366-2283
Mexico & Central America: 52-5-564-2726
Europe & Middle East: 44-1932-765666
South America: 54-1-956-0837
Australia: 61-2-888-9000
New Zealand: 64-4-237-7297

DESCRIPTION

The TC8286C Series, TC8296C Series, TC8288C Series, and TC8298C Series are video multiplexers designed primarily as multichannel record and playback systems with the added capability of multiscreen viewing. These units allow monitoring of multiple camera sites without the need for multiple monitors and VCRs. They can be remotely programmed via the console port using Command Console Language. Refer to the **TC8288C-UM** for programming information.

The TC8286C Series and TC8296C Series multiplexers are designed to operate with both monochrome and color camera inputs. They will display monochrome images on a digitized monitor output and encode monochrome images to a VCR.

The TC8288C Series and TC8298C Series Multiplexers are designed to operate with both monochrome and color camera inputs and can display color images on the digitized monitor output and can encode color images to a VCR.

For TC8286C Series and TC8296C Series ONLY:

For proper operation a chroma trap is enabled at the factory (See **VIDEO COLOR (MENU #600) - ENABLE ALL** has been selected in the event that color cameras are fed into the multiplexer. This trap filters out unwanted noise, which appears as a cross-hatch pattern on full screen images.

If using monochrome inputs, this trap can be disabled via the **VIDEO COLOR MENU (Menu #600)** section of the system menus. Disabling the chroma trap for these inputs can increase the display resolution in the full screen mode on Mon A.

Disabling the Chroma Trap

(TC8286C and TC8296C Series ONLY):

If your system contains monochrome cameras only:

From the **VIDEO COLOR (Menu #600)** select **DISABLE ALL**.

If your system contains both monochrome and color cameras, but you want the **AUTOCOLOR DETECT** function disabled:

For each one of the connected video inputs, perform the following step: From the **VIDEO COLOR (Menu #600)** select **COLOR MAP**: for color camera input, manually select **ON**; for monochrome camera input, select **OFF**.

If your system contains both monochrome and color cameras and you want the **AUTOCOLOR DETECT** function to be enabled (automatically scans the video inputs for the presence of color cameras upon bootup, and each time a camera is connected to a video input while power is applied):

From the **VIDEO COLOR (Menu #600)** select **AUTO DETECT**.

INSTALLATION

Power

Model No. ¹	Rated Voltage	Voltage Range	Nominal Power ²
Monochrome Models			
TC8286C ³	120 VAC, 50/60 Hz	100 to 140	35 W
TC8286CX ³	220-240 VAC, 50/60 Hz	198 to 260	35 W
TC8296C ⁴	120 VAC, 50/60 Hz	100 to 140	45 W
TC8296CX ⁴	220-240 VAC, 50/60 Hz	198 to 260	45 W
Color Models			
TC8288C ³	120 VAC, 50/60 Hz	100 to 140	35 W
TC8288CX ³	220-240 VAC, 50/60 Hz	198 to 260	35 W
TC8298C ⁴	120 VAC, 50/60 Hz	100 to 140	45 W
TC8298CX ⁴	220-240 VAC, 50/60 Hz	198 to 260	45 W

1. The model number and operating voltage are shown on the label located on the side of the unit. These units are supplied with grounded power cords. Grounding must not be defeated.
2. At rated voltage.
3. Simplex units.
4. Duplex units.

Mounting

The TC8286C Series, TC8296C Series, TC8288C Series and the TC8298C Series models are supplied as desk top units. For rack-mounting, an optional rack-mount kit, TC8105MK is available. The multiplexers are one standard rack space in width and two in height.

Video Looping Inputs

For each of the 16 camera inputs, there are two smart BNC connectors on the rear panel. One of these connectors is to be used as a camera input while the other connector may be used as a looping output. It does not matter which connector is used as the camera input and which is used as the looping output. Each of the camera inputs is automatically terminated (nonlooping operation) or unterminated (looping operation).

Monitor Outputs

The monitor outputs must be terminated in a 75 ohm load. If the monitor output line is looped through monitors or other equipment, be sure the monitor terminations are set to Hi-Z. Only the last unit on the line should have its termination set to 75 ohm.

Alarm Input Connections

The two shielded cables, with a 15-pin D-subconnector provided with the multiplexer units are for use with the mating alarm input, output and accessory connectors. These cables can be cut to desired length, and the end insulation stripped off for connecting external devices.

To maintain FCC ratings, the alarm and accessory wiring must be shielded, connecting the shield to any ground pin. Belden 8760 twisted shielded cable (or equivalent) should be used for wiring to the alarm connector and there must be no unshielded cable to maintain compliance with Directive 89/336/EEC.

Alarm Inputs

The alarm inputs can be configured as normally open or normally closed inputs (via menu programming).



CAUTION: Do not apply external voltages to the alarm inputs.

Use only isolated closures or open collector logic. Precautions should be taken, particularly on long runs, to prevent pickup of spurious signals from associated wiring which may give false inputs or damage the unit.

Alarm Outputs

The alarm output is a relay which may be configured (via menu programming) as normally open or normally closed. The relay contacts can handle up to 0.5 Amp at 20 volts AC/DC (36 peak volts from either pin of the relay to ground), and a maximum resistive load of 10 VA. The relay may be configured by the menu programming to control VCR speed changes or other auxiliary functions.

Accessory Connections

The TC8286C, TC8288C, TC8296C, and TC8298C Series units provide the following accessory connections:

Videoloss output - A relay which may be configured (via menu programming) as normally open or normally closed. The relay contacts can handle up to 0.5 Amp at 20 volts AC/DC (up to 36 volts peak voltage from either pin of relay to ground), and a maximum resistive load of 10 VA. The relay may be configured by the menu programming to detect the loss of sync caused by a cut or disconnected video cable.

VEXT input - An input for external control of timing associated with recording. When used, it must be driven by the head switching pulse of the VCR.

Console port - A connecting port for console control of the multiplexer unit.

Refer to **PINOOTS** for **Alarm Input Connections**.

The following connections should be made prior to applying power to the multiplexer:

1. Connect the appropriate video inputs labeled Camera 1 through Camera 16.
2. Connect the main monitor to MON A output.
3. Connect the second monitor to MON B output.
4. Connect the unit's VCR output to the VCR video input.
5. Connect the unit's VCR input to the VCR video output. See **Typical Simplex/Duplex Configuration** and **Alternate Duplex Configuration**.
6. Plug the power cord into an AC power source. The power cord is the main power disconnection.

FRONT PANEL DESCRIPTION

MULTI: selects between five multiple screen displays: 4 x 4, 12 + 1, 8 + 2, 3 x 3, and 4 + 3. Refer to **Monitor A Display Formats**.

QUAD: Will display on Monitor A, four separate cameras in one screen. There are multiples of quad screens that can be selected: Single Quad, Dual Quad, Triple Quad, or Quad Quad. When the multi or quad screens are changed, by default, the active quadrant, (the image of a single camera that takes up one quarter of the screen display), will be the one in the upper left corner of the video screen. Refer to the **Sequence Quad Mode of Monitor A (Menu #70)**.

FULL: Selects a full screen display.

FREEZE: Freezes the video image. This key toggles this function on and off. Note that a frozen video image will be automatically unfrozen and the image will be lost when the screen mode or camera display is changed.

ZOOM: Enlarges the video. See zoom description in the **Monitor A Operation** under **PROGRAMMING DESCRIPTION**.

10 digit key pad: "2, 4, 6, and 8" serve a dual purpose, indicated by both arrows and numbers on the keys. In addition to acting as number keys, they control pan and tilt operation in the zoom mode. In the multiscreen and quad modes they control the selection of the active cameo/quadrant by means of the active cursor (see **Camera to Cameo Assignment**). An active cameo/quadrant is a part of the screen segment that displays a greater than sign (>) and less than sign (<) before and after the camera number label (i.e., >001<). Several operations act upon the camera displayed in the active cameo/quadrant.

SELECT: Enters camera selection information. For example; to select a camera, first press the SELECT key, then enter the camera number(s). When the SELECT key is pressed the monitor will display two dashes on the screen. As the camera number(s) are entered, the numbers will be displayed, replacing the dashes.

MENU: Calls up the menu selections. More about menus will be covered in the **MENU SCREENS** section.

SEQUENCE: enables a programmed sequence to run. This is used only in the full screen mode, single quad mode, or Monitor B mode. When pressed, the associated LED will light indicating sequenced operation.

MON B: Switches the front panel operation to Monitor B. Any key selection that is made will affect Monitor B. By default, the front panel is assigned to Monitor A. When Monitor B is enabled, the associated LED will light. When Monitor B is selected, the only keys which function are VCR, ACT CLR, ALM CLR, MON B, SEQUENCE, MENU, SELECT, and the 10 digit keypad. When the front panel is assigned to Monitor A, all of the keys function from the front panel.

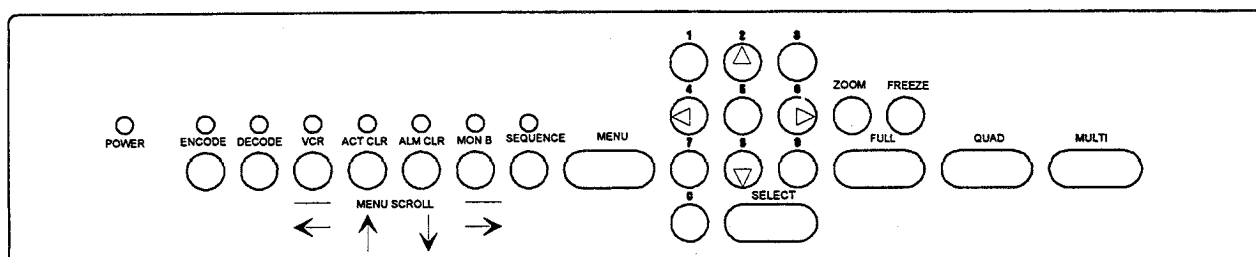
ALM CLR: Clears an alarm event. For instance, to clear an alarm on camera 3, press ALM CLR, then 03 (the camera number preceded by any leading zero). Note the ALM CLR LED lights when the alarm operation is enabled for any camera and it flashes when an alarm event occurs.

ACT CLR: Clears an action event. To clear an action event, press ACT CLR, then the camera number (the camera number preceded by any leading zero). Note the ACT CLR LED lights when the action operation is enabled for any camera and it flashes when an action event occurs.

VCR: Allows viewing the output from a VCR. The VCR LED will light when VCR is selected.

DECODE: Toggles the decode mode on and off. By default, decode will display the four by four (16 cameos) mode on Monitor A. Zoom, freeze, quad, multi, and full operations are functional while in the decode mode. Decode is used to extract video information from a particular camera or a group of cameras. That is, the multiplexed video information of up to 16 cameras that had been previously encoded (recorded) onto a VCR tape. The DECODE LED will light when in the decode mode.

ENCODE: Toggles the encode mode on and off. The encoded, multiplexed video from the cameras specified in the **CAMERAS IN ENCODE** list is sent to the VCR for recording. In a TC8286C, TC8286CX, TC8288C, or TC8288CX Simplex unit, when the ENCODE key is pressed, the monitor (MON A) display will be shown as an analog full screen. The FULL, QUAD, MULTI, ZOOM, and FREEZE keys will not be functional. In a TC8296C, TC8296CX, TC8298C, or TC8298CX Duplex unit, the ENCODE key will not affect the function of the other keys or the display of full, quad, or multi screens.



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PROGRAMMING DESCRIPTION

Upon power up, the front panel will perform a self-test. All of the LEDs will light, then clear from left to right. The multiplexer will return to the operational state that the unit was left in the last time it was used.

When a system change is made, wait a few minutes before turning off the power to avoid corrupting the desired operating settings. When the desired settings are entered, save them per **Saving the System Setting (Menu #410)** (see **MENU SCREENS**).

Refer to **Restore Setting (Menu #420)**, (see **MENU SCREENS**) to restore the saved settings.

System Setup

The multiplexer offers on-screen menus to aid in the setup and operation of the multiplexer. The menu will appear when the MENU key is pressed. All programming is accomplished through the use of the menus. The screen keys; FULL, QUAD, MULTI, and MON B, select which monitor and/or screen display format is used. The operation keys; SEQ, FREEZE, and ZOOM, affect the operation of the selected screen format.

The Allplex® units offers three levels of system access:

Pressing MENU + FREEZE + MULTI permits full access to the menus and to the system configuration.

Pressing MENU + FREEZE + SELECT allows limited access, permitting the user to change the screen format only.

Pressing MENU + FREEZE + FULL locks out the keyboard. In this mode the user does not have any access to the system, except to change system access level.

Monitor A Operation

Monitor A is the main functional monitor. It is used for programming, and to display all of the digitized video information using the three screen modes available. The system default camera numbers will range from 1 to 16. The system default for the camera titles is CAM NUMBER 01 for input 1, CAM NUMBER 02 for input 2, and so on. By using the menus, the beginning camera number and the camera titles may be changed.

Full Screen Mode

The full screen mode will display a full screen image from a single camera. To change the camera displayed, press SELECT, then the camera number. When the SELECT key is pressed the monitor will display two dashes on the screen. As the camera number(s) are entered, the numbers will be displayed, replacing the dashes.

The following keys are functional in the full screen mode:

ENCODE places the unit in the encode mode. In the encode mode, multiplexed video is sent to the VCR, and in a TC8286C, TC8286CX, TC8288C, or TC8288CX Simplex unit, Monitor A switches to an analog full screen video with large font, on-screen text.

DECODE switches the display from full screen to decode mode.

VCR toggles between viewing the output of the VCR (the VCR Monitor mode) and viewing a camera input. When the VCR key is pressed, the VCR LED will light, and the on-screen text, "VCR", will be shown. The VCR Monitor mode is used to examine the video which will be recorded by the VCR. It should only be used if both the input and output of a single VCR are connected to the multiplexer.

ACT CLR clears an action event.

ALM CLR clears an alarm event.

MON B toggles the front panel control between Monitor A and Monitor B.

MENU displays the menu and accepts any menu entries.

SEQUENCE starts and stops the display of a sequence of different cameras. When the sequence mode is being used, the SEQUENCE LED will light, and the on-screen indicator "SEQ" will be displayed along with the sequenced camera number. To remove one or more cameras from a sequence, refer to the procedure in the **MENU SCREENS** section. The dwell time is a global adjustment. It will be described in the **MENU SCREENS** section in more detail.

ZOOM will enlarge the viewed image by a factor of two. This enlarged format image may then be moved around within the original viewed area to allow closer inspection of any part of the total image. To move around, use the directional arrow keys of the number pad: 2, 4, 6, and 8, as a pan and tilt operation. This feature is only operational in the non-sequencing and non-VCR monitor modes.

SELECT then camera #, changes the camera being displayed.

QUAD switches the Monitor A display from full screen to the quad mode.

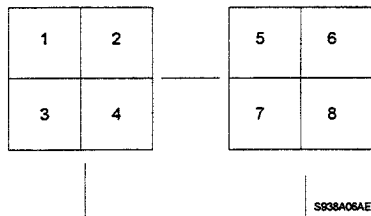
MULTI switches Monitor A display from full screen to multi mode.

