B&H
PHOTO - VIDEO - PRO AUDIO

The Professional Video SourceBook

Section8

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TIME-CODE EQUIPMENT

For Desktop, Rack Mount or Field Use

Horita offers a full line of SMPTE LTC and VlTC Time-Code Readers, Generators, Inserters and Translators. The LTC line offers choice and flexibility, from the basic WG-50 Play Speed Reader/Inserter to the complete TRG-50 PC Generator/Search Speed Reader/Window Inserter with RS-232 interface and TC-TOOL KIT tape logging software. VITC products provide Generator, Reader/Window Inserter and Translator functions, enabling translation between LTC and VITC, as well as having a full-function VITC system.

LED units, like the TCD-100 and VLR-100, provide visual displays, as well as reader/generator functions. The TCI-50 and RLT-50 allow time-code to be inserted into, or extracted from, an RS4-22 data stream. The GPI-50 is a time code based dual general purpose interface. Horita also offers color bar, test signal, blackburst and sync generators, a video titler with serial interface and a Safe Area Generator. All products are available in desk top, rackmount and field packages. They are all versatile, affordable and easy to use.

WHAT IS SMPTE TIME CODE?

Adopted in the late 1960s by the Society of Motion Picture and Television Engineers, SMPTE Time Code is an industry standard frame numbering system that assigns a specific number to each frame of video in hours, minutes, seconds and frames format. There are two SMPTE formats for Time Code: Longitudinal Time-Code (LTC) and Vertical Interval Time Code (VITC).

LTC is an audible electronic digital signal recorded on an audio or time code channel of a VCR or audio recorder. VITC is a visual frame identification code recorded in the vertical blanking interval of each video field. VITC time code must be recorded at the same time as the video, and it can be read in VCR pause mode. LTC time code offers more flexibility than VITC in that it may be recorded prior to recording the video (prestriped), during production, or added to the tape at a later time (post striped). However, it does use up an audio channel, and the tape must be moving in order to read it.

Why is SMPTE time code so important? The answer can be stated in two words: Accuracy and repeatability. With time code, every frame of video is given its own unique identifying number. Once recorded, that time code/video frame relationship will be the same every time the tape is played.

Time code equipment generally falls into one of three categories: Generators, Readers, and Inserters (or Window Dub Inserters). The generator creates the time code signal. Time code readers "read" the electronic time code signal, decode it and display it. The display may be an LED readout, or it may be superimposed over the video. Window dub inserters are generally used to produce work copies of the master tape, with the time code display "burned" into the video picture. Other time code based equipment fill a variety of needs. Translators allow interchange between LTC and VITC, or into RS-422 /RS-232 protocols to communicate time code information to VCRs, edit controllers and computers. A GPI (General Purpose Interface) uses time code to electronically trigger events in production, playback, scientific experiments, etc.

FW-50 *Film Foot/Frame Window*

The FW-50 reads SMPTE Longitudinal Time-Code (LTC) and translates it into equivalent film foot and frame counts. It then keys this information into a video overlay display of both the time code and the film foot/frame values. The FW-50 also incorporates HORITA's exclusive Time-Code/Video Phase Analyzer which shows you the exact timing relationship between your LTC and video. The Phase Analyzer is a must have to insure making accurate window dubs and verifying that time code was generated correctly.

- Works with 16mm and 35mm film stock and DF/NDF time code
- Drop/Non-Drop frame and video field-1/2 display indicators
- Outputs reshaped time code for time code copying needs
- Enter 4-digit reel number or ID
- Time code or User-Bits display selection
- Horizontal and vertical positioning and size control

LTC TIME-CODE EQUIPMENT

Horita's LTC (Longitudinal Time Code) products are designed to add functions and features with each step up the product line and are fully upgradeable after purchase. Available in desktop, field or rackmount versions, they operate from +9v to +13.5v DC and include a 9v AC adapter. Most models are also available in PAL.

WG-50

Window Dub Inserter

- Makes burned-in SMPTE TC Window Dub copies
- Indicates Drop-Frame or Non-Drop-Frame Time Code
- Also functions as Play Speed SMPTE Time Code Reader
- Adjustments for horizontal and vertical size and position
- Dark mask or "see-thru" mask surrounds display
- Always frame accurate (on time)
- Provides reshaped time code output for copying TC
- Displays time code or User Bits
- Field 1/Field 2 indicator

TG-50

Generator / Inserter

Combination Time-Code Generator and Window Dub Inserter. All features of WG-50 *Plus* –

- Generates time code in Drop/Non-Drop-Frame format
- Jamsync mode jams to time code input/output's new TC
- Simple "On Screen" preset of time code and User Bits
- Run/Stop operation using front panel Momentary switch
- Selectable 30/60/90/120-second automatic generator back time
- Make a window dub copy while recording TC on source tape

All LTC models includes the time code analyzer display. The Time-Code/Video Phase Analyzer display shows the exact timing relationship between time code and video. Continuous visual readout tells if (and at what point) time code is genlocked to video; permits precise adjustment of VCR tracking control when making window dubs; adjustment of audio deck speeds for time code playback, etc.

TR-50 *"On-Screen Time Code Reader*

Combination Time-Code Reader and Window Dub Inserter. All the features of the WG-50 *Plus* —

- Reads and displays LTC time code from 1/30 of a second to over 10x play speed in forward and reverse.

TRG-50

Generator/Inserter/Search Speed Reader

Combination Time-Code Generator, Speed Reader and Window Dub Inserter. All the features of TG-50 *Plus*—

- Reads and displays LTC time code from 1/30 of a second to over 10x play speed in forward and reverse.

MWG-50 *Multiple Window Generator*

The MWG-50 provides an economical solution when you need to make up to four independent time code window burns from a single LTC input source. The MWG-50 reads time code at play speed and keys the resultant video display into four independent RS-170A composite video signals.

- Displays time code or user-bits
- Displays drop-frame or non-drop-frame time-code
- Select black mask on or off
- Select from eight preset horizontal and vertical display positions and sizes

TRG-50PC

Generator/Inserter/Speed Reader/RS-232 Control

Combination Time-Code Generator, Speed Reader and Window Dub Inserter. Has all the features of TRG-50 *Plus* —

- Communication with PC using RS-232 serial port. No plug-in cards required – you can log in the field using a laptop computer. Includes TC-TOOLKIT Tape Logging Software. (*See next page*)

FW-50 Film Foot/Frame Window 339.95	TG-50 Time-Code Generator .....349 .95
WG-50 Window Dub Inserter 269.95	TRG-50 Time-Code Generator 439.95
TR-50 On-Screen Time-Code Reader 339.95	TRG-50PC Time-Code Generator 549.95
MWG-50 Multiple Window Generator 879.95	

VITC TIME CODE EQUIPMENT

Horita's VITC (Vertical Interval Time Code) products generate and read VITC, as well as interface into LTC systems. The VG-50 also includes the Time-Code Analyzer display for showing the exact timing relationship between time code and video.

VIC-50

Vertical Interval Cleaner

The ten or so lines of the RS-170A composite video signal's vertical interval has evolved into a popular medium for handling various time, test and control codes. As the composite video signal is processed and recorded, the Vertical Interval can end up containing several time codes (VITC, multiline SMPTE VTC, Video disk frame codes, etc.), Vertical Interval Reference (VIR) and Vertical Interval Test (VIT) signals, as well as various other proprietary control codes and timing signals that have been inserted along the way. If you need to insert new information or test /control signals into the vertical interval yourself, you may run into problems if the interval is already filled up. If you have a composite video feed with unwanted data or test signals in the vertical interval, the VIC-50 provides an inexpensive way of restoring it back to its original black level.

- Cleans the entire Vertical Interval of added signals
- Selectable Black Level of 7.5 or 0 IRE
- Multiple outputs
- Operates from 9v DC, supplied with an AC adapter

VLT-50 *VITC-to-LTC Translator*

- Translates VITC into LTC at play speed and at search speeds from ±20x play speed down to still frame.
- LTC output can be read by other Horita LTC products to display the VITC time code numbers frame-by-frame, make window dubs, etc.
- VLT-50 Auto Select mode automatically routes externally applied LTC directly to the LTC output if VITC is unreadable or not present.
- LTC output can operate time code-based editing systems that use LTC rather than VITC and can be used to synchronize audio or video recorders requiring LTC, or to make LTC copies, etc.
- Switch selectable forward only or bi-directional forward/reverse LTC output from the VLT-50 insures compatibility with a variety of LTC readers, edit controllers and synchronizers.
- Switch selectable "Search Offset" (when translating VITC at search speeds or at still frame) compensates for the "On Time" updating done by many LTC readers and edit controllers.
- Regenerates VITC for edit system record deck when used with VG-50.

VG-50

VITC Generator/LTC-VITC Translator with "On-Screen" Time-Code Display

- Generates industry standard VITC time code
- Translates LTC (Audio) time code into VITC time code
- "Jamsync" mode presets VITC time code to LTC input
- Generates VITC in Drop-Frame or Non-Drop-Frame format
- Simple "On Screen" preset of time code or User Bits
- Front panel switch selection of line pairs for VITC placement
- Selectable 30/60/90/120-sec. automatic generator back-time
- Run/Stop operation using front panel momentary switch
- Field-1/Field-2 indicator
- Field Pak with 14-pin option inserts VITC into camera video
- Use with VLT-50 to form VITC Reader/Window Inserter
- Regenerates VITC for editing VCR when used with VLT-50
- Exclusive Horita "phase meter" when translating LTC-VITC

VWG-50

VITC Reader/Window Dub Inserter

- Compatible with all VCR formats. Intended for use in locating material on tape according to its VITC time-code number
- Reads VITC time code from pause to 20x play speed
- Makes burned-in VITC window dub copies.
- Adjustments for H and V size and position
- On-Screen Video/VITC Field 1/2 indicator

VWG-50PC and VLT-50PC

All the features of their respective cousins (VGW-50 and VLT-50), the PC versions add:

- Communication with PC using RS-232 serial port. No plug-in cards required — you can log in the field using a laptop. Includes TC-TOOLKIT Tape Logging Software (*See next page*)

VIC-50 Vertical Interval Cleaner **196.95**	**VG-50** VITC Generator/LTC-VITC Translator.....**269.95**
VLT-50 VITC-To-LTC Translator **269.95**	**VWG-50** VITC Reader/Window Dub Inserter **299.95**
VLT-50PC VITC-To-LTC Translator.....**389.95**	**VWG-50PC** VITC Reader/Window Dub Inserter.....**419.95**

TIME-CODE EQUIPMENT with LED DISPLAY

TR-100 *LTC Time-Code Reader*

- 0.8″ high LED character display is suitable for viewing across a room
- Brightness control adjusts display intensity for indoor use in a darkened room, or for outdoor use in bright light
- Reads LTC from 1/30 to 100x Play Speed, Forward and Reverse
- Outputs reshaped time code for time code copying needs
- Auto selects between 24FPS (film), 25FPS (PAL), Drop/Non-Drop Frame
- Translates SMPTE time code to MIDI time code

TCD-100 *VITC / LTC Reader*

- 0.8″ high LED character display is suitable for viewing across a room
- Reads LTC from 1/30 to 100x play speed in forward and reverse. Reads VITC from pause to over 30x play speed in forward and reverse (depending on tape format).
- Displays hours, minutes, seconds, and frames, plus indicators for reading VITC or LTC and Drop/Non-Drop Frame format
- Switch select time code/User Bit display, display Run/Hold
- All switches are located at rear of unit. "Auto" select mode permits unattended operation by automatically switching to VITC when LTC is not available
- Brightness control adjusts display intensity for indoor use in a darkened room, or for outdoor use in bright light
- Outputs 2v P-P reshaped LTC when reading LTC

VLR-100

VITC / LTC Reader, LTC Generator

Same combination high-speed VITC and LTC time code reader as the TCD-100, plus it generates LTC time code. Has a .56-inch high 8-digit LED display readout with brightness control.