Quad Screen Mode

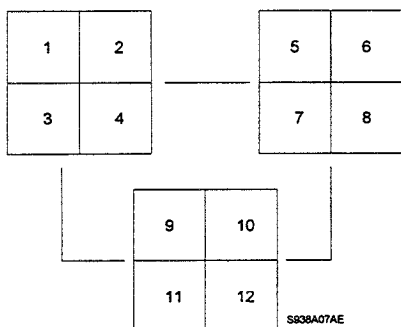
When the QUAD key is pressed, the Monitor A screen divides into four separate viewing areas. The multiplexer unit offers four quad view configurations. The first quad display is the Single Quad. This display divides the monitor screen into four quadrants. In the single quad display, the user selects the camera number that will be displayed in each quadrant. The default cameras display

is 1, 2, 3, and 4. The next three quad displays allow the user to salvo sequence the quad display dependent upon the number of cameras to be viewed:

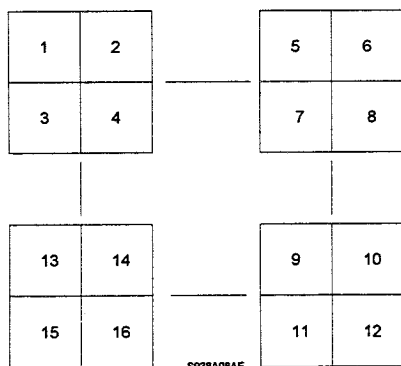
DUAL QUAD shows two screens of four cameras, (dedicated to Cams 1-8 as shown below).



TRIPLE QUAD shows three screens of four cameras, (dedicated to Cams 1-12 as shown below).



QUAD QUAD shows four screens of four cameras, (dedicated to Cams 1-16 as shown below).



The selected quad operation mode will momentarily appear on the monitor screen when the QUAD key is pressed. The upper left quadrant is the active control quadrant, which is indicated by the greater than (>) and less than (<) symbols. In the single quad mode, the camera displayed in the active quadrant can be changed to another camera by pressing SELECT, followed by the camera #. A different quadrant can be made active by using the arrow keys from the number pad (2, 4, 6, or 8), to move the camera cursor into that quadrant. When the multiplexer enters the single quad mode, it will recall the camera to quadrant assignments that were last used. The quad sequence dwell time is a global adjustment, which will be described in the **MENU SCREENS** section. Only the single quad mode can be salvo sequenced

using a separate, user-adjustable, sequence list for each quadrant.

The following keys are functional for the quad mode:

ENCODE changes the unit to the encode mode. In the encode mode, multiplexed video is sent to the VCR, and, in a TC8286C, TC8286CX, TC8288C, or TC8288CX Simplex unit, Monitor A switches to analog full screen video with large font, on-screen text.

DECODE switches the display from quad screen to decode mode.

VCR (in single quad mode only) toggles between viewing the output of a VCR and viewing a camera input in the active quadrant. When the VCR key is pressed, the VCR LED lights, and an on-screen display of VCR will be shown.

ACT CLR clears an action event.

ALM CLR clears an alarm event.

MON B toggles the front panel control between Monitor A and Monitor B.

MENU displays the menu and accepts any menu entries.

SEQUENCE (single quad mode only) starts and stops the display of a sequence of different cameras. When sequence is on, the SEQUENCE LED lights, the on-screen indicator, "SEQ" is displayed along with the sequenced camera number. To remove one or more cameras from a sequence, refer to the procedure in the **MENU SCREENS** section. The dwell time is a global adjustment. It will be described in the **MENU SCREENS** section in more detail.

ZOOM calls the active quadrant to a full screen display and switches the multiplexer units operation to the full screen mode. This is only operational in the non-sequencing and non-VCR monitor mode.

SELECT then camera # (single quad mode only), changes the camera view being displayed in the active quadrant.

QUAD switches the display between the four quad screen modes.

MULTI switches the display from quad screen to multi screen.

Multiscreen Mode

Pressing the MULTI key places the multiplexer in the MULTI mode, if not already there. The last multiscreen mode that was displayed on Monitor A will be shown. When the MULTI key is pushed and the multiplexer is already in the MULTI mode, the screen display on Monitor A advances to the next type multiscreen display.

There are five multiscreens which can be displayed: 4 x 4 (16 cameos), 12 + 1, 8 + 2, 3 x 3, and 4 + 3. These views can be selected by repeatedly pressing the MULTI key. Refer to **Monitor A Display Formats**.

Camera to Cameo Assignment

With entry into a multiscreen format, the active cursor will default to the first cameo, located at the top left corner of the screen. An active cameo is a part of the screen segment that displays a greater than (>) and less than (<) sign before and after the camera number label. To change the camera displayed in the active cameo (the camera to cameo assignment), select the active cameo using the "2, 4, 6, or 8" keys on the 10 digit key pad. See the description of the 10 digit key pad in the **FRONT PANEL DESCRIPTION**. Press **SELECT**, followed by the desired camera number.

The following keys are functional in the multi mode:

ENCODE changes the unit to the encode mode. In the encode mode, multiplexed video is sent to the VCR, and, in a TC8286C, TC8286CX, TC8288C, or TC8288CX Simplex unit, Monitor A switches to an analog full screen video with large font on-screen text.

DECODE switches the multiplexers display from multiscreen to decode mode.

VCR toggles between viewing the output of the VCR (the VCR monitor mode) and viewing a camera input in the active cameo. When the VCR key is pressed, the VCR LED lights and the on-screen text of "VCR" is shown. The VCR monitor mode is used to examine the video that will be recorded by the VCR. It should only be used if both the input and output of a single VCR are connected to the multiplexer.

ACT CLR clears an action event.

ALM CLR clears an alarm event.

MON B toggles the front panel control between Monitor A and Monitor B.

MENU displays the menu and accepts any menu entries.

ZOOM places the multiplexer into the full screen mode and displays the full screen video of the camera that had been present in the multiscreens active cameo. Zoom is disabled when the active cameo is in the VCR Monitor mode.

SELECT then camera #, changes the camera view being displayed.

QUAD switches the Monitor A display from multiscreen to quad screen mode.

MULTI switches the Monitor A display to the multiscreen mode and advances through the five multiscreen modes.

Monitor B Operations

Monitor B is an optional alarm, call-up/full screen, sequencing monitor. It can display the un-digitized video from any one of the 16 camera inputs. It can also be used as either an independent monitor or as a 16 camera sequential switcher. When the VCR is played back (decoded) through Monitor A, Monitor B can

continue to display the live video entering the system from the camera inputs. This provides uninterrupted surveillance. Monitor A and Monitor B have individual dwell times and can be sequenced independently from one another.

The keys on the front panel which normally control Monitor A, can also be assigned to Monitor B by pressing the **MON B** key. Pressing the **MON B** key again, re-assigns the front panel keys to Monitor A. When **MON B** is active the **MON B** LED will be lit.

Sequencing of the cameras on Monitor B is done using the same procedure as for Monitor A. Select Monitor B by pressing the **MON B** key. The **MON B** LED will light on the front panel. Press the **SEQUENCE** key. To add or remove cameras within a sequence, use the **MENU** key. Refer to the procedure in the **MENU SCREENS** section.

Monitor B can be used to view the video present on the units VCR input. When the multiplexer is in the encode mode, the multiplexer VCR output BNC will contain the multiplexed (encoded) video that is sent to the VCR. To enter the VCR Monitor mode, first press **MON B** to assign the front panel to Monitor B then press the **VCR** key. When not encoding video, the multiplexer VCR output and the multiplexer VCR input in the typical installation will display the same video image as found on Monitor A. In decode mode, the VCR input will display the prerecorded, multiplexed, encoded video that is played back from the video tape. Monitor B can be used as a VCR monitor without the loss of live video viewing. Typical installation connects the VCR's video output to the multiplexer VCR input and the VCR's video input to the multiplexer VCR output. When in the encode mode, the VCR should be set to record. When in the decode mode, the VCR should be set to play.

The following keys are functional for **MON B**:

MON B assigns the front panel to either Monitor B or to Monitor A. It acts as a toggle switch.

MENU displays the menu and accepts any menu entries.

SEQUENCE displays sequenced video on Monitor B.

VCR toggles the VCR Monitor mode.

SELECT then camera #, changes the camera view displayed on Monitor B.

ACT CLR clears an action event.

ALM CLR clears an alarm event.

Encode Mode

The TC8286C Series, TC8296C Series, TC8288C Series, and TC8298C Series multiplexer units are designed to record up to 16 video signals simultaneously on one VCR. To accomplish this, the multiplexer time division multiplexes the video signals by using a time base correction circuit. The time base correction circuit compensates for the frequency and phase differences

which occur between unsynchronized cameras. This circuit allows a variety of nonsynchronized video signals to be used with the multiplexer. Encode operation requires the initial VCR and ENCODE SETUPs described in the following sections.

Glossary of VCR Terms

T120: A type of video tape providing 120 minutes continuous SP recording for NTSC or 180 minutes PAL.

T160: A type of video tape providing 160 minutes of continuous SP recording for NTSC or 240 minutes PAL.

SP: Standard Play mode, usually implies a tape speed of 33.35 mm/sec for NTSC VCRs. A T120 video tape will last for 120 minutes (2 hours) while continuously recording in the SP mode, when recording in the "real-time" time lapse mode (60 fields/sec). A T160 video tape will last for 160 minutes (2.67 hours) while continuously recording in the SP mode, when recording in the "real-time" time lapse mode (60 fields/sec).

SLP: Super Long play usually implies a tape speed of 11.1 mm/sec for NTSC VCRs. A T120 video tape will last for 360 minutes (6 hours) while continuously recording in the SLP mode, when recording in the "real-time" time lapse mode (60 fields/sec). A T160 video tape will last for 480 minutes (8 hours) while continuously recording in the SP mode, when recording in the "real-time" time lapse mode (60 fields/sec). This mode is sometimes referred to as a "HIGH DENSITY"(HD), or "Extended Play" (EP) mode. VCRs which support this mode are often called "Real-Time" VCRs.

"Real-Time" (non time lapse) mode: Refers to the normal "consumer" deck mode of a VCR for which the VCR records every NTSC video field to tape at 60 fields/sec. The time lapse mode label which the VCR manufacturer gives to this mode will depend upon the tape speed (SP or SLP). See table below:

"Real-Time" Tape Duration Table (NTSC)

Tape Speed	Tape Length	"Real-Time" Duration	
		Minutes	Hours
SP	T120	120	2
SP	T160	160	2.67
SLP	T120	360	6
SLP	T160	480	8

"Real-Time VCR": Generally refers to a VCR that offers an SLP, or HD tape speed since the tape duration (for NTSC) is greater than 2 hours even when the VCR records every field at 60 fields/sec in the "real-time" time-lapse mode. For this type of VCR, the **TIME LAPSE FORMAT** should be set to **FIELDS** (See **Menu #181**).

VEXT or CAM SW Output: An output from some VCRs that provides a pulse each time a video field is recorded to tape. It is sometimes only enabled when recording in the time-lapse mode.

V-LOCK: An adjustment to some VCRs that controls the vertical timing of the video output when playing back in the time-lapse mode. **V-LOCK** is adjusted by using the **VCR Setup Bargraph** feature of the multiplexer.

VCR Setup

Choose **VCR Format**, Select **FIELD** or **FRAME** (See **Menu #170**).

Choose **Time Lapse Mode**, Select **RECORD SPEED** (See **Menu #180**).

Choose **Time Lapse Frmt**, Select **HOURS**, or **FIELDS** (See **Menu #181**).

Choose **Decode Mode**, Select **REAL TIME** or **TIME LAPSE** (See **Menu #182**).

Choose **Decode Algorithm**, Select **"140 OR LATER"** or **"EARLIER VERSION"** (See **Menu #183**).

Encode Setup

Select the **cameras to encode in the CAMERAS IN ENC** (See **Menu #150A**). Cameras can be entered in any order in the cameras in encode list. The list can store up to 32 steps. Cameras of greater importance may be selected in successive steps or interleaved as needed. When the multiplexer is put into the encode mode, it multiplexes video to the VCR from the cameras in the encode list in sequential order.

Action/Alarm Encoding

The encode process can be changed by the alarm and action operations. See **ACTION SETUP (Menu #280)** and **ALARM SETUP (Menu #190)** for details (see **MENU SCREENS**).

The TC8286C, TC8286CX, TC8288C, or TC8288CX Simplex Multiplexer can only display quad or multiscreens on Monitor A when they are not encoding. During the encode operation, Monitor A will display a "live" analog, full screen with large font text, and the ENC LED will be turned on. Full screen sequencing/call-up capability remains. The Monitor B output is available as a sequence/call-up monitor during Simplex encode. While in the encode mode, the TC8286C, TC8286CX, TC8288C, or TC8288CX will act as a 16 camera, 2 monitor sequential switcher. The sequencing will not affect the encoding/recording of cameras. The ENC light must remain lit to be in the encode mode. To select video for viewing on either Monitor A or on Monitor B, depending if the front panel keys are assigned to Monitor A or to Monitor B, (see **MON B** in **FRONT PANEL DESCRIPTION**), press the SELECT key, the camera number, and SELECT again. To return to the multiscreen/quad modes, push the ENC key, turning off the encode process. Access into the menu programming is available during the encode operation.

The TC8296C, TC8296CX, TC8298C, or TC8298CX are full Duplex units. The TC8296C, TC8296CX, TC8298C, and TC8298CX each allow the operator to view the multiscreen/quad functions and encode/record 16 videos at the same time. No change will occur in the control or operation of the screen functions during the encode operation.

Encode Operation

Press the ENCODE key on the front panel. The LED will light above the ENCODE key. To disengage the encode operation, press the ENCODE key. The operation will return to the normal display mode.

The following keys are functional for the encode mode:

ENCODE toggles on or off the encode mode.

MON B switches the front panel control to Monitor B.

MENU displays the menu and allows edits to be made.

VCR shows the video that is being recorded.

SELECT, camera # changes the camera number.

Decode Mode

The decode mode will organize the previously recorded multiplexed video and will place the video fields from each camera found in the VCRs multiplexed video into a separate portion of the multiplexers memory (depending on the decode screen mode selected). The operator can display any camera that has been encoded to tape, in any of the screen modes (full, multiscreen, quad).

Decode Operation

To playback the recorded encode information from the VCR, the multiplexer must be in the decode mode. Press the DECODE key. The LED will light above the key, and the Monitor A will display the 4 x 4 format multiscreen. When the DECODE key is pressed, the multiplexer will display a blank screen with the camera number until the VCR that is connected to the multiplexer VCR IN begins to playback video. In decode playback, all display functions can be utilized. The time lapse mode that is selected on the VCR does not have to agree with the time lapse mode that is selected in the multiplexer menus. The time lapse mode in the multiplexer menus only applies to encode, not to decode. The multiplexer decode playback will work with any time lapse mode selected on the VCR. It gives the highest quality video image if the VCR is played back in its "real time" 60 fields/second mode for NTSC models and 50 fields/second for PAL models (see **Glossary of VCR Terms**). The multiplexer decode playback will work with time lapse modes slower than the "real time" mode, but with an increasingly degraded video image (due to degradation in the VCRs output video during time lapse mode playback).

The following keys are functional for the decode mode:

DECODE toggles on and off the decode mode.

MULTI steps through the multiscreen modes, or switches Monitor A from a nonmulti mode to the multiscreen mode.