Same features as the TCD-100, *PLUS* —

- Front panel switches for selecting time code or User Bit data display, display Run-Hold operation, RDR/GEN/SET, and VITC or LTC
- LTC Generator outputs Drop Frame/Non-Drop Frame LTC Time-Code and/or translates VITC into LTC

VLR-100PC

VITC / LTC Reader, LTC Generator, RS-232

All features of the VLR-100, *PLUS* —
Communication with PC using RS-232 serial port. Includes TC-TOOLKIT Tape Logging Software

TC-TOOLKIT Tape Logging Software included with the TRG-50PC, VWG-50PC, VLT-50PC, VLR-100PC

TOOLKIT is a tape logging/EDL software that comes bundled with all Horita PC Time-Code models. Offers six Time-Code programs, plus a seventh menu-select program. All programs are easy to understand and operate. Includes serial cable, DB-9/DB-25 Adapter and disks.

PC-LOG captures Time-Code or User Bits and calculates durations with a single keystroke. Log tapes while reading or generating Time-Code, add comments, print, disk I/O, search for keywords or phrases using wildcard characters, print "Search Report". Ten "Macro Keys" permit single keystroke to capture time; insert any pre-typed message of up to 34 characters; Scene/Take counter macro key operates with special IN/OUT macro keys to tag entries; auto increment Take counter.

TC-CALC "pop-up" Time-Code calculator with separate pop-up tape timer does all Drop-Frame/Non-Drop-Frame and Film Footframe Math; imports and exports Time-Code, User Bits and other calculator values directly into and out of word processor documents, database or spreadsheet fields, etc.

TC-TRN converts PC-LOG file into CMX 340 EDL format.

TC-DBT converts log file into two delimited ASCII files for import into database.

TC-TRK generates commented EDL from simple playback of an off-line tape containing SMPTE Time-Code from source tapes, determines Reel #, Edit Type, Mode, Source/Record IN and OUT times, and adds comments from PC-LOG files.

TG-SET quickly presets generator Time-Code, User Bits from keyboard; single key to set Time-Code to PC's Real-Time clock time, User Bits to date; Start/Stop Generator; turn display On/Off. (Operates TRG-50PC and VLR-100PC only.)

TCTK menu allows quick movement between the programs.

TR-100 LTC Time-Code Reader **339.95**	VLR-100 VITC / LTC Reader, LTC Generator **499.95**
TCD-100 VITC / LTC Reader **379.95**	VLR-100PC VITC / LTC Reader, LTC Generator **609.95**

PORTABLE TIME-CODE EQUIPMENT

PG-2100 *Mini Portable Time-Code Generator*

A palm-sized Time-Code generator, the PG-2100 operates for over 24 hours from a single 9-volt battery. Intended for field use in multi-camera situations when it is desirable or necessary for each tape to have the exact same Time-Code for precise image matching during post production, the PG-2100 can be operated manually or jammed (automatically preset) from any SMPTE Time-Code source. An ideal field companion to the HORITA GPS-MTG GPS-based time/date Time-Code generator, this generator maintains the SMPTE Time-Code output at local (UTC) or Greenwich (GMT) time and date. When jammed from a GPS-MTG, all tapes recorded using PG-2100s have identically matching frame-by-frame time of day and date Time-Code. However, each tape has its own individual PG-2100 generator ID number contained in the "User Bits" of the Time-Code, making it a breeze to keep track of tapes and shots during post production.

- Jamset to Time-Code, or to an RS-232 Time and Date input from a GPS Receiver (NMEA GPS data formats)
- Operates genlocked to Video or Free Runs at frame rates of 24, 25, 29.97 or 30FPS
- Time, Date, Frame Rate, and ID number can be monitored and manually changed
- LED Indicator for monitoring status
- All settings are stored in Non-Volatile Memory
- Auto Power Off after 5 minutes, if not jamset or manually started
- Operates for over 24 hours on a 9v battery

PWG

Mini Portable Time-Code Window Inserter

Palm sized SMPTE Time-Code window burner powered from a single 9v battery has all the features you need for easy and quick portable use in the field.

- Displays Time-Code or User Bits
- Indicates Drop/Non-Drop Frame Time-Code.
- Selectable Character Mask/Size/Position
- "+1-Frame" (On Time) updating
- LED shows power ON/Valid TC/Low battery
- Operates for over 4 hours from 9v battery

PR-232

Field Logging Mini Time-Code Reader and Software

The PR-232 is a palm-sized SMPTE Time-Code reader that can be powered from the serial port of a laptop computer.

- Reads LTC Time-Code at Search speeds and outputs RS-232 data to PC RS-232 serial port.
- Includes PC-LOG Time-Code logging software and TC-TRN for translating log files into EDL format.. (The full version of the TC Toolkit is also available as an option.) Includes serial cable, and DB-9/DB-25 Serial Port Adapter.

WTS100M Wireless Time-Code System

The WTS100M wireless Time-Code system from Horita features transmitters and receivers from AZDEN. The wireless Time-Code system will reliably transmit Time-Code to or from Horita Time-Code products up to a distance of 300 feet. System includes clip and velcro mounting hardware and mic/line adapters. What can you do with a wireless Time-Code system?

➤ Transmit Time-Code from your camcorder to the PR-232 portable reader with logging software and log your shoots on an inexpensive laptop without any wires or cables.