QUAD changes the screen format to a quad screen. Note there are no sequence quad modes available in the decode mode.

FULL changes the screen to a full screen.

MON B assigns the control of the front panel to Monitor B.

MENU displays the menu and accepts any menu entries.

SELECT, camera # changes the camera number in the full screen or in the active cameo/quadrant.

Recording Monitor A Display

With the TC8286C Series, TC8288C Series, TC8296C Series, or the TC8298C Series, you may choose to record the Monitor A display without encoding. In the non-encode mode, the VCR will tape directly from the display of Monitor A. The displayed screen on Monitor A will be recorded.

To record the Monitor A screen, put the VCR into the record mode and begin recording - **DO NOT** push the ENC key. This allows the VCR to record the video that is present on Monitor A, the main monitor. The recorded video is not multiplexed, so the video tape can be played back directly onto a monitor. The multiplexer isn't required to decode the video tape. If the 4x4 multiscreen mode is displayed on Monitor A, all 16 cameras can be recorded on the video tape in this manner; however, they can only be played back in the same 4x4 screen mode.

Playback of the Recorded Mon A Display

The playback of the recorded Mon A display shows the video that was present on Monitor A, the main display monitor, at the time of recording. The ability to display each camera in a variety of screen formats, as in the encode/decode operation, will not be available.

Alarm/Action Operation

Each camera input has a related action detector and alarm input, which can be utilized to greatly enhance system performance during video recording. The multiplexer can be configured to record in the following modes:

Exclusive Recording Mode: Exclusively records only those cameras in action or alarm; ignoring other cameras that are normally recorded (those in the CAMERAS IN ENC list, (see **Encode Setup**). This maximizes security coverage of cameras for which action and alarm are occurring.

Interleaved Recording Mode: On action or alarm, alternates (Interleaves) the recording of those cameras in action or alarm state with the other cameras that are normally recorded (those in the CAMERAS IN ENC list (see **Encode Setup**). This allows increased coverage of cameras for which action and alarm are occurring, while still recording the other cameras present in the CAMERAS IN ENC list.

Speed Change Mode: On action or alarm, increases the recording speed (the time-lapse mode). When a VCR capable of "alarm speed recording" operation is available (such as the Time Lapse Video Recorder TC3960A), the multiplexer can be configured to increase the recording speed of the VCR when action or alarm occurs. This can provide greatly increased coverage (faster update rate) of the camera under action or alarm, while minimizing tape usage. This feature requires the ACTION/ALARM RELAY to be connected to the ALARM IN of the VCR. See **Typical Simplex/Duplex Configuration**. Both the multiplexer and the VCR must be set to the same alarm speed time-lapse mode. The multiplexer's normal time-lapse mode, and alarm speed time-lapse mode will both use the "units" defined in the **TIME LAPSE FORMAT** menu (see MENU #181). This feature can be used in combination with Exclusive or Interleaved recording.

VEXT Mode: Increases the update rate of the multiplexed video that is recorded by the VCR by synchronizing the multiplexer to the VCR's VEXT (head-switching) pulse. This pulse is available on some VCR's, such as the TC3960A. This feature requires the VCR's VEXT output to be connected to the VEXT IN of the multiplexer (Refer to **Typical Simplex/Duplex Configuration**). This can be used in combination with Exclusive or Interleaved recording.

Action/Alarm Capture: When Capture Time is enabled Short duration action or alarm occurrences, are "stretched". This provides system action and alarm indications and recording changes for a minimum amount of time (the Capture Time). The action capture time and the alarm capture time, which are configured through the **MENU SCREENS, Action Sensitivity Setting (Menu #310)** through **ACT/ALM Recording Speed, (Menu #265)** determine the minimum amount of time that a camera is recorded to tape and displayed on Monitor B under action/alarm. This feature can be used in combination with Exclusive or Interleaved recording. The Action/Alarm capture will automatically clear after the proper amount of time has elapsed. This capture time-out can also be cleared manually by first pressing the ACT CLR or ALM CLR button, followed by the two or three digit camera number.

Action Detector Description: Each camera input is associated with its own action detector, which can be configured to monitor activity in all, or certain portions (active zones), of the area being observed by the camera. Selection of these active zones, and the amount of activity (action sensitivity) required to trigger the action detector, can be selected individually for each camera using the **ACTION SETUP (Menu #280)** screen. The monitoring of action can be individually turned on or off for each camera using the menus.

When the action detectors are configured and enabled, action detected within the camera's view produces the following responses - note that the responses will continue until the action ceases and the action capture time (if used) ends, or until the action is manually cleared from the external keyboard:

Monitor B: The camera will be displayed on Monitor B with the message "ACTION" flashing on the screen. When any action or alarm occurs in the multiplexer, Monitor B will cease its normal display or sequencing of cameras; instead sequences through only the cameras in action or alarm.

Front Panel Keypad: The ACTION LED will flash.

Encoding: The camera will be recorded on the VCR based on the selection of the Exclusive or Interleaved recording mode, the **SPEED CHANGE MODE** and **Action Capture (Menu #304 [ON])**, as explained in the descriptions of those menus.

ALARM DESCRIPTION: Each camera input (contact closure) has a related alarm input, intended to be connected to an external alarm switch that protects the area the camera is monitoring. Enabling the alarms and configuring of the alarm switch characteristics (normally open/normally closed), can be selected individually for each camera using the **Alarm Setup** menu screens.

When the alarms are configured and enabled, alarms that occur in the camera area that the alarm is protecting, produce the following actions - note that the multiplexer responds (the responses will continue until the alarm ceases and the alarm capture time (if used) ends, or until the alarm is manually cleared from the external keyboard):

Monitor A: If the camera is being displayed on Monitor A, the message "ALARM" will flash on the screen in the portion of the screen currently displaying that camera.

Monitor B: The camera will be displayed on Monitor B with the message "ALARM" flashing on the screen. When any action or alarm occurs in the multiplexer, Monitor B will cease its normal display or sequencing of cameras; and instead sequence through only the cameras in action or alarm.

Front Panel Keypad: The ALARM LED will flash.

Encoding: The camera will be recorded on the VCR based on the selection of the Exclusive or Interleaved recording mode, the **SPEED CHANGE MODE** and **ALARM CAPTURE** menus, as explained in the descriptions of those menus.

Simultaneous Alarm and Action: If alarm and action occur at the same time on a given camera, only a flashing "ALARM" message will be displayed on Monitor A or Monitor B.

AutoSet™ Operation

AutoSet™ operation allows the user to automatically set the multiplexer lists and the best multiscreen display dependent upon the number of cameras connected to the multiplexer. AutoSet operation is selectable through the menus, which offers auto-setting of sequence lists, encode lists, Alarm/Action maps, and enabling Alarm/Action operations. The above functions can be AutoSet globally, as a group, or individually. When AutoSet operation is used with fewer than 16 cameras, cameras should be connected to the multiplexer starting at video input #1, then video input #2, continuing to the video input # that corresponds to the number of cameras present.

Time-Events

The multiplexer has the capability of saving up to 6 separate setups. These setups will save all operating parameters of the multiplexer. Restoring these setups can be done manually through a menu selection or via time activation.

The Time Event menu allows the user to turn On or Off the time activation of the setups. The programming of the On-Off times must be done via a PC. See the TC8288C-UM CCL manual for details. The multiplexer can have 64 time events, utilizing any of the 6 saved memories.

Videoloss

The multiplexer has the ability to detect the loss of sync caused by a cut or disconnected video cable. If the sync is lost in any camera for which the videoloss function is enabled, the videoloss relay output changes state for the duration of the loss. The menu screen can be selected to close the relay (normally open) or open the relay (normally closed) during a videoloss.

"VIDEOLOSS" will flash in any cameo, quadrant, or full screen image that is assigned to display the camera that is under videoloss. If a multiscreen or a small text full screen display (full screen mode or Monitor A in simplex while not encoding, or any full screen mode or Monitor A in duplex) is displaying a live image of a camera for which the video is lost, the multiplexer will freeze the image upon a videoloss, in addition to flashing "VIDEOLOSS". If you change screen modes to a mode in which a cameo, quadrant or small text full screen mode tries to display a camera that is under videoloss, a blank screen will be displayed with "VIDEOLOSS".

Autocolor Sense

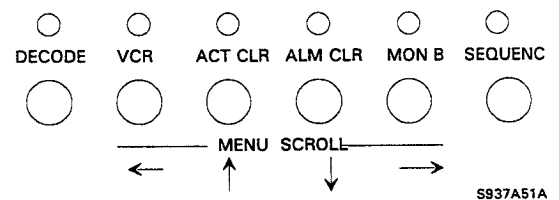
Through the menu screens, the multiplexer can be put into the "autocolor sense" mode where it scans each camera for the presence of a color video signal. The multiplexer scans the camera inputs on power up, and when a camera input that was under videoloss is reconnected. The multiplexer displays "AUTOCOLOR SENSE" when it scans all of the camera inputs.

For the TC8288C Series and TC8298C Series color multiplexers, the Autocolor Sense option is selected when the multiplexer is shipped from the factory.

For the TC8286C Series and TC8296C Series monochrome multiplexers, the **COLOR ENABLE ALL** [see **VIDEO COLOR (Menu #600)**] is selected to enable the color trap for all 16 video inputs when the multiplexer is shipped from the factory.

Menu Mode

Pressing the MENU key displays the main menu. The menu arrow keys (VCR ←, ACT CLR ↑, ALM CLR ↓, MON B →) can scroll up or down the menu options. See **Menu Scroll Keys**.



Menu Scroll Keys

MENU SCREENS

To understand the relationship between the following menus, it may be helpful to refer to the **MENUS FLOW CHART**, while reading the menu descriptions. The menu numbers are the reference numbers used in the **MENUS FLOW CHART**.

Main Menu (Menu #10)

MAIN MENU
>EXIT MENUS
AUTOSSET™
VCR SETUP
TIME/DATE
ENCODE SETUP
 ↓MORE↑
ACTION SETUP
ALARM SETUP
CAMERA NUMBER
CAMERA TITLES
CONSOLE SETTING
SEQ SETUP
SYSTEM SETTING
TIME EVENTS
TEXT-BRIGHTNESS
VIDEO COLOR
VIDEOLOSS RELAY
VIDEOLOSS MAP

↑ ↓ CHOOSE: MENU

Description:

The main menu is divided into two sections. The first section contains the quick setup menu items. These four items are the most commonly used, and are placed first to allow the user easy access. The second section contains the remaining menu items listed in alphabetical order.

Displayed above is the complete Menu #10 option list. Five lines can be displayed at one time on the menu screen. This menu can select one of the MAIN MENU items by moving the arrow cursor to the desired line. Short-cut keys select and enter the desired mode with one key stroke. See **Keys Operation** below:

Keys Operation:

MENU SCROLL ↑ or ↓ moves the menu option list.

MENU accepts the entry.

Short-cut keys are:

SEQUENCE: selects and accepts the "SEQ SETUP" menu.

ENCODE: selects and accepts "ENCODE SETUP" menu.

AutoSet Menu (Menu #11)

AUTOSSET
>EXIT MENU
SET ALL BELOW
SET SEQUENCES
SET ENCODE LIST
SET ACT/ALM MAP
SET ACT/ALM +ON
↑↓ CHOOSE: MENU

Description:

AutoSet operation will automatically set the multiplexer lists and the best multiscreen display dependent upon the number of cameras connected to the multiplexer. This menu allows the user to choose which section is to be automatically set.

Keys Operation:

MENU SCROLL ↑ or ↓ moves the arrow cursor.

MENU accepts the entry.

When an AutoSet function is selected, the following screen will appear:

AUTOSSET
IN PROGRESS

The AutoSet function will be set, and the Monitor A output will display the best multiscreen suited for the number of cameras connected.

VCR Setup (Menu #160)

VCR SETUP
>EXIT MENU
VCR FORMAT
TIME LAPSE MODE
TIME LAPSE FRMT
DECODE MODE
DECODE ALGORITHM

↑↓ CHOOSE: MENU

Description:

This menu selects one of the "VCR SETUP" items by moving the arrow cursor.

Keys Operation:

MENU SCROLL ↑ or ↓ moves the arrow cursor.

MENU accepts the entry.

VCR Format (Menu #170)

VCR FORMAT
>FIELD
FRAME

PREVIOUS: MENU

Description:

This menu gives a choice of VCR formats to match with the VCR being used. Some VCRs are frame recorders, while others are field recorders. Check the VCR manual to determine what type of format the VCR uses. Note that this menu affects **ENCODE** operation, but not **DECODE** operation.

Keys Operation:

MENU SCROLL \uparrow or \downarrow moves the arrow cursor.

MENU accepts the entry and returns to the previous menu.

Time Lapse Mode (Menu #180)

TIME LAPSE MODE
RECORD SPEED

2 HOURS (or fields)

CHANGE : ENTER #
RESET # : FREEZE
PREVIOUS: MENU

Description:

The time lapse mode entered into this menu must agree with the time lapse mode entered into the VCR. If the VCR has an SP tape speed, and assumes a T120 tape, the time lapse mode should be entered in **HOURS**.

If the VCR is a "Real-Time" VCR (see **GLOSSARY OF VCR TERMS**) then the time lapse mode must be entered in **FIELDS**.

This menu allows the user to set the time lapse recording speed from 2 to 255 hours if the **TIME LAPSE FORMAT** is set to **HOURS**, or 1 to 255 fields if the **TIME LAPSE FORMAT** is set to **FIELDS** (see **Menu #181**). The word "**HOURS**", or "**FIELD(S)**" will be displayed next to the number typed in.

When the **TIME LAPSE FORMAT** (see **Menu #181**) is set to **FIELDS**, an entry of 1 **FIELD** should be used for the "real-time" mode (see the **GLOSSARY OF VCR TERMS**) for a **FIELD** recorder (see **Menu #170**). An entry of 2 **FIELDS** should be used for the "real-time" mode (see the **GLOSSARY OF VCR TERMS**) for a **FRAME** recorder (see **Menu #170**).

This menu affects **ENCODE** operation, but not **DECODE** operation.

Keys Operation:

Number keypad - enters a new time speed.

FREEZE resets to a previous value, if the value has been changed.

MENU accepts an entry and returns to a previous menu.

Time Lapse Format (Menu #181)

TIME LAPSE FRMT

> HOURS
FIELDS

PREVIOUS: MENU

Description:

This menu item allows you to choose the "units" of the number entered into the **TIME LAPSE MODE** menu (see **Menu #180**) and the **RECORDING SPEED DURING ACT/ALM** (see **Menu #265**). The units available are **HOURS** and **FIELDS**.

In the **DECODE** Mode, the decode text header on Mon A will display the **TIME LAPSE FRMT** next to the **TIME LAPSE MODE** as "HR" for **HOURS** and "FD" for **FIELD**.

HOURS should be used with VCRs that specify their time-lapse modes in the following manner:

1. Assume a T120 tape
2. Use an SP tape speed that generally achieves a tape speed of 33.35 mm/s in the 2H "real-time" mode for NTSC and 23.39 mm/s in the 3H "real-time" mode for PAL. This is generally the case unless a "Real-Time" VCR is used (see the **GLOSSARY OF VCR TERMS**).

Under these two conditions the **TIME LAPSE MODE** in **HOURS** specified by the VCR manufacturer will agree with the number that should be entered into the Multiplexer's **TIME LAPSE MODE** menu (see **Menu #180**).