➤ Transmit Time-Code from your camcorder to the PWG battery-operated portable window generator to make remote window dubs using only a single coax cable for the Video feed.

➤ Transmit Time-Code from the PG-2100 portable Time-Code generator (or any other Horita Time-Code generator) to several camcorders taping sports action out in the field. When you bring the tapes back, they all have matching Time-Code — much easier to find out who caught that pass!

PG-2100 Mini Portable Time-Code Generator **214.95**

PWG Mini Portable Time-Code Window Inserter **209.95**

PR-232 Field Logging Mini Time-Code Reader **164.95**

WTS100M Wireless Time-Code System **142.95**

RS-422, COMPUTER AND GPI INTERFACES

RLT-50 *RS422 to LTC Time-Code Translator*

- Translates RS422 "Time-Code" obtained from any 9-pin VCR remote connector into standard SMPTE Longitudinal Time-Code (LTC).
- Works with all Sony protocol VCRs, including Betacam and DVCAM.
- Provides LTC Time-Code at all tape speeds. Selectable Forward direction only, or Forward/Reverse direction LTC output format.
- Operates "Stand-Alone" or with edit controller (includes DB-9 Cable)
- Use the RLT-50 when LTC is not directly available from VCR (or other machine) for operating Audio Synchronizers, making LTC copies, or use with other Horita LTC products to make Window Dubs, Log Source Tapes, etc.
- Switch selectable front panel preset of User Bits
- LTC output genlocked to Video from VCR
- Switch selectable "-1 Frame Search Offset" when translating at search speeds or at still frame compensates for the +1 frame "On-Time" updating done by many downstream LTC readers, edit controllers and other LTC products

TCI-50

VITC/LTC Reader, RS-422 Inserter

The TCI-50 reads VITC or LTC Time-Code. Translates and inserts the Time-Code numbers into the RS-422 data stream going back to an edit controller or PC.

- Responds to edit controller commands requesting VCR Time-Code location, as well as Cue, Preroll and other Time-Code related commands.
- LTC input source can be from an Audio channel or a Time-Code address track.
- High Speed Read capability for reading VITC and LTC at various VCR Search/Wind speeds (depending on tape formats)
- "Bypass" mode removes TCI-50 from the RS-422 data path.
- Front panel switches for selecting between VITC or LTC, as well as select "Auto" mode which automatically switches to VITC as a backup when reading LTC
- Local mode (no VCR) translates SMPTE-to-RS422

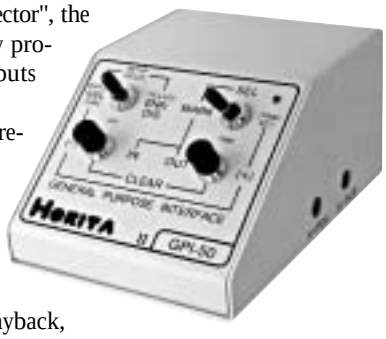
TCW-50 *Keyboard Time-Code Wedge*

The TCW-50 reads LTC Time-Code and sends the information to the PC as though it were typed in at the keyboard. The TCW-50 connects between the PC and keyboard, and is intended for applications requiring direct input of Time-Code values into user programs. Because there is no "wedge'" PC software involved, the TCW-50 is compatible with any computer, system, or software program. The only requirement is a PC-compatible type of keyboard.

- Separate push button switches for sending Time-Code or User Bit values to the PC and for clearing previous entries
- Switch selectable delimiters for: field separator, drop-frame indicator and end of line terminator
- Learn mode lets you define keyboard "hot keys" that make the TCW-50 send Time-Code or User Bit values to the PC.
- Outputs 2V P-P reshaped Time-Code for passing to other units
- Bypass switch places TCW-50 into Active or Bypass mode
- Powered through keyboard cable. Includes 1' and 5' cables for connecting between PC and keyboard.

GPI-50

TC Based Dual General Purpose Interface



A Time-Code "coincidence detector", the GPI-50 features two separately programmable GPI "trigger" outputs which occur when the input Time-Code matches that of previously set GPI In and Out times.

- Use in production and playback systems to operate Switchers, Mixers, initiate VCR Recording or Playback, operate strobe lights, trigger scientific experiments, etc.
- Push Button switches to "MARK", "TRIM", or "SET" IN and OUT times, plus a Search Speed SMPTE Time-Code reader
- Trim +/- and Set In/Out functions allow times to be adjusted by ±1 -Frame, 1 -Second, or 1 -Minute, or set to any arbitrary value
- Separate Enable and Disable for each GPI event. GPI-1 repeats every hour, GPI-2 repeats every 24 hours.
- "On Screen" display readout shows GPI selected, Enabled/Disabled, Event Duration, In/Out times marked, and relationship of times to present [tape] time.
- Output signals can be either a pulldown to ground for the duration of the event, or a pulse at the IN and OUT times.

RLT-50	RS422 to LTC Time-Code Translator **269.95**	**TCW-50**	Keyboard Time-Code Wedge **269.95**
TCI-50	VITC/LTC Reader, RS-422 Inserter..... **349.95**	**GPI-50**	TC Based Dual General Purpose Interface **334.95**

BLACKBURST AND TEST SIGNAL GENERATORS

BSG-50 *Blackburst / Sync / Tone Generator*

The BSG-50 is the easiest and most economical way to generate the common RS-170A Video timing signals used to operate Video Switchers, Effects Generators, TBCs, VCRs, Cameras, Edit Controllers, and other professional Video equipment. The BSG-50 is an unusually versatile Blackburst, Sync Pulse, and Audio Tone Generator.