FIELDS should be used with VCRs that don't meet both criteria given above. For these cases, the time-lapse mode in hours given by the VCR manufacturer cannot be mapped directly to the name of a time-lapse mode of the multiplexer the update period of the VCR in units of TV fields must be entered into the **TIME LAPSE MODE** menu (see **Menu #180**). This number can either be calculated or measured (see **How to Determine the Time Lapse Mode** in **FIELDS** per the **VCR Lookup Table**).

Changing the selection in this menu from **HOURS** to **FIELDS** (or **FIELDS** to **HOURS**) does not convert the **TIME LAPSE MODE** (see **Menu #180**) that is already entered from **HOURS** to **FIELDS** (or from **FIELDS** to **HOURS**), rather it changes from selecting the **HOURS** software memory location to selecting the **FIELDS** software memory location. This menu affects **ENCODE** operation, but not **DECODE** operation.

Keys Operation:

MENU SCROLL \uparrow or \downarrow moves the arrow cursor.

MENU accepts the entry and returns to the previous menu.

Decode Mode (Menu #182)

DECODE MODE

> REAL TIME
TIME LAPSE

PREVIOUS: MENU

Description:

This menu selects between two different decode modes. You should select the **REAL TIME** decode mode when decoding from a VCR that is playing back video at its "Real-Time" mode of 60 fields/sec for NTSC, or 50 fields/sec for PAL (see the **GLOSSARY OF VCR TERMS**). For the Philips' VCRs that have an SP tape speed, and that assume a T120 tape (the TC3960A/TC3960B, TC3990A/TC3991 when not in high density), this corresponds to VCR playback in the VCR's 2 hour mode for NTSC, and the VCR's 3 hour mode for PAL. For the "real-time" VCRs (see the **GLOSSARY OF VCR TERMS**) that assume a T160 tape and that have an SLP tape speed of 11.1 mm/sec (usually corresponds to VCR playback of 8 hour mode for NTSC). For the "real-time" VCRs (see the **GLOSSARY OF VCR TERMS**) that assume a T120 tape and that have an SLP tape speed of 11.1 mm/sec (such as the Philips TC3990A/TC3991 in High Density mode, and the Philips KV7024) this usually corresponds to VCR playback of 6 hour mode for NTSC.

See the below chart for the time lapse mode labels given to the "real-time" mode for different VCRs.

"Real-Time Mode Tape Duration
in minutes(hours) for NTSC VCRs

Tape Length	Tape Speed	
	SP	SLP
T120	120 (2)	360 (6)
T160	160 (2.67)	480 (8)

You should select the **TIME LAPSE** decode mode when decoding from a VCR that is playing back in a time-lapse mode.

When in decode, the current Decode mode is displayed in the decode text header on Mon A as "RTD" for **REAL TIME** decode, and "TLD" for **TIME LAPSE** decode.

This menu affects **DECODE** operation, but not **ENCODE** operation.

If the wrong option is selected in the menu, the decoding operation will not be optimized, but it will generally still work.

Keys Operation:

MENU SCROLL \uparrow or \downarrow moves the arrow cursor.

MENU accepts the entry and returns to the previous menu.

Decode Algorithm (Menu #183)

DECODE ALGORITHM

> 140 OR LATER
EARLIER VERSION

PREVIOUS: MENU

Description:

This menu allows you to choose between the current decode algorithm (the default) by selecting **140 OR LATER**, or the original decode algorithm by selecting **EARLIER VERSION**.

140 refers to the revision of the software. This number appears second from the right when you power up the Multiplexer, or perform a warm boot by pressing MON B, SELECT, FULL on the front panel simultaneously.

Multiplexers that have code revision 140 or later will always encode to tape using the **140 OR LATER** algorithm and can only be decoded by selecting the default **140 OR LATER** option in the **DECODE MODE** menu.

Tapes that were encoded using Multiplexers that were shipped before June 1996 can be decoded by selecting the **EARLIER VERSION** option in the **DECODE MODE** menu.

Note: If the wrong algorithm is selected nothing will be decoded. If you are unsure what revision of code was used in the multiplexer that encoded a given recorded tape, try both algorithms. The correct algorithm will work, while the incorrect one will not. Using the incorrect algorithm will cause no damage to the tape.

This menu affects **DECODE** operation, but not **ENCODE** operation.

For fast setup during Decode, a two key combination may be used without the need to go to Menu #183. Pressing the decode (DECODE) and action clear (ACT.CLR) keys simultaneously will toggle between "DECODE OLD MODE" and "DECODE NEW MODE".

Keys Operation:

MENU SCROLL \uparrow or \downarrow moves the arrow cursor.

MENU accepts the entry and returns to the previous menu.

VCR Setup Bargraph

The VCR Setup Bargraph is used to adjust the Vertical Lock (V. Lock) adjustment that appears on some VCRs (such as the Philips TC3960A), and to a lesser extent to adjust the tracking, or slow tracking so that the VCR will work better with the Multiplexer when playing back in the Decode mode.

This bargraph will be displayed on Mon A when Mon B is in the VCR mode (displaying the Multiplexer's VCR input), or when Mon A is decoding to the 4x4 screen. The bargraph will continue to be displayed even if ACTION, or ALARM events cause Mon B to call-up the cameras under ACTION, or ALARM.

The bargraph will appear at the bottom third of the screen. The goal during setup of V LOCK and/or tracking is to have the bar graph filled with as many vertical bars as possible to the right. While playing back the VCR, you should SLOWLY adjust the V LOCK to make the vertical bar fill to the right as much as possible, even if this tends to induce more vertical jitter on Mon B which is displaying the analog video output from the VCR. Repeat this with the tracking adjustment.

This bargraph is not a direct indicator as to how well you are decoding because it doesn't consider the time lapse mode of the VCR. It is therefore acceptable if it is not completely filled to the right; however, but you should try to optimize it as much as possible. Refer to next paragraph.

Note that it will only be possible to adjust the bargraph so that it goes all the way to the right if all 16 cameras are being encoded. If fewer than 16 cameras are being encoded, then the V-LOCK and tracking should be adjusted so that the bargraph fills to the right as much as possible.

The VCR bargraph only affects the **DECODE** mode, not the **ENCODE** mode.

Once the adjustment is made; take Mon B out of the VCR display mode by pressing **VCR**, then **MON B**. The bargraph will no longer be displayed.

How to Determine the Time-Lapse Mode in Fields

When a "Real-Time" VCR (see the **GLOSSARY OF VCR TERMS**) is used, the **TIME LAPSE MODE** must be entered in units of TV **FIELDS**. This is done by selecting **FIELDS** from the **TIME LAPSE FORMAT** (see **Menu #181**).

When the **TIME LAPSE FORMAT** (see **Menu #181**) is set to **FIELDS** the number entered into the **TIME LAPSE MODE** menu (see **Menu #180**) for a **FIELD** recorder is the number of TV **FIELDS** that will elapse for a single field (an odd or an even field) of video to be recorded to tape. For a **FRAME** recorder it is the number of TV **FIELDS** that will elapse for both an even, and an odd TV field to be recorded to tape. The number will generally be equal to the period of the Vext pulse or the camera head switching pulse of the VCR (see **Method 2: Determine the period of the Vext**, below).

There are several methods that can be used to determine the correct number of **FIELDS** to enter into the **TIME LAPSE MODE**.

The **TIME LAPSE MODE** in **FIELDS** should be an **ODD** integer number for a **FIELD** recorder, and an **EVEN** number for a **FRAME** recorder for both **NTSC** and **PAL** VCRs. Most current VCRs are **FIELD** recorders. If the number you determine using the following method does not meet this rule, then add 1 to the number to make it an **ODD** number for a **FIELD** recorder, or an **EVEN** number for a **FRAME** recorder.

Method 1: Use the table of common VCRs: (preferred method):

See the **VCR LOOK-UP-TABLE** located in the back of this Instruction Book.

Method 2: Determine the period of the Vext pulse (second best method):

If the VCR has a Vext pulse (also called a camera switch output, trigger output, or record output) the period of the Vext pulse in **FIELDS** (1 **FIELD** equals 16.67 ms for **NTSC**, or 20 ms for **PAL**) is the number that should be entered into the **TIME LAPSE MODE** (see **Menu #180**) in **FIELDS** (see **Menu #181**). In some VCR instruction books, there is a diagram that shows the Vext pulse and its period. If there is no diagram, the Vext pulse can be measured with an oscilloscope. This pulse is generally only created when the VCR is recording, so you should start to record on a dummy tape at the desired VCR time-lapse mode, and measure two adjacent periods of the Vext pulse on an oscilloscope. If the two adjacent periods are not equal, use the larger of the two numbers. Some VCRs allow you to scale the Vext period so that during a single Vext period, several TV fields are recorded to tape. Make sure that the Vext period corresponds to the recording of only a single TV field to tape when you measure it. This will give you the best update rate in the Mux.

Convert the period into units of **FIELDS** as follows (for either a **Field** or **Frame** recorder, **NTSC** or **PAL**):

TIME LAPSE MODE in FIELDS = Tvext (seconds) / Tv rounded up to the next highest integer (an ODD integer for a FIELD recorder, and an even integer for a FRAME recorder).

Where $Tv = 1/60 = 16.67$ ms for **NTSC**, or $Tv = 1/50 = 20$ ms for **PAL**.

For example: a "Real-Time" **NTSC** VCR (see **GLOSSARY OF VCR TERMS**) using a T160 tape and an SLP tape speed of 11.1 mm/sec in its 8 hour ("real-time") mode and its labeled 24 hour mode (i.e. the VCR displays a **TIME LAPSE MODE** of 24 hours on its display) would produce a measured $Tvext$ (seconds) of approximately 50 ms. The **TIME LAPSE MODE in FIELDS** would equal $50 \text{ ms} / 16.67 \text{ ms} = 2.99$ (rounded up to 3 - an **ODD** number) as required for a **FIELD** recorder. In this case 3 **FIELDS** should be entered into the **TIME LAPSE MODE** menu (see **Menu #180**) of the Multiplexer and the **TIME LAPSE FORMAT** (see **Menu #181**) should be set to **FIELDS**.

Method 3: Use the VCR update rate in fields per second that is provided from the VCR instruction book: (least preferred method):

The VCR's update rate is sometimes listed in VCR instruction books, it can be converted to the **TIME LAPSE MODE** in **FIELDS** as follows:

For a **Field recorder**:

TIME LAPSE MODE in **FIELDS** =

$1 \text{ field} / \text{UPDATE_RATE (fields/sec)} / \text{Tv}$, rounded up to the next highest integer (if it isn't already an ODD number, add 1 to make it an ODD number).

For a **Frame recorder**:

TIME LAPSE MODE in **FIELDS** =

$2 \text{ fields} / \text{UPDATE_RATE(fields/sec)} / \text{Tv}$, rounded up to the next highest integer (if it isn't already an EVEN number, add 1 to make it an EVEN number)

For example: a "Real-Time" VCR, (see **GLOSSARY OF VCR TERMS**) gives the update rate of 20 fields/sec for its 24 hour mode, therefore **TIME LAPSE MODE** in **FIELDS** = $1 / (20 \text{ fields/sec}) / 16.67 \text{ ms} = 2.99$; rounded up to 3 **FIELDS** (an ODD number) which would be entered into the Multiplexer's **TIME LAPSE MODE** (see **Menu #180**) menu while the **TIME LAPSE FRMT** (see **Menu #181**) is set to **FIELDS**.

Time/Date (Menu #320)

TIME/DATE
>EXIT MENU
SET TIME FORMAT
SET TIME
SET DATE FORMAT
SET DATE
ENABLE/DISABLE
SET POSITION
CHOOSE: MENU

Description:

This menu selects the "TIME/DATE" display by moving the arrow cursor to the desired line.

Keys Operation:

MENU SCROLL \uparrow or \downarrow moves the arrow cursor.

MENU accepts the entry.

Time Format Selection (Menu #330)

TIME FORMAT

>12 HOUR
24 HOUR

PREVIOUS: MENU

Description:

This menu selects the time display format.

Keys Operation:

MENU SCROLL \uparrow or \downarrow moves the arrow cursor.

MENU accepts the entry and returns to the previous menu.

12 Hour Time Format (Menu #340A)

TIME-12 HOUR

XX:XX:XX AM



CHANGE: ENTER #
AM/PM: SELECT
CANCEL: FREEZE
PREVIOUS: MENU

Description:

This menu sets a new time in the 12 HOUR TIME MODE. As you enter a digit, the cursor updates the screen and moves to the next position.

Keys Operation:

Number keypad enters a new time.

MENU SCROLL \rightarrow or \leftarrow moves the cursor to the next position.

SELECT toggles between AM and PM.

FREEZE resets to the previous value and returns to the previous menu.

MENU accepts the entry and returns to the previous menu.

24 Hour Time Format (Menu #340B)

TIME-24 HOUR

XX:XX:XX



CHANGE: ENTER #
CANCEL: FREEZE
PREVIOUS: MENU

Description:

This menu sets the time in a 24 HOUR MODE. As you enter a digit, the cursor updates the screen and moves to the next position.

Keys Operation:

Number keypad enters the time.

MENU SCROLL \rightarrow or \leftarrow moves the cursor to the next position.

FREEZE resets to the previous value and return to the previous menu.

MENU accepts the entry and returns to the previous menu.

Date Format (Menu #350)

DATE FORMAT

>MM DD YY
DD MM YY
YY MM DD

PREVIOUS: MENU

Description:

This menu selects the date display format.

Keys Operation:

MENU SCROLL \uparrow or \downarrow moves the arrow cursor.

MENU accepts the entry and returns to the previous menu.

Date Setting (Menu #360)

DATE

XX XX XX
 \blacktriangle

CHANGE: ENTER #
CANCEL: FREEZE
PREVIOUS: MENU

Description:

This menu sets the date. The date will display in the format that was selected by the prior menu.

Keys Operation:

Number keypad enters the date.

MENU SCROLL $\rightarrow\leftarrow$ moves the cursor to the next position.

FREEZE resets to the previous value and returns to the previous menu.

MENU accepts the entry and returns to the previous menu.

Time/Date Display (Menu #370)

TIME/DATE

>ON
OFF

PREVIOUS: MENU

Description:

This menu enables or disables the time/date display on the monitor screen.

Keys Operation:

MENU SCROLL \uparrow or \downarrow moves the arrow cursor.

MENU accepts the entry and returns to the previous menu.

Time Date Display Positioning (Menu #375)

SET POSITION
USE MENU SCROLL
 $\leftarrow\uparrow\downarrow\rightarrow$ KEYS TO
MOVE TO A NEW
POSITION

DEFAULT: FREEZE
PREVIOUS: MENU

(Menu #375 [SETTING])

HIT SELECT KEY
TO END SETTING

Description:

This menu moves the time/date display to a new position on the screen. The first screen displays the function keys. Pressing the menu scroll arrow keys will cause the screen to change from the top menu to the lower menu with time/date displayed. The bottom screen displays the movement of the time display as the scroll arrow keys are pressed. When repositioning the time/date display, be aware that system messages may be obscured. To prevent this, create alarms, action, freeze, video losses, etc., and check that the messages are still visible in all full, quad, and multidisplay modes.

Keys Operation:

MENU SCROLL $\uparrow\downarrow\rightarrow\leftarrow$ moves the time/date to the desired position.

FREEZE returns the time/date display to the default position.

MENU returns to the previous menu.

Bottom screen:

SELECT accepts the time/date position and returns to the bottom screen.

Encode Setup (Menu #150)

Similar to the sequence programming, the Encode Setup allows the operator/programmer to choose which cameras can be sent to the VCR, in any order up to 32 steps. Cameras of greater importance may be selected in several successive steps or interleaved as needed.

(Menu #150)

CAMERAS IN ENC
END LIST : 0
RESET LIST: FRZ
UNDO LIST : FULL
SCROLL : ↑ ↓

HIT ANY KEY TO
CONTINUE ...

Description:

This menu displays the function keys that will be used in "CAMERAS IN ENC" menu. Press any key to start the edit process.

(Menu #150A)

CAMERAS IN ENC
>STEP 1- 1
STEP 2- 2
STEP 3- 3
STEP 4- 4
STEP 5- 5
STEP 6- 6
STEP 7- 7
STEP 8- 8
STEP 9- 9
STEP 10- 10
STEP 11- 11
STEP 12- 12
STEP 13- 13
STEP 14- 14
STEP 15- 15
STEP 16- 16
STEP 17- END
STEP 18-
to
STEP 32-
ENCODE : ENC
CHANGE : ENTER #
ACCEPT#: SELECT
EXIT : MENU

Description:

This menu edits the encode list. The default list contains 16 cameras (1 to 16). Three steps can be displayed at one time on this menu. Other lines can be viewed and selected by moving the arrow cursor.

Keys Operation:

FREEZE resets the list to the default value. FULL acts as an undo function. When in the edit mode, any changes

can be made. If a mistake is made or it is decided not to modify the list, the previous list can be recalled by pressing the FULL key.

Use the Number keypad to enter the camera number. If zero (0) is entered, END will be displayed, ending the sequence list.

SELECT accepts the number entry and moves the cursor to the next position. If SELECT is not pressed, it will display the prior status when the cursor moves to the next position.

MENU SCROLL ↑ or ↓ moves the cursor to the next position.

MENU accepts an entry and exits the menu.

ENCODE exits the menu and begins the encode operation.

Action Setup (Menu #280)

The normal VCR encoding can be enhanced by the Action operation. When enabled, the multiplexer will cause the action detected cameras to "override" the normal recording process. Thus the action cameras view will be sent to the video tape exclusive to the nonaction cameras or interleaved with the nonaction cameras. See VCR ENCODING MODE ON ACTION (Menu #270). The action programming involves the following steps:

Program the ACTION ZONE (Select the camera, program the zone).

Enable the ACTION CAMERAS (Enable cameras, set action capture).

Set the ACTION SENSITIVITY.

Set the VCR RESPONSE.

(Menu #280)

ACTION SETUP
>EXIT MENUS
ACTION ENABLE
ACTION ZONES
ACT SENSITIVITY
ACTION CAPTURE
VCR RESPONSE

↑ ↓ CHOOSE: MENU

The ACTION SETUP menu displays five functions. A selection is made by moving the cursor to the desired line.

Keys Operation:

MENU SCROLL ↑ or ↓ moves the arrow cursor.

MENU accepts the entry.

Action Enable (Menu #301)

ACTION ENABLE
>EXIT MENU
ENABLE ALL
DISABLE ALL
ACTION MAP

↑↓ CHOOSE: MENU

Description:

This menu selects one of the "ACTION ENABLE" status by moving the arrow cursor to the desired line.

Keys Operation:

MENU SCROLL ↑ or ↓ moves the arrow cursor.

MENU accepts the entry.

Selection of ENABLE ALL or DISABLE ALL sets the multiplexer for that function and return to the Action Enable menu. Monitor A will display one of the following screens:

ENABLING ALL
ACTION DETECTORS

or

DISABLING ALL
ACTION DETECTORS

Action Camera Selection (Menu #308)

ACTION MAP
ACT CAM# ENABLE
>01 1 ON
02 2 ON
03 3 ON
04 4 ON
05 5 ON
06 6 ON
07 7 ON
08 8 ON
09 9 ON
10 10 ON
11 11 ON
12 12 ON
13 13 ON
14 14 ON
15 15 ON
16 16 ON

ENABLE ON/OFF: →
ACCEPT: SELECT
PREVIOUS: MENU

Description:

This menu can disable/enable the action function for individual cameras. The screen will display an action number, a camera number, and the enable status of the action function. Three lines can be displayed at one time on this menu with other lines viewed and selected by moving the arrow cursor.

Keys Operation:

MENU SCROLL ↑ or ↓ moves the arrow cursor.

MENU SCROLL → toggles between ON/OFF.

SELECT accepts the entry when changes are made. If SELECT is not pressed, it will display the prior status when the cursor moves to the next position.

MENU accepts all entries and returns to the previous menu.

Camera Setup for Action Zone (Menu #290)

>CAM# 1
ENTER CAMERA #
PRESS SELECT
DRAW BLOCK:
MULTI + [← ↑ ↓ →]
CLEAR SCREEN:FRZ
FILL SCREEN:FULL
PREVIOUS: MENU

Description:

This menu selects the cameras for setup of the action zone. It displays the key options that allow the user to edit the action zone map. When SELECT is pressed, it will switch to the next screen displaying the action zone.

Keys Operation:

For the top screen:

Number keypad selects the camera to be edited.

SELECT accepts the camera entry and moves to the edit action zone screen.

MENU accepts the changes and returns to the previous menu.

Zone Setup (Menu #290 [SETUP])

CAMERA# 1
[] [] [] []...

TO END: SELECT

FREEZE sets all of the zone blocks on the screen to inactive.

FULL sets all of the zone blocks on the screen to active.

MULTI toggles the zone block between active and inactive.

MENU SCROLL ←↑↓→ moves the blinking cursor to the next position.

Use MULTI and MENU SCROLL ←↑↓→ to move the cursor to the desired direction. The cursor will toggle the zone block to active or inactive as it moves to the next position.

SELECT ends the action zone setup, returns to the top screen, and allows selection of the next camera.

Action Sensitivity

Action sensitivity is the amount of change required to cause an action operation response. The multiplexer has four levels of sensitivity. The setting for action sensitivity is dependent upon the scene type being viewed. The following guidelines can be used in setting the sensitivity levels:

Low: Used in areas with high contrast and high noise. Typical applications would include outside areas where large amounts of movement are required to cause an action response. Smaller movement will be allowed without response detection.

Medium/Low: Used in outside applications where a large object size requires a higher sensitivity for detection, yet the "MEDIUM/HIGH" sensitivity setting causes a false action response.

Medium/High: Used in limited outside applications where a small object size requires a higher sensitivity for detection, yet the "HIGH" sensitivity setting causes a false action response.

High: Used in areas with low contrast and low noise. A typical application would be an inside camera viewing area where small changes in luminance would cause an action response.

Action Sensitivity Setting (Menu #310)

ACT SENSITIVITY
>CAM# 1
SENSITIVITY

ENTER CAMERA #
PRESS SELECT
PREVIOUS: MENU

Description:

This menu selects the camera to be programmed. The next screen appears after the SELECT key is pressed.

Keys Operation:

Number keypad selects the desired camera number.

SELECT accepts the camera entry and switches to the next screen for the sensitivity setup.

Action Sensitivity (Menu #310)

ACT SENSITIVITY
CAM# 1
>SENSITIVITY
LOW--||--HIGH

INCR/DECR: →←
PRESS SELECT
PREVIOUS: MENU

MENU SCROLL →← increases or decreases the action sensitivity level.

SELECT accepts the action level setting and switches to the prior screen for another camera selection.

On both screens:

MENU accepts the entries and returns to the previous menu.

Action Capture (Menu #304 [ON])

ACTION CAPTURE

>ON/SET TIME
OFF

CHOOSE: MENU

(Menu # 304 [OFF])

ACTION CAPTURE

ON/SET TIME
>OFF

EXIT: MENU

Description:

This menu turns on or off the ACTION CAPTURE time. As the cursor moves from one option to another, the MENU key will display a change in its function. If ON/SET TIME is selected, the capture time can be edited.

Keys Operation:

MENU SCROLL ↑ or ↓ moves the arrow cursor.

MENU has the following two options:

If ON/SET TIME is selected, it will go to the following sub menu for the setting of the capture time.

OFF sets the capture time to approximately 3 seconds and exit the menu.

Action Capture Time Setting (Menu #306)

ACT CAPTURE TIME

>3 SECONDS

CHANGE : ENTER #
RESET # : FREEZE
EXIT : MENU

Description:

This menu can change the ACTION CAPTURE TIME. This time is set from 3 to 60 seconds and will hold the action operation for that period of time after the action is detected.

Keys Operation:

The Number keypad enters a new capture time.

FREEZE resets to a previous value.

MENU accepts the entry and exits the menu.

VCR Response to Action/Alarm (Menu #240)

VCR RESPONSE
TO ACTION/ALARM
>EXIT MENU
RELAY RESPONSE
RELAY POLARITY
RECORDING SPEED
ENCODING MODE

↑↓ CHOOSE: MENU

Description:

This menu allows the selection of one of the ACTION/ALARM VCR RESPONSE items by moving the arrow cursor to the desired line. The items will be described in the following menus.

Keys Operation:

MENU SCROLL ↑ or ↓ moves the arrow cursor.

MENU accepts the entry.

Output Relay Response (Menu #245)

RELAY RESPONSE
ACTIVATE ON:
>ACTION/ALARM
ACTION
ALARM
NEITHER

↑↓ CHOOSE: MENU

Description:

This menu sets the mode for the output relay to respond to the following events.

ACTION/ALARM - relay triggers, when any action or alarm occurs.

ACTION - relay triggers, when only an action occurs.

ALARM - relay triggers, when only an alarm occurs.

NEITHER - relay will not trigger on any event.

Keys Operation:

MENU SCROLL ↑ or ↓ moves the arrow cursor.

MENU accepts the setting and returns to the previous menu.

Relay Polarity (Menu #250)

RELAY POLARITY

>NORMALLY OPEN
NORMALLY CLOSED

↑↓ CHOOSE: MENU

Description:

This menu allows the user to set the output relay polarity to normally open or normally closed.

Keys Operation:

MENU SCROLL ↑ or ↓ moves the arrow cursor.

MENU accepts the entry and returns to the previous menu.

VCR Record Speed (Menu #260)

RECORDING SPEED
DURING ACT/ALM

>NO CHANGE 2HR (or 1FD)
ACT/ALM SPEED
RELAY ONLY

CHOOSE: MENU

Description:

This menu selects one of the modes that causes the VCR to change its recording speed and the events that occur. For this setup, refer to the **RELAY RESPONSE Menu #245**.

The following choices can be selected:

NO CHANGE: VCR will not change its recording speed when any event occurs. Normal (non-alarm) speed will be indicated to the right of the text "NO CHANGE". See the menu above for a normal setting screen (in this case set for 2 hours). The "units for the "NO CHANGE" time lapse mode is "HR" if the **TIME LAPSE FORMAT** (see **Menu #181**) is set to **HOURS**, and "FD" if the **TIME LAPSE FORMAT** (see **Menu #181**) is set to **FIELDS**.

ACT/ALM SPEED: VCR will change its recording speed to the time lapse speed that is set in the following menu. This option will call up the following menu which allows the user to change the time lapse speed.

RELAY ONLY: Auxiliary uses.

Keys Operation:

MENU SCROLL ↑ or ↓ moves the arrow cursor.

MENU accepts the entry and returns to the previous menu. If ACT/ALM SPEED is selected, another menu will be called up to allow the setting of the time lapse speed change.

ACT/ALM Recording Speed (Menu #265)

ACT/ALM SPEED -

> 2 HOURS (or fields)
CHANGE : ENTER #
RESET # : FREEZE
ACCEPT : MENU

Description:

This menu sets the VCR recording speed on action or alarm events from 2 to 255 hours - if the **TIME LAPSE FORMAT** (see **Menu #181**) is set to **HOURS**, or 1 to 255 fields if the **TIME LAPSE FORMAT** (see **Menu #181**) is set to **FIELDS**.

When the **TIME LAPSE FORMAT** (see **Menu #181**) is set to **FIELDS**, an entry of 1 FIELD should be used for the "real-time" mode for a FIELD recorder (see the **GLOSSARY OF VCR TERMS** and **Menu #170**). An entry of 2 FIELDS should be used for the "real-time" mode for a FRAME recorder (see the **GLOSSARY OF VCR TERMS** and **Menu #170**).

Keys Operation:

Number keypad changes the time lapse recording speed. FREEZE resets to a previous value.

MENU accepts the entry and returns to the previous menu.

Action Recording Modes (Menu #270 [ACTION])

ENCODING MODE
DURING ACTION

>EXCLUSIVE
INTERLEAVE

↑↓ CHOOSE: MENU

Description:

ACTION can be set to encode in EXCLUSIVE or INTERLEAVE.

Keys Operation:

MENU SCROLL ↑ or ↓ moves the arrow cursor.

MENU accepts the entry and returns to the previous menu

Alarm Setup (Menu #190)

ALARM SETUP
>EXIT MENUS
ALARM ENABLE
ALARM POLARITY
ALARM CAPTURE
VCR RESPONSE

↑↓ CHOOSE: MENU

Description:

This menu allows the user to select one of the "ALARM SETUP" items by moving the arrow cursor to the desired line.

Keys Operation:

MENU SCROLL ↑ or ↓ moves the arrow cursor.

MENU accepts the entry.

Alarm Enabling (Menu #200)

ALARM ENABLE
>EXIT MENU
ENABLE ALL
DISABLE ALL
ALARM MAP

↑↓ CHOOSE: MENU

Description:

This menu allows the user to select one of the ALARM ENABLE items by moving the arrow cursor to the desired line.

Keys Operation:

MENU SCROLL ↑ or ↓ moves the arrow cursor. MENU accepts the entry.

Selection of ENABLE ALL or DISABLE ALL will set the multiplexer for that function and return to the ALARM SETUP menu. Monitor A will display one of the following screens:

ENABLING ALL
ALARMS

or

DISABLING ALL
ALARMS

Alarm Map (Menu # 205)

ALARM MAP
ALM CAM# ENABLE
>01 1 ON
02 2 ON
03 3 ON
04 4 ON
05 5 ON
06 6 ON
07 7 ON
08 8 ON
09 9 ON
10 10 ON
11 11 ON
12 12 ON
13 13 ON
14 14 ON
15 15 ON
16 16 ON

ENABLE ON/OFF: →
ACCEPT: SELECT
PREVIOUS: MENU

Description:

ALARM MAP menu can disable or enable the individual alarm inputs. The screen displays an alarm number, a camera number, and the alarm enable status. Three lines can be displayed at one time on this menu. Other lines can be viewed and selected by moving the arrow cursor.

Keys Operation:

MENU SCROLL ↑ or ↓ moves the arrow cursor.

MENU SCROLL → toggles between an ON/OFF status.

SELECT accepts the entry after changes are made, moving the cursor to the next line. If SELECT is not pressed, it will display the prior status when the cursor moves to the next position.

MENU accepts all entries and returns to the previous menu.