- 6 BNC Video/Pulse outputs easily configured to meet specific user and equipment needs
- Choose any output mix from 6 Blackburst, 4 Sync, 2 Subcarrier
- Rackmount and short rack models have 8 outputs
- Each sync output is individually settable for composite Sync, composite blanking, H- or V-Drive. (Burst Flag output is also available)
- Separate buffer for each output provides Maximum Signal Isolation
- 1k Hz, 0 dB Sine Wave Audio Tone output, locked to video

PC-BSG

PC Plug-in Blackburst / Sync / Tone Generator

The PC-BSG is identical to the Stand-Alone BSG-50, except it is a half card that plugs into a single ISA slot in a PC.

BG-50 *Multiple Output Black Generator*

The BG-50 provides multiple outputs of Blackburst and Composite Sync for genlocking larger Video systems.

- All outputs are derived from the Composite Video input which can be any source, including "Off Tape"
- 6 BNC Blackburst outputs
- Two outputs can be configured as Composite Sync
- Black level can be set to 7.5 or 0 IRE.
- Looping video input with terminator ON/OFF switch.

TSG-50/TSG-50B *NTSC Test Signal Generators*

The TSG-50 generates 12 Video test signals suitable for setting up, aligning, and evaluating the performance of various Video equipment found in a typical Video editing system, such as Video Monitors, Distribution Amplifiers, VCRs, Switchers, Effects Generators, TBCs, etc. In addition to the Video signals, the TSG-50 also generates Composite Sync. And with a Video DA, such as the Horita VDA-50, the TSG-50 becomes a high quality, multiple output, house Sync generator.

- Fully RS-170A SC/H phased and always correct. No adjustments ever required.
- Built-in timer can automatically switch Video output from color bar pattern to black after 30 or 60 seconds. Makes it easy and convenient to produce tape leaders of color bars followed by Black.
- Audio tone switches to silence and color bars change to black when using 30/60 second timer.
- Generates precise Oscilloscope Trigger output signal one H line before start of color field 1.
- Convenient pattern selection by 12 position front panel rotary switch.
- Includes crystal controlled, 1k Hz, 0 dB Audio Tone output.
- Outputs: Video, Sync, Ref Frame, 1kHz, 0 dB

TSG-50B

Same as the TSG-50, plus —

- Five additional outputs which may be configured for all Blackburst or in various combinations with Sync and Subcarrier.
- Rackmount and short rack versions have up to 7 Black/Subcarrier outputs.

TSG-50/TSG-50B Video Test Signals:

- Blackburst with 7.5 IRE Setup Level
- Full Field RS-189A Color Bars
- SMPTE Color Bars with Pluge Pattern
- Multiburst of .5, 1.0, 2.0, 3.0, 3.58, and 4.2 MHz and Ref Bars
- NTC-7 Composite
- Line Frequency Sweep with 1.0, 2.0, 3.0. and 4.0 MHz Markers
- 5-Step Gray Scale
- Modulated 5-Step Gray Scale
- Pulse and Bar with Window and Modulated Pulse
- Red Field
- Convergence Pattern 14H x 17V, Center Dot/Lines, Safe Action
- Monitor Setup Matrix of Convergence, Color Bars, I/Q with Pluge, 5-Step Gray Scale

BSG-50 Blackburst / Sync / Tone Generator **269.95**

PC-BSG PC Plug-in Blackburst / Sync / Tone Generator **229.95**

BG-50 Multiple Output Black Generator.....**209.95**

TSG-50 NTSC Test Signal Generators.....**429.95**

TSG-50B NTSC Test Signal Generators **589.95**

We Ship Worldwide

COLOR BAR GENERATORS/VIDEO DISTRIBUTION AMPLIFIERS

CSG-50 *Color Bar / Sync / Tone Generator*

- Generates full/SMPTE Color Bars, Blackburst and Composite Sync signals, as well as a 15 Hz reference frame timing signal.
- Front panel selection of full-field or SMPTE Color Bar patterns or Color Black (Blackburst) Video output.
- Crystal-Controlled, 1k Hz, 0dB Audio Tone output.
- Audio Tone switches to Silence and Color Bars change to Black when using 30/60 second timer.

CSG-50B

All the features of the CSG-50, plus —

- Five additional outputs which can be configured for all Blackburst or in combinations with Sync and Subcarrier
- Rackmount and short rack versions have up to seven Blackburst/Subcarrier outputs.

VDA-50 *Wideband Multiple I/O Video Distribution Amplifier*

The VDA-50 consists of two or three separate high performance Video Distribution Amplifiers (bandwidth over 80 MHz) with user selectable jumpers that allow it to be configurable for various multiple or single Video DA applications.

- Can be configured as dual 1x2, 1x3 DA, or as single 1x6 DA. Includes looping video input with switchable 75 ohm terminator.
- Rackmount version RM-50/VDA configurable as a triple 1x2 DA, dual 1x4, 1x3 DA or 1x5, 1x2 DA, or single 1x8 DA.
- Separate level and equalization screwdriver adjustments permits Amplitude and Frequency compensation for driving up to 500´ of RG-59U coax cable.
- Looping input permits multiple VDAs units to be connected for expansion. A single RM-50 rackmount panel can hold up to three to form a 1x24 VDA for video duplication purposes.

PC-VDA

PC plug-in version of the VDA-50 , the PC-VDA is a half-size ISA-slot card that is actually two separate (dual 1x2 or single 1x5 DA) high performance Video DAs that can be configured for multiple applications.

CSG-50 Color Bar Generator **349.95**
CSG-50B Color Bar Generator **499.95**

VDA-50 Video DA **209.95**
PC-VDA Plug-in version Video DA **169.95**

Horita Series-50 Desktop Models Come In Two Styles:

Small, gray case with sloping front panel measures 3 x 4 x 2˝ (W x D x H). Switches are on front panel and connectors on rear. (AM-50, FW-50, GPI-50, MG-50, SAG-50, TCW-50, TG-50, TR-50 TRG-50, TRG-50PC, VG-50, VLT-50, VLT-50PC, VWG-50, VWG-50PC, WG-50).