Alarm Polarity (Menu #210)

ALARM POLARITY		
ALM	CAM#	TYPE
>01	1	N/O
02	2	N/O
03	3	N/O
04	4	N/O
05	5	N/O
06	6	N/O
07	7	N/O
08	8	N/O
09	9	N/O
10	10	N/O
11	11	N/O
12	12	N/O
13	13	N/O
14	14	N/O
15	15	N/O
16	16	N/O

SELECT TYPE: →
ACCEPT: SELECT
EXIT: MENU

Description:

The ALARM INPUT menu can set the type of input to Normally Open or Normally Closed for an individual alarm input. The screen will display the alarm number, the camera number, and the present state of the alarm input type. The above figure shows all of the cameras. Normally, three alarms and cameras are shown, as the entire list is scrolled up and down.

Keys Operation:

MENU SCROLL ↑ or ↓ moves the arrow cursor.

MENU SCROLL → toggles between the NORMAL OPEN and NORMAL CLOSED state.

SELECT accepts the entry after changes are made. If SELECT is not pressed, it will display the prior status when the cursor moves to the next position.

MENU accepts all of the entries and exits the menu.

Alarm Capture Time (Menu #220 [on])

ALARM CAPTURE
>ON/SET TIME
OFF
CHOOSE: MENU

(Menu #220 [off])

ALARM CAPTURE
>ON/SET TIME
OFF
EXIT: MENU

Description:

This menu allows the user to turn on or off the alarm capture time. When the cursor moves up or down, the MENU key will change its function. If the cursor is pointing to the ON/SET TIME, the user will be able to edit the capture time. When the cursor is pointing to OFF, pressing MENU will exit this menu.

Keys Operation:

MENU SCROLL ↑ or ↓ moves the arrow cursor.

MENU uses the two options below:

ON/SET TIME: a menu will appear for the setting of the CAPTURE time. Refer to the next menu.

OFF: the CAPTURE time sets to approximately 3 seconds and exits the menu.

Alarm Capture Time Setting (Menu #230)

ALM CAPTURE TIME
> 3 SECONDS
CHANGE : ENTER #
RESET # : FREEZE
EXIT : MENU

Description:

This menu allows the user to change the ALARM CAPTURE TIME: the minimum length of time that the video is captured for recording. Adjustment range is 3 to 60 seconds.

Keys Operation:

Number keypad enters the new capture time.

FREEZE resets to the previous value.

MENU accepts the entry and exits the menu.

VCR Response to Action/Alarm (Menu #240)

VCR RESPONSE
TO ACTION/ALARM
>EXIT MENU
RELAY RESPONSE
RELAY POLARITY
RECORDING SPEED
ENCODING MODE

↑↓ CHOOSE: MENU

Description:

This menu allows the selection of one of the ACTION/ALARM VCR RESPONSE items by moving the arrow cursor to the desired line. The items will be described in the following menus.

Keys Operation:

MENU SCROLL ↑ or ↓ moves the arrow cursor.

MENU accepts the entry.

Output Relay Response (Menu #245)

RELAY RESPONSE
ACTIVATE ON:
>ACTION/ALARM
ACTION
ALARM
NEITHER

↑↓ CHOOSE: MENU

Description:

This menu sets the mode for the output relay to respond to the following events.

ACTION/ALARM - relay triggers, when any action or alarm occurs.

ACTION - relay triggers, when only an action occurs.

ALARM - relay triggers, when only an alarm occurs.

NEITHER - relay will not trigger on any event.

Keys Operation:

MENU SCROLL ↑ or ↓ moves the arrow cursor.

MENU accepts the setting and returns to the previous menu.

Relay Polarity (Menu #250)

(Menu # 250)

RELAY POLARITY
>NORMALLY OPEN
NORMALLY CLOSED

↑↓ CHOOSE: MENU

Description:

This menu allows the user to set the output relay polarity to Normally Open or Normally Closed.

Keys Operation:

MENU SCROLL ↑ or ↓ moves the arrow cursor.

MENU accepts the entry and returns to the previous menu.

VCR Record Speed (Menu #260)

VCR RECORDING
SPEED ON ACT/ALM

>NO CHANGE- 2HR (or 1FD)
ACT/ALM SPEED
RELAY ONLY

CHOOSE: MENU

Description:

This menu selects one of the modes that causes the VCR to change its recording speed and the events that occur. For this setup, refer to the RELAY RESPONSE Menu #245.

The following choices can be selected:

NO CHANGE: VCR will not change its recording speed when any event occurs. Normal (non-alarm) speed will be indicated inside brackets, []. See the menu above for a normal setting screen, in this case it is set for 2 hours. The "units" for the "NO CHANGE" time lapse mode is "HR" if the TIME LAPSE FORMAT (see Menu #181) is set to HOURS, and "FD" if the TIME LAPSE FORMAT (see Menu #181) is set to FIELDS.

ACT/ALM SPEED: VCR will change its recording speed to the time lapse speed that is set in the following menu. This option will call up the following menu which allows the user to change the time lapse speed.

RELAY ONLY: Auxiliary uses.

Keys Operation:

MENU SCROLL ↑ or ↓ moves the arrow cursor.

MENU accepts the entry and returns to the previous menu. If ACT/ALM SPEED is selected, another menu will be called up to allow the setting of the time lapse speed change.

ACT/ALM Recording Speed (Menu #265)

ACT/ALM SPEED -

> 2 HOURS (or FIELDS)
CHANGE : ENTER #
RESET # : FREEZE
ACCEPT : MENU

Description:

This menu sets the VCR recording speed on action or alarm events from 2 to 255 hours - if the TIME LAPSE FORMAT (see Menu #181) is set to HOURS, or 1 to 255 fields if the TIME LAPSE FORMAT (see Menu #181) is set to FIELDS.

When the **TIME LAPSE FORMAT** (see **Menu #181**) is set to **FIELDS**, an entry of 1 FIELD should be used for the "real-time" mode for a FIELD recorder (see the **GLOSSARY OF VCR TERMS** and **MENU #170**). An entry of 2 FIELDS should be used for the "real-time" mode for a FRAME recorder (see the **GLOSSARY OF VCR TERMS** and **Menu #170**).

Keys Operation:

Number keypad changes the time lapse recording speed.

FREEZE resets to a previous value.

MENU accepts the entry and returns to the previous menu.

**Alarm Recording Modes
(Menu #270 [ALARM])**

ENCODING MODE
DURING ALARM

>EXCLUSIVE
INTERLEAVE

↑↓ CHOOSE: MENU

Description:

ALARM can be set to encode in EXCLUSIVE or INTERLEAVE.

Keys Operation:

MENU SCROLL ↑ or ↓ moves the arrow cursor.

MENU accepts the entry and returns to the previous menu.

Camera Number (Menu #390)

STARTING CAM #

CAMERA#- XXX

CHANGE : ENTER #
RESET # : FREEZE
EXIT : MENU

Description:

This menu changes to a new starting camera number. The number range is from 1 to 983. When this menu appears, it will display the present offset camera number as the first camera number.

When the starting camera number is changed, the displayed camera number, as well as the camera title will automatically change to reflect the new camera number. Example: When the starting camera number is changed to 17, the camera displayed in number 1 position will display "17" with the title "CAM NUMBER 17". This

automatic title renumbering will take place only on camera titles that have not previously been changed by the user.

Keys Operation:

Number keypad enters a new starting camera number.

FREEZE resets to a previous value.

MENU accepts the entry and exits the menu.

Camera Titles (Menu #380)

>CAM# 1 TITLE

ENTER CAMERA #
PRESS SELECT
CANCEL: FREEZE
EXIT: MENU

Description:

This menu can edit the camera's title. The first screen selects the camera to be edited. The next screen appears after the SELECT key is pressed. The function keys are used to change the display title. If the camera titles are not changed, automatic title renumbering will occur if the starting camera number is changed.

Keys Operation:

Number keypad selects the desired camera number.

SELECT accepts the camera entry and returns to the bottom screen for editing the camera title.

(Menu #380)

CAM# 1 >TITLE
PHILIPS

▲
MOVE CURSOR:←→
SCROLL CHAR:↑↓
PRESS: SELECT
CANCEL: FREEZE
EXIT: MENU

MENU SCROLL →← moves the cursor to the desired character.

MENU SCROLL ↑↓ scrolls through the set of characters.

SELECT accepts the title change and returns to the top screen for another camera selection.

On both screens:

FREEZE will restore to the previous title.

MENU accepts the changes and exits the menu.

Note: For smaller monitors with a lot of overscan, the camera titles may have to be limited to 14 characters to allow all of the information to be displayed.

Console Settings (Menu #900)

```
CONSOLE SETTINGS
>BAUD RATE - 9600
  DATA BITS - 8
  PARITY     - NONE
  STOP BITS  - 1
  HANDSHAKE- NO
NEXT CHOICE:→
EXIT: MENU
```

Description:

This menu changes the console's communication port parameters.

The available options are:

```
BAUD RATE: 600, 1200, 2400, 4800, 9600, 19200.
DATA BITS: 7 or 8.
PARITY: NONE, ODD, EVEN.
STOP BITS: 1 or 2.
HANDSHAKE: YES or NO.
```

The multiplexer can be remotely programmed via the Console Port RS-232C using the Command Console Language. Refer to the **Command Console Language User's Manual** (TC8288C-UM) for programming information.

Keys Operation:

MENU SCROLL ↑↓ moves the cursor to the desired line.

MENU SCROLL → sequences through the setting option.

MENU accepts the setting and exits the menu.

Sequence Setup (Menu #50)

```
SEQ SETUP
>EXIT MENUS
SEQ FULL MON A
SEQ QUAD MON A
SEQ FULL MON B
```

CHOOSE: MENU

Description:

Sequence Setup menu selects one of the "SEQ SETUP" items by moving the arrow cursor. Each sequence will be described in subsequent menus.

Keys Operation:

MENU SCROLL ↑ or ↓ moves up or down the arrow cursor up or down.

MENU chooses the desired entry.

Sequence Full Monitor A (Menu #60)

```
SEQ FULL MON A
  DWELL TIME
```

```
> 3 SECONDS
CHANGE: ENTER #
RESET #: FREEZE
SEQ TABLE: SEQ
EXIT: MENU
```

Description:

This menu allows the user to set the sequence dwell time for the full screen Monitor A sequence. Dwell time is the length of time the video is being displayed on the screen. The dwell time is adjustable from 1 to 60 seconds.

Number keypad changes the dwell time.

FREEZE resets to the previous value.

SEQUENCE accepts the entry and allows the sequence list to be edited.

MENU accepts an entry and exits all menus.

Cameras In Sequence A (Menu #90)

```
CAMERAS IN SEQ A
END LIST : 0
RESET LIST: FRZ
UNDO LIST : FULL
SCROLL : ↑ ↓
HIT ANY KEY TO
CONTINUE ...
```


Description:

This screen displays the function keys that will be used for the next menu. Press any key to start editing the following menu.

(Menu #90A)

CAMERAS IN SEQ A

```
>STEP 1- 1
STEP 2- 2
STEP 3- 3
STEP 4- 4
STEP 5- 5
STEP 6- 6
STEP 7- 7
STEP 8- 8
STEP 9- 9
STEP 10- 10
STEP 11- 11
STEP 12- 12
STEP 13- 13
STEP 14- 14
STEP 15- 15
STEP 16- 16
STEP 17- END
STEP 18-
```

to

```
STEP 32-
SEQ FULL A: SEQ
CHANGE : ENTER #
ACCEPT# : SELECT
EXIT : MENU
```

Description:

This menu allows the editing of the sequence list. The default list contains 16 cameras (1 to 16). If the starting camera number is changed, it will be reflected in this list. Three steps can be displayed at one time on this menu screen with other lines being viewed and selected by moving the arrow cursors.

FREEZE resets the list to the default value.

FULL acts as an undo function. When in the edit mode, any changes can be made. If a mistake is made or it is decided not to modify the list, the previous list will be recalled by pressing the FULL key.

Number keypad enters the camera number. If zero, 0, is entered, END will be displayed, as above, ending the sequence list.

SELECT accepts the number entry and moves the cursor to the next position. If SELECT is not pressed, it will display the prior status when the cursor moves to the next position.

MENU SCROLL \uparrow or \downarrow moves the cursor to the next position.

MENU accepts an entry and exits the menu.

SEQUENCE exits the menu and sets Monitor A into a full screen sequence mode.

Sequence Quad Mode of Monitor A (Menu #70)

```
SEQ QUAD MON A
DWEELL TIME
```

```
> 3 SECONDS
CHANGE : ENTER #
RESET # : FREEZE
SEQ TABLE: SEQ
EXIT: MENU
```

Description:

This menu sets the sequence dwell time for the quad mode in Monitor A. The dwell time is adjustable from 1 to 60 seconds. There are four sequence lists in the single quad mode. Quadrant A is in the upper left, Quadrant B is in the upper right, Quadrant C is in the lower left, and Quadrant D is in the lower right position of the Quad display.

The following menu shows Quadrant A programming. Quadrants B, C, and D can be programmed in the same manner.

Keys Operation:

Number keypad changes the dwell time.

FREEZE resets to the previous value.

SEQUENCE accepts the dwell time entry, allows the sequence lists to be edited, and switches to the next menu.

MENU accepts an entry and exits all menus.

Cameras for Quadrant A (Menu #100)

```
CAMS QUADRANT A
END LIST : 0
RESET LIST: FRZ
UNDO LIST : FULL
SCROLL :  $\uparrow$   $\downarrow$ 
```

```
HIT ANY KEY TO
CONTINUE ...
```

Description:

Quadrant A is in the upper left position of the Quad display. This menu displays the function keys that will be used in the following menu. Press any key to begin to edit the list.

(Menu #100A)

CAMS QUADRANT A

>STEP 1- 1
 STEP 2- 2
 STEP 3- 3
 STEP 4- 4
 STEP 5- 5
 STEP 6- 6
 STEP 7- 7
 STEP 8- 8
 STEP 9- 9
 STEP 10- 10
 STEP 11- 11
 STEP 12- 12
 STEP 13- 13
 STEP 14- 14
 STEP 15- 15
 STEP 16- 16
 STEP 17- END
 STEP 18-
 to
 STEP 32-
 QUADRANT B: SEQ
 CHANGE : ENTER #
 ACCEPT#: SELECT
 EXIT : MENU

Description:

This menu allows the user to edit the sequence list. The default list contains 16 cameras (1 to 16). Three steps can be displayed at one time on this menu screen. Other lines can be viewed and selected by moving the arrow cursor.

Keys Operation:

FREEZE resets the list to the default value.

FULL acts as an undo function. When in the edit mode, any changes can be made. If a mistake is made or it is decided not to modify the list, the previous list will be recalled by pressing the FULL key.

Number keypad enters the camera number. If zero, 0, is entered, END will be displayed, as above, ending the sequence list.

SELECT accepts the number entry and moves the cursor to the next position. If SELECT is not pressed, it will display the prior status when the cursor moves to the next position.

MENU SCROLL ↑ or ↓ moves the cursor to the next position.

MENU accepts an entry and exits the menu.

Note: This quadrant programming process continues as above for Quadrants B, C, and D. Refer to Menus #110 through #130A of the MENUS FLOW CHART.