Small, black, rectangular case measures 3 x 5 x 1.75˝ (WDH). Switches are on front panel and connectors on rear. (BG-50, BSG-50, CSG-50, CSG-50B, GPT-50, SCT-50, TCI-50, TSG-50, TSG-50B, TVC-50, VDA-50, VIC-50, VS-50).

Mounting Options For Series-50 Products

RM-50 Standard Rackmount (19 x 1¾˝ WxH Rack)
The RM-50 holds 1 to 3 units. Second and third units on a single rack are ordered as AO-50. AO-50 units can also be ordered individually to add to previously purchased RM-50. For use with all -50 series units.

For instance: To order a TG-50 Time-Code Generator in an RM-50 Rackmount, order an RM-50/TG at $349 + $80 = $429. *For more than one unit in a rack, see AO-50 below.*

AO-50 Add-On Unit for RM-50
Second and third units on a single rack are ordered as AO-50. AO-50 units can also be ordered individually to add to previously purchased RM-50. For use with all -50 series units.

SR-50 Short Rack (7½ x 1¾˝ WxH) holds one 50 series unit. For instance: To order a TG-50 Time-Code Generator in a Short Rack package, order a SR-50/TG. The price would be $349 + $80 = $429

FP-50 Field Pak — Rugged, anodized aluminum case with belt clip and utility slots. For use with all -50 series Time-Code products. For instance: To order a TG-50 Time-Code Generator in a Field Pak, order an FP-50/TG. The price would be $349 + $80 = $429

14-Pin Camera/VCR Interface Option for Field Pak models FP-50/TG, TRG, TRG PC, VG (requires additional 14-pin cable)
- Automatic Generator Start/Stop with Camera Trigger Switch
- Powers FP-50 from VCR Power
- Quick Connect and Disconnect of FP-50 into Portable System

TITLE, CAPTION, TIME/DATE STAMP

SCT-50 *Serial Control Titler*

The SCT-50 is a Character Generator that operates either Stand-Alone or with a computer to Title, Caption, or Time-Date Stamp Video from cameras, VCRs, computers, etc. Insert up to 9 lines of 20 characters each into a Video image to add source ID, to show camera number and location for security, Video data collection, or other Video monitoring systems. Use internal clock calendar to add Real Time/Date Stamp to Video images.

- Standard DB-9 connectors for serial port with RS-232 Loop-Through operation allows up to 99 units to be daisy chained. They can be addressed by your PC individually or as a group.
- Front panel switch control for stand-alone operation, or simple two letter commands from your computer for Character Selection, Location, Size, Background, Flashing, Black or White, Horizontal and Vertical position, text HEX data monitor.
- Built in Time-Code captioning software operates SCT-50 in association with Horita PC Time-Code products and the PC-LOG software to automatically caption Video images with comments from PC-LOG files according to their Time-Code match.
- Unique "Split Screen" mode splits the 9 line display into 5 lines at the very top and 4 lines at the very bottom of the Video image. The topmost line can be positioned completely within the vertical interval so that it can only be viewed on a Video monitor that has "Pulse-Cross" display. The next two lines at the top and bottom can usually be viewed only on a monitor that has an "Underscan" mode.
- Includes SCT.EXE “pop-up” TSR text editor and control program for PC; controls the SCT-50 from within other programs. Auto Centering, Copy, Move, Delete, Full Screen or Selectable Line Editing. Three modes of communication with PC include a “Continuous” mode for Real Time positioning of text within Video image.
- Use the computer and supplied SCT.EXE Text Editor and control program to automate stand-alone operation, operate video information displays, add instructional information or subtitling, log and document experiments, etc.
- SCT.EXE program controls from 1 to 99 SCT-50s using only a single RS-232 port on your PC. Automatically stores 99 individual SCT-50 screens, any of which can quickly be selected and sent to an individual SCT-50 or multiple SCT-50s.
- You can also add other computer data to your video images using your own programs written in Basic or C. (Programming examples in Basic and C are included).

TVC-50 *Time-Code Video Clock*

The TVC-50 reads SMPTE Time-Code and provides a Video display of Time and Date, based on the time and User Bit value of the SMPTE Time-Code input, or on the time and date from an internal clock/calendar. It provides numerous time and date display formats and is an ideal Video Time/Date display device for use with the Horita GPS-MTG master SMPTE Time-Code generator.

- Make Window Dub copies with various Time/Date formats.
- Time displays range from simple displays of hours/minutes to Hours/Minutes/Seconds/Tenths-Seconds, as well as direct display of the input SMPTE Time-Code and User Bit values.
- Date displays range from simple Month/Year formats, to Day-of-Week/Month/Day/Century-Year.
- Various characters, such as Space, Hyphen, Slash, etc., can be inserted as field delimiters (digit separators).
- Internal independent Clock/Calendar can be “Jam Set” to the input SMPTE time and date values, if desired.
- Selectable character attributes, for White/Black, Contrast, Background On/Off, Flashing On/Off and Horizontal and Vertical size and position control.
- Can also be used as a source ID generator to display up to 9 lines of 20 characters each. The source ID information, as well as all setup data, is retained in non-volatile memory and can be displayed along with the time and date.
- Play of 30 or 60 minute down count to zero, which automatically resets to zero on each half hour.
- Outputs reshaped SMPTE Time-Code for passing on to other units.
- Operates from +9v to +13v DC for portable use in the field (includes AC adapter).

SCT-50 Serial Control Titler.....**309.095** **TVC-50** Time-Code Video Clock.....**349.95**

VIDEO OVERLAY PRODUCTS

VS-50 *Video Stopwatch*

The VS-50 "Video Stopwatch" overlays Video with a digital stopwatch display that can count either up or down. Use it to time lectures, events, indicate time remaining for announcers, talent, etc. The VS-50 can be controlled by front panel or remote switches. The switch closure remote inputs are on two standard DB9 connectors and provide control of timer operations such as Seconds, Minutes and Hours Preset, Count Up/Down, Counter Reset, Counter Run/Stop and Display Lap Time.