Sequence Monitor B (Menu #80)

SEQ FULL MON B
 DWELL TIME

> 3 SECONDS
 CHANGE : ENTER #
 RESET #:: FREEZE
 SEQ TABLE: SEQ
 EXIT: MENU

Description:

This menu sets the sequence dwell time for Monitor B. The dwell time is adjustable from 1 to 60 seconds.

Keys Operation:

Number keypad changes the dwell time.

FREEZE resets to the previous value.

SEQUENCE accepts the dwell time entry, allows the editing of the sequence list, and switches to the next menu.

MENU accepts an entry and exits all menus.

Cameras for Sequencing Monitor B (Menu #140)

CAMERAS IN SEQ B
END LIST : 0
RESET LIST: FRZ
UNDO LIST : FULL
SCROLL : ↑ ↓

HIT ANY KEY TO
CONTINUE ...

Description:

This menu displays the function keys that will be used with the CAMERAS IN SEQ B. Programming Monitor B sequences will follow the same process, using the same keys, as full MON A and quad sequence programming. Press any key to start edit process.

(Menu #140A)

CAMERA IN SEQ B
>STEP 1- 1
STEP 2- 2
STEP 3- 3
STEP 4- 4
STEP 5- 5
STEP 6- 6
STEP 7- 7
STEP 8- 8
STEP 9- 9
STEP 10- 10
STEP 11- 11
STEP 12- 12
STEP 13- 13
STEP 14- 14
STEP 15- 15
STEP 16- 16
STEP 17- END
STEP 18-
to
STEP 32-
SEQ FULL B: SEQ
CHANGE : ENTER #
ACCEPT#: SELECT
EXIT : MENU

Description:

This menu allows the user to edit the sequence list. The default list contains 16 cameras: 1 to 16. Three steps can be displayed at one time on this menu. Other lines can be viewed and selected by moving the arrow cursor.

Keys Operation:

FREEZE resets the list to the default value.

FULL acts as an undo function. When in the edit mode, any changes can be made. If a mistake is made or it is decided not to modify the list, the previous list will be recalled by pressing the FULL key.

Number keypad enters the camera number. If zero, 0, is entered, END will be displayed, as above, ending the sequence list.

SELECT accepts the number entry and moves the cursor to the next position. If SELECT is not pressed, it will display the prior status when the cursor moves to the next position.

MENU SCROLL ↑ or ↓ moves the cursor to the next position.

MENU accepts an entry and exits the menu.

SEQUENCE exits the menu and sets Monitor B into a sequence mode.

System Setting (Menu #400)

All programming changes can be saved in the system memories of the multiplexer. The multiplexer has the capability of saving up to 6 separate setups. These setups will save all operating parameters of the multiplexer. These parameters will remain as the operational guidelines until they are changed. Restoring these setups can be done manually through a menu selection, or via time activation, overwriting any existing system memory. The factory defaults may also be loaded into the system. **WARNING: Selecting the factory defaults will overwrite all system and user saved memories, and all time events.**

(Menu #400)

SYSTEM SETTING
>EXIT MENUS
SAVE SETTING
RESTORE SETTING
DEFAULT SETTING

↑ ↓ CHOOSE: MENU

Description:

This menu selects one of the "SYSTEM SETTING" items by moving the arrow cursor to the desired line.

Keys Operation:

MENU SCROLL ↑ or ↓ moves the arrow cursor.

MENU accepts the entry.

Saving the System Setting (Menu #410)

SAVE SETTING
TO:
>EXIT MENUS
MEMORY 1
MEMORY 2
MEMORY 3
MEMORY 4
MEMORY 5
MEMORY 6

↑ ↓ CHOOSE: MENU

Description:

This menu saves the present system setting or returns to the previous menu.

Keys Operation:

MENU SCROLL ↑ or ↓ moves the arrow cursor.

MENU accepts the entry, saves the current system operational settings into the selected memory, displays the following screen, and exits the menus.

(example memory #1)

SAVING TO
MEMORY 1

Restore Setting (Menu #420)

RESTORE SETTING
FROM:
> EXIT MENU
MEMORY 1
MEMORY 2
MEMORY 3
MEMORY 4
MEMORY 5
MEMORY 6

↑↓ CHOOSE: MENU

Description:

This menu selects the memory to restore or exits the menu.

Keys Operation:

MENU SCROLL ↑ or ↓ moves the arrow cursor.

MENU accepts the entry.

Accept Restore Setting (Menu #421)

RESTORE SETTING-
WARNING:ALL YOUR
SETTINGS WILL BE
LOST ***
>EXIT MENUS
RESTORE + EXIT

↑↓ CHOOSE: MENU

Description:

This menu restores the selected setting from the memory or returns to the previous menu.

Keys Operation:

MENU SCROLL ↑ or ↓ moves the arrow cursor.

MENU accepts the entry.

When RESTORE + EXIT is selected, the system restores to the selected saved setting, displays the following screen and exits the menu. This process takes approx. 10 seconds.

(example memory #1):

RESTORING FROM
MEMORY 1

Factory Pre-Set Defaults (Menu #470)

SYSTEM DEFAULTS-
WARNING:ALL YOUR
SETTINGS WILL BE
LOST ***
>PREVIOUS MENU
DEFAULTS + EXIT
CHOOSE: MENU

Description:

This menu restores the system to the factory pre-set defaults (see list below), displays the following screen, and exits the menu.

DEFAULT SETTING
IN PROGRESS

Keys Operation:

MENU SCROLL ↑ or ↓ moves the arrow cursor.

MENU accepts the entry.

If RESET + EXIT is selected, the system will restore to the factory defaults and will exit the menu.

FACTORY DEFAULTS**Sequence Setup:**

Monitor A Full Dwell - 3 seconds
Monitor A Quad Dwell - 3 seconds
Monitor B Full Dwell - 3 seconds
Cameras (#s) in Sequence - #1 to #16

Starting Camera Number - 1**VCR Setup:**

Recording Speed (time lapse mode)
2 hours (TC8286C, TC8296C, TC8288C, TC8298C)
3 hours (TC8286CX, TC8296CX, TC8288CX,
TC8298CX)
VCR type - Field
Time Lapse Format - HOUR
Decode Mode - Real Time
Decode Algorithm - 140 or Later
Encoding Mode during Alarm - Interleave
Encoding Mode during Action - Interleave
VCR Encode Mode - Interleaving

Alarm Setup:

Enables - All On
Inputs - Normally Open
Capture - Off
Output Relay Polarity - Normally Open
Output Relay Response - None
VCR Speed Change - Off
Alarm/Action - No Change

Action Setup:

Zone Setup - Full Screen
Zone Sensitivity - Medium/High
Action Capture - Off
Action - Off

Time/Date Formats:

Time - 12 Hour
Date - MM DD YY

Time Events:

All Time Events - Off

Title Default:

Cam Number 01, Cam Number 02, etc.

Text Brightness (Menu #500)

TEXT- BRIGHTNESS
>EXIT MENUS
SMALL TXT F-GND
SMALL TXT B-GND
LARGE TXT F-GND
LARGE TXT B-GND
CAMEO BORDERS

↑↓ CHOOSE: MENU

Description:

This menu selects the "TEXT BRIGHTNESS" by moving the arrow cursor to the desired line. There are two types of text display: large and small. The large text is used in the menu display, full analog screen only, camera titles, and time/date. The small text is used in the digital full screen, quad, multiscreen, camera titles, and time/date.

Keys Operation:

MENU SCROLL ↑ or ↓ moves the arrow cursor.

MENU accepts the entry.

Small Text Foreground Level (Menu #510)

ADJUST SMALL
TEXT FOREGROUND

TRANS -||- WHT

INCR/DECR: →←
ACCEPT: MENU

Description:

This menu will allow the adjustment of the small text foreground level. There are four levels: transparent, black, gray, and white.

Keys Operation:

MENU SCROLL →← adjusts the level.

MENU ends the adjustment and returns to the previous menu.

Small Text Background Level (Menu #520)

ADJUST SMALL
TEXT BACKGROUND

TRANS -||- WHT

INCR/DECR: →←
ACCEPT: MENU

Description:

This menu allows the adjustment of the small text background level. There are four levels: transparent, black, gray, and white.

Keys Operation:

MENU SCROLL →← adjusts the level.

MENU ends the session and returns to the previous menu.

Large Text Foreground Level (Menu #530)

ADJUST LARGE
TEXT FOREGROUND

DRK -||- BRT

INCR/DECR: →←
ACCEPT: MENU

Description:

This menu allows adjustment of the large text foreground level. There are eight levels of brightness.

Keys Operation:

MENU SCROLL →← adjusts the level.

MENU ends the session and returns to the previous menu.

Large Text Background Level (Menu #540)

ADJUST LARGE
TEXT BACKGROUND

DRK -||- BRT

INCR/DECR: →←
ACCEPT: MENU

Description:

This menu allows adjustment of the large text background level. There are eight levels of brightness.

Keys Operation:

MENU SCROLL →← adjusts the level.

MENU ends the session and returns to the previous menu.

Cameo Borders (Menu #550)

CAMEO BORDERS

DRK -||---- WHT

INCR/DECR: →←
ACCEPT: MENU

Description:

This menu allows the adjustment of the border brightness around the cameos. There are three levels of brightness, white/gray/black.

Keys Operation:

MENU SCROLL →← adjusts the level.

MENU ends the session and returns to the previous menu.

Time Events (Menu #395)

The multiplexer has the capability of saving up to 6 separate setups. These setups will save all operating parameters of the multiplexer. Restoring these setups can be done manually through the SYSTEM SETTING menu, or via time activation (TIME EVENTS). The multiplexer provides 64 time events, utilizing any of the 6 saved memories. These 6 settings can be loaded into the operational memory of the ALLPLEX unit at the time programmed. The programming of the On-Off times must be done via a PC. See the TC8288C-UM CCL manual for details. These Time Events can also be used to activate other multiplexer functions.

(Menu #395)

TIME-EVENTS
>EXIT MENUS
TIME-EVENTS ON
TIME EVENTS OFF
TIME-EVENTS LIST

↑↓ CHOOSE: MENU

Description:

The Time-Event menu allows the user to turn On or Off the time activation of the setups. With this menu the user can turn Time Event processing completely off, or turn Time Event Processing on per the Time Events stored in its memory, or display a list of events for individual Enabling/Disabling.

Keys Operation:

MENU SCROLL ↑ or ↓ moves the arrow cursor.

MENU accepts the entry and exits the menu.

Selection of TIME-EVENTS ON or TIME-EVENTS OFF will set the multiplexer for that function and exit the menu. Monitor A will display one of the following screens:

ENABLING ALL
TIME-EVENTS

or

DISABLING ALL
TIME-EVENTS

Time-Event List (Menu #396)

TIME-EVENT LIST

ITEM STATUS
> 1 DISABLED

↑↓ CHANGE ITEM
←DISABLE →ACTIVE
EXIT : MENU

Description:

The Time Event List displays the status of each time event. The display will be on of the following:

DISABLED: indicates that the event has been turned off.

NONE: indicates that no function has been assigned for the event.

PENDING: indicates the event is turned on, but the event time has not yet been reached

ACTIVE: indicates the event is currently being executed.

FINISHED: indicates that the event time has passed, and is no longer active.

Keys Operation:

MENU SCROLL ↑ or ↓ moves the arrow cursor.

MENU SCROLL ← or → to change status.

MENU accepts the entry and exits the menu.

Note that while the system is updating the status, the message "IN PROGRESS" may be displayed.

When a time event occurs, the Monitor A output will display the following time event message (example for time event #21). This display may be disabled via Time-Event PC programming.

TIME-EVENT 21
IN PROGRESS

NOTE: For Time Events to function, **Time-Events On** must be selected from the Time Events menu (Menu #395).

Video Color (Menu #600)

The TC8288C, TC8288CX, TC8298C, and TC8298CX color multiplexers are shipped with autocolor turned on. This allows the presence of color cameras to be detected upon initial boot-up or when a camera is connected to the multiplexer when it is turned on. The **VIDEO COLOR** mode and **COLOR MAP** will be saved and restored by the **SYSTEM SAVE** and **SYSTEM RESTORE** commands.

The TC8286C, TC8286CX, TC8296C, and TC8296CX monochrome multiplexers are shipped with the **ENABLE ALL** option selected. This enables the color trap for all 16 video inputs.

(Menu #600)

```
VIDEO COLOR
>EXIT MENU
ENABLE ALL
DISABLE ALL
COLOR MAP
AUTO DETECT
```

↑↓ CHOOSE: MENU

Description:

This menu allows the input video to be selected as color or black and white.

Keys Operation:

MENU SCROLL ↑ or ↓ moves the arrow cursor.

MENU accepts the entry and exits the menus.

Selection of **ENABLE ALL** or **DISABLE ALL** will set the multiplexer for that function and exit the menus. Monitor A will display one of the following screens:

```
ENABLING ALL
COLOR
```

or

```
DISABLING ALL
COLOR
```

Individual Color Inputs (Menu #630)

```
COLOR MAP
BNC CAM# ENABLE
>01 1 ON
02 2 ON
03 3 ON
04 4 ON
05 5 ON
06 6 ON
07 7 ON
08 8 ON
09 9 ON
10 10 ON
11 11 ON
12 12 ON
13 13 ON
14 14 ON
15 15 ON
16 16 ON
ENABLE ON/OFF: →
ACCEPT: SELECT
PREVIOUS: MENU
```

Description:

The menu enables the individual video inputs as color or black and white.

Keys Operation:

MENU SCROLL ↑ or ↓ moves the arrow cursor.

MENU accepts the entry and exits the menu.

Videoloss Level (Menu #700)

VIDEOLOSS RELAY
POLARITY -

>NORMALLY OPEN
NORMALLY CLOSE

EXIT: MENU

Description:

This menu can select the VIDEOLOSS RELAY POLARITY by moving the arrow cursor to the desired line. The output response to videoloss can be configured in one of two ways - normally open or normally closed. Normally open will cause the relay contacts to open when there is a videoloss. Normally close will cause the relay contacts to close when there is no videoloss and open when there is a videoloss.

Keys Operation:

MENU SCROLL \uparrow or \downarrow moves the arrow cursor.

MENU accepts the entry and exits the menu.

Videoloss Map (Menu #800)

VIDEOLOSS MAP		
VID	CAM#	ENABLE
>01	1	ON
02	2	ON
03	3	ON
04	4	ON
05	5	ON
06	6	ON
07	7	ON
08	8	ON
09	9	ON
10	10	ON
11	11	ON
12	12	ON
13	13	ON
14	14	ON
15	15	ON
16	16	ON

ENABLE ON/OFF: \rightarrow
ACCEPT: SELECT
EXIT: MENU

Description:

This menu disables or enables the videoloss display on the screen. The videoloss message can be turned on or off for each individual camera that is currently under videoloss. For example; a camera input that does not have sync present. Three lines can be displayed at one time on this menu with the other lines being viewed and

selected by moving the arrow cursor. This videoloss message feature is designed to cause an AUTOMATIC re-enable of VIDEOLOSS DISABLE MESSAGE when an inactive camera returns to service or when the user attempts to set the videoloss message disable on an active camera. The latter is required to prevent accidental or malicious disabling of videoloss on an active camera. With videoloss message disabled on an active camera, since the last image is frozen, there is no indication that a videoloss has occurred.

Keys Operation:

MENU SCROLL \uparrow or \downarrow moves the arrow cursor.

MENU SCROLL \rightarrow toggles between ON/OFF.

SELECT accepts the entry after changes are made. Otherwise, it will display the prior state when the cursor moves to the next position.

MENU accepts all entries and returns to the previous menu.

ADVISORY MESSAGES

Upon power-up or any system reset, the system's software revision and model number will be reported.

Other advisory messages may occur dependent upon various conditions, such as VIDEOLOSS, out of range camera number entry, or screen mode. These advisory messages will clear automatically when the condition returns to the normal configuration.

ERROR MESSAGES

The multiplexer was designed to be error free. It was also designed to monitor its own operation and report any internal system errors that may occur. This speeds problem diagnosis should one occur. In the event a problem is detected, an error message, similar to the one shown below will be seen:

ERROR 3010 - RET'D
DM CMD MODE ERROR
ZOOM + QUAD CLEARS

In the event of an error message:

Press ZOOM and QUAD keys to clear. If condition persists, note the error # and arrange to return unit in accordance with the procedure outlined in the section entitled **SERVICE**.

MENUS FLOW CHART

(See Separate Larger Size Copy, Part Number 3031408-001, Rev 4 - Enclosed)

VCR LOOK-UP TABLE

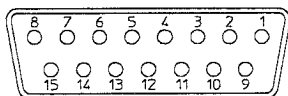
Note that a "Real-Time" VCR generally refers to a VCR that offers an SLP, or HD tape speed. To achieve extended "real-time" recording a T160 tape is required.

VCR Manufacturer	VCR Model	VCR Format	VCR's Mode	VCR Time Lapse Mode	MUX Time Lapse Mode	Time Lapse Format
Philips CSS	TC3990A/TC3991	NTSC	SP, T120	See Note		See Note
Philips CSS	TC3990A/TC3991	NTSC	SLP, T120	6H HD	1	FIELD
Philips CSS	TC3990A/TC3991	NTSC	SLP, T120	A18H HD	3	FIELDS
Philips CSS	TC3990A/TC3991	NTSC	SLP, T120	30H HD	5	FIELDS
Philips CSS	TC3990A/TC3991	NTSC	SLP, T120	48H HD	9	FIELDS
Philips CSS	TC3990A/TC3991	NTSC	SLP, T120	72H HD	13	FIELDS
Philips CSS	TC3990A/TC3991	NTSC	SLP, T120	120H HD	21	FIELDS
Philips CSS	TC3990A/TC3991	NTSC	SLP, T120	168H HD	29	FIELDS
Philips CSS	TC3990A/TC3991	NTSC	SLP, T120	240H HD	45	FIELDS
Philips CSS	TC3990A/TC3991	NTSC	SLP, T120	360H HD	65	FIELDS
Philips CSS	TC3990A/TC3991	NTSC	SLP, T120	480H HD	83	FIELDS
Philips CSS	TC3990A/TC3991	NTSC	SLP, T120	600H HD	111	FIELDS
Philips CSS	TC3990A/TC3991	NTSC	SLP, T120	720H HD	133	FIELDS
Philips CSS	TC3924	NTSC		8H	1	FIELD
Philips CSS	TC3924	NTSC		24H	3	FIELDS
Philips CSS	TC3924	NTSC		40H	5	FIELDS
Mitsubishi	HS5440U	NTSC	SP, T120	See Note		See Note
Mitsubishi	HS5440U	NTSC	SLP, T160	8H EP	1	FIELD
Mitsubishi	HS5440U	NTSC	SLP, T160	24H EP	3	FIELDS
Mitsubishi	HS5440U	NTSC	SLP, T160	40H EP	5	FIELDS
Sanyo	SRT500	NTSC	SLP, T160	8H	1	FIELD
Sanyo	SRT500	NTSC	SLP, T160	24H	3	FIELDS
JVC	SR-L901U	NTSC		8H	1	FIELD
JVC	SR-L901U	NTSC		24H	3	FIELDS
Panasonic	AG-RT600	NTSC		8H	1	FIELD
Panasonic	AG-RT600	NTSC		24H	3	FIELDS
Panasonic	AG-RT600	NTSC		40H	5	FIELDS
Sanyo	SRT500P	PAL	SLP, T160	8H	1	FIELD
Sanyo	SRT500P	PAL	SLP, T160	24H	3	FIELDS

Note: For the "Normal", non high density modes, use the MUX TIME LAPSE Mode in HOURS.

PINOUPS

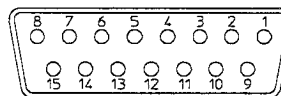
External View of Connectors on Allplex



S9602018AE

Pin No.	Designations	Color of Wire in Cable Provided
1	Alm 1	Yel
2	Alm 2	White
3	Alm 3	Orange
4	Alm 4	Pink
5	Alm 5	Tan
6	Alm 6	Aqua
7	Alm 7	Grey
8	Alm 8	Green
9	VEXT INPUT	Blue
10	Gnd	Violet
11	Gnd	Brown
12	Gnd	Red
13	Gnd	Black
14	Gnd	White/Black
15	Gnd	White/Brown

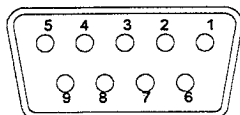
External View of Connectors on Allplex



S9602018AE

Pin No.	Designations	Color of Wire in Cable Provided
1	Alm 9	Yel
2	Alm 10	White
3	Alm 11	Orange
4	Alm 12	Pink
5	Alm 13	Tan
6	Alm 14	Aqua
7	Alm 15	Grey
8	Alm 16	Green
9	ACTION/ALARM Relay Output	Blue
10	ACTION/ALARM Relay Output	Violet
11	Videoloss Relay Output	Brown
12	Videoloss Relay Output	Red
13	Gnd	Black
14	Gnd	White/Black
15	Gnd	White/Brown

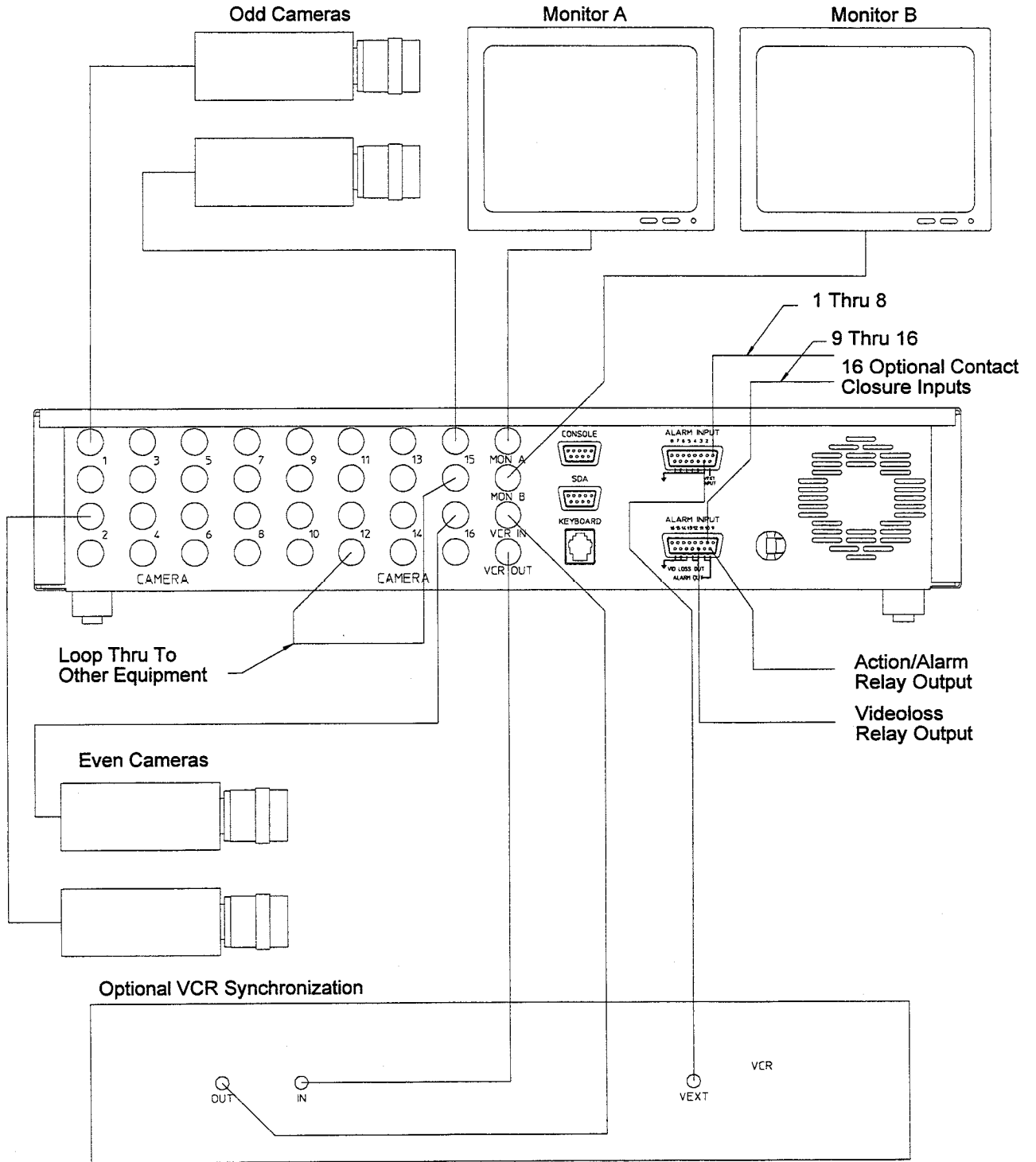
Console Port RS-232C



S9602017AE

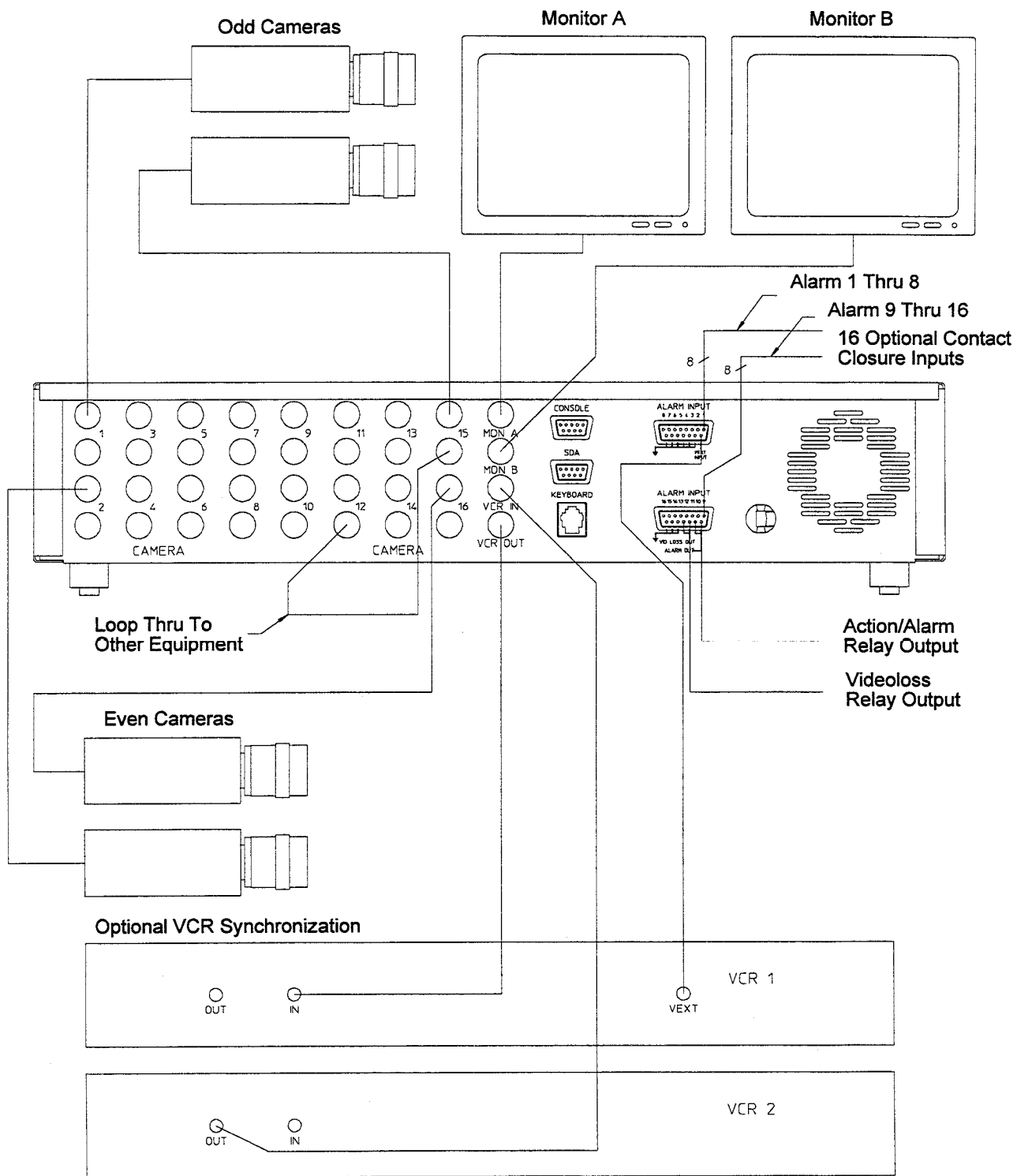
Pin No.	Designation
1	Chassis Gnd
2	Rx
3	Tx
4	CTS
5	RTS
6	Chassis Gnd
7	Chassis Gnd
8	Chassis Gnd
9	Chassis Gnd

ILLUSTRATIONS



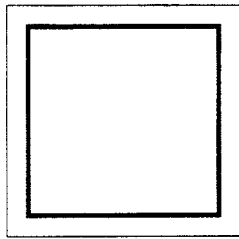
S9602015AE

Typical Simplex/Duplex Configuration

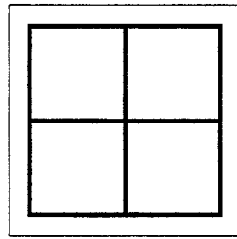


S9602016AE

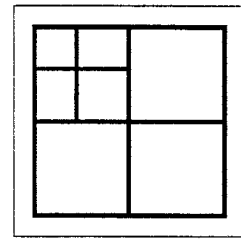
Alternate Duplex Configuration



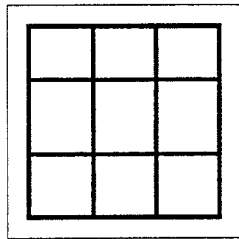
Full Screen



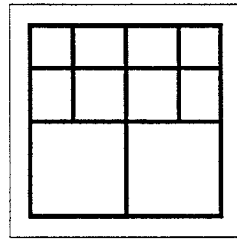
Quad



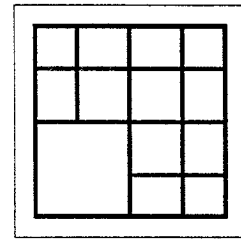
4 + 3



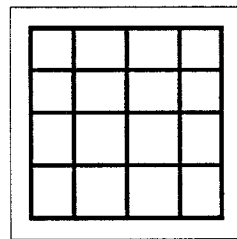
3 x 3



8 + 2



12 + 1



4 x 4

S937A11AE

Monitor A Display Formats

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