- Adjustable character size includes exceptionally large characters for viewing across the room
- GPI output when Down Counter reaches Zero
- Battery backed up Clock/Calendar keeps time of day and date
- Time and date can be displayed in a variety of formats
- Stores and displays up to 9 lines of 20 characters each for adding source ID information

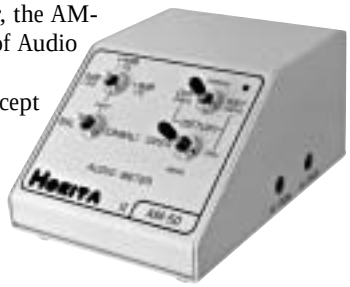
SAG-50

Safe Area, Convergence Pattern and Oscilloscope Line Trigger and Generator

Overlay Safe Action and Safe Title borders, with optional Center Cross over incoming Video, enables graphics and other information to be correctly positioned within the picture. The SAG-50 can also overlay Video images with Dot and Crosshatch test patterns (with Image Center indicators) for performing convergence and centering adjustments on single monitors, or for setting up Video walls. An added feature not found in any other safe area generator is the ability to output an oscilloscope "Line Trigger" signal and display an intensified line with a digital readout showing its actual line and field number on the Video monitor.

- Intensified Line and Trigger can quickly be changed from line -10 to line 262, and the field can be selected as Field-1, Field-2, or both. This provides a very accurate method of identifying the exact location of and/or placing graphics in the picture, measuring text height in line numbers, etc.
- The trigger output signal changes an ordinary oscilloscope into a precise piece of test equipment capable of observation and identification of individual Video lines of either or both fields for viewing VITS test signals, VITC Time-Code, head switching points, etc.
- Safe Action and Safe Title overlays are fixed at 80% and 90% of the scanned image area and include individual 25% and 30% horizontal markers.
- Dot/Crosshatch convergence patterns are 15 lines/dots across, by 13 lines/dots top to bottom. Both patterns have special "Center Screen" pattern for locating exact center of scanned image. Safe Area Center Cross can be switched On/Off separately.

AM-50 *"On-Screen" Audio Meter*



An on-screen Audio Level meter, the AM-50 provides a visual indication of Audio signal amplitude. Dual channel "bridging" type Audio inputs accept balanced or unbalanced (single ended) stereo Audio inputs. Balanced input range is selectable from 0, +4 or + 8 dB, single ended input range from -20, -10 or -5 dB.

- Various formats are for displaying the Audio levels, including those designed to take up a minimum amount of on-screen Video space ("See -Thru" mode, Black Mask On/Off, Audio Level Markers On/Off, etc.) Display Format, Size and Position selections are saved in non-volatile memory.
- Channels can be individually identified as 0-9 A-F, or as a group from 00 to 99 or 0-9 A-Z.
- Normal, Peak, Alarm, and Phase Check modes are provided.
- Phase Check mode shows "IN" or "OUT" phase condition.
- Alarm mode leaves flashing "Peak" reading until display is manually reset.

MG-50

Matte Generator with "On-Screen" Readout

Can overlay one of twenty programmable Matte patterns or rectangular "Border" outlines over a Video image. Use is to precisely locate, define, or measure areas in Video image where information is to be placed, insert "Curtains" during film/Video transfers, outline a particular area of interest, etc.

- Ten formats with preset aspect ratios ranging from 1.37:1 to 2.74:1. Ten with User-Definable Position, Size and Aspect Ratio.
- Six selectable matte types for each format. Matte Black or White, Matte/Video Reverse and Full Matte or Rectangular Border Outline.
- On-Screen Readout displays the current Format Number, Type, Aspect Ratio, and Vertical and Horizontal position.
- Select Matte and/or On-Screen Readout displays On/Off.
- Direct Video bypass when power is switched off.
- All User-Defined formats and types stored in non-volatile memory.

VS-50	Video Stopwatch	**339.95**
SAG-50	Safe Area, Convergence Pattern	**296.95**
AM-50	"On-Screen" Audio Meter	**296.95**
MG-50	Matte Generator with "On-Screen" Readout	**269.95**

AP41 SERIES

Time Base Correctors/Frame Synchronizers

One of the most popular industrial/broadcast TBC/Frame Synchronizers on the market today, the rackmountable AP41 series accepts inputs from S-VHS, Hi8 and U-matic SP VCRs, cameras and satellite feeds for video duplication or A/B roll editing. Affordable, and equipped with a host of efficiencies, all adjustments are on the front panel. Proc amp control is preset and adjustable with an indicator line.

AP41 Features:

- Composite or S-Video input
- Easy push button video input selector
- Time base correction for heterodyne processing (non-component) VCRs
- Frame synchronization with full frame memory
- Constant H Phase for matched frame editing
- Constant SC/H Phase
- Genlock Capability
- Full proc-amp control with no interruption presets
- Adjustable horizontal and vertical blanking
- Handles high speed search
- Rack mountable

AP41-SW: Same as AP41 plus Digital Comb Filter.

AP41-SF: Same as AP41 plus S-VHS output, Freeze Frame/Field, Y/C Delay Adjustment and Strobe (16 speeds).

AP41-SP: Same as AP41-SF plus Comb Filter (full bandwidth in all modes)

AP41-SP-D: Same as AP41-SP plus SDI (4:2:2 Component Serial Digital) output

AR-31 *TBC/Frame Synchronizer*

A full-featured TBC/Frame Synchronizer with professional performance, the AR-31 is ideal for video duplication, editing and multimedia applications. It offers full bandwidth in both composite and S-Video. Adjustment controls are available on the optional remote.

- Composite and S-Video input/output
- Time base correction for heterodyne processing (non-component) VCRs
- Handles high speed search
- 4x S/C Sampling, 8-bit Resolution
- Digital comb filter
- Frame synchronization with full frame memory
- Genlock capability
- Transcode between composite and Y/C
- Optional remote with proc-amp control

Optional Remote Control

- Full proc-amp control with no interruption presets • H Phase, SC Phase adjustment
- Freeze frame or field
- 8-speed strobe
- Composite or Y/C select

AR-71 *Dual Channel TBC/Frame Synchronizer*

The AR-71 is rackmountable (1 RU high). Controls and adjustments are on the optional wired remote control.

- Dual channel composite , S-Video input/output
- Time base correction for heterodyne processing (non-component) VCRs
- Digital Comb Filter
- Frame synchronization with full frame memory
- 4x S/C Sampling, 8-bit Resolution
- Freeze frame or field
- Transcode between composite and Y/C
- Handles high speed search
- Genlock capability

Remote Control

- Full Pro-amp control with no interruption Presets
- Freeze Frame or Field
- 8 Speeds Strobe
- Composite or Y/C Select
- H, SC Phase adjustment

AT61/AT61-F/AT61-AU

10-bit Video Frame Synchronizers

The significant advantage of the AT61 series is its analog-to-digital transcode capability. 10-bit processing eliminates visual quantizing noise, and the matching audio delay can handle lip sync perfectly. The AT61 series more than meets the requirements of today's digital world.

AT61 Features:

- Composite video input and output
- Pass VIR/VIT
- Analog audio input +8, +4 or 0 dbu XLR
- AES/EBU digital audio outputs
- 10-bit Digital Comb Filter
- 4x subcarrier sampling, 10-bit resolution
- 20-bit/48kHz digital audio synchronized to video with 20 dB head room
- Frame synchronization with full frame memory
- Digital video output (D2)
- Audio Off-Set/ Audio Delay in increment of one field
- Constant SC/H phase and genlock capability
- Adjustable horizontal and vertical banking
- Full proc-amp control with no interruption presets

AT61: Analog Video Input/Output

AT61-F: Adds Frame or Field Freeze

AT61-AU: Adds Analog audio inputs and outputs with audio delay capability

AT61-AUD: Adds Digital Video Outputs only

AS-800 SERIES *Digital Video Routers*

The AS-800 provides state-of-the-art switching capability for serial digital video (SMPTE 259M) with adjustment-free operation and an easy-to-read display. The optional RS485 dedicated output channel remote controls allow the operator to gain routing control of a particular output channel from another location when the situation precludes the operator from being in the same room with the main unit. These dedicated remote controls are used for each of the output channels, and up to eight of these remote controls can be connected with the main unit, depending on the configuration of the router. The flexibility of these remote controls permit the main router to be installed in one centralized location, while the operator is able to access the routing to a particular output channel from another location.

SDI to Analog and Analog to SDI Converters

The Hotronic SDI to Analog Converter allows 4:2:2 component serial digital video signal to be converted to analog letting you keep your analog equipment current. Fully compatible with SMPTE 259M and requires no adjustments.

The Analog to SDI Converter is technologically sophisticated, yet simple to use. SMPTE 259M compliant, it requires no adjustments other than plugging in the analog signal input and digital output cables. It accepts composite, Y/C or YUV inputs.

SDI to Analog

- Automatic Input Cable Equalization
- No Adjustment for SDI Lock
- Rack mountable with 2 Units
- Compatible with SMPTE 259M Standard
- Simultaneous Analog Outputs
- 10-bit Signal Processing, Optional in 8-bit

Analog to SDI

- Advance 10-bit Signal Processing, Optional in 8-bit
- Selectable Analog Inputs
- Low Jitters Encoding
- Adjustment-Free Operation
- Rackmountable with 2 Units

AX-81

8x2 Synchronized Video Router

The AX81 handles inputs from non-genlocked cameras, satellite feed and VCRs without a glitch in transition. It does not need external TBCs or Frame Sync. All proc amp controls are presettable and can be controlled via RS-232. Audio follower is equipped with XLR or RCA connectors. Ideal for use in the studio or in video teleconferencing applications.

- No glitch in transition from one channel to another
- Each channel is equipped with individual proc-amp controls
- No external TBC or synchronizer is required
- 1RU stand-alone operation
- User-friendly preview output displays all 8-channel proc amp setups
- Genlock capability
- RS-232 external control
- Constant SC/H Phase
- Full Bandwidth
- 8-inputs /2-outputs
- Can be used as two separate TBC/Frame Syncs
- Accepts video signal from VCR with time base error
- Optional audio follower in mono or stereo

AU51 *Broadcast Audio Delay*

The AU51 is a 20-bit stereo Audio Delay with an adjustable range of up to 10.0 seconds. The delay can be adjusted in 0.01, 0.1, and 1.0 second increments to accurately correct Lip Sync problems. It is very easy and simple to use. You just look at the video while listening to the audio and turn the delay adjust knobs until the video and audio are correctly in sync. In applications where the audio delay is a known fixed value, the delay can be preset at the factory.

- 2-channel stereo audio delays
- Adjustable delay in increments of 0.01, 0.1 and 1.0 seconds
- 20Hz - 20 kHz frequency response
- Peak adjust with LED indicator for each channel
- 20-bit resolution, 48 kHz sampling
- Digital output (AES/EBU format)
- Bypass/Operate selectable mode
- Synchronized to NTSC or PAL video
- Balance XLR inputs and outputs
- Analog input and output

Hotronic Systems and Accessories

AP41 Time Base Corrector/Frame Synchronizer **899.95**
AP41-SW (Adds Digital Comb Filter to AP41) **1149.95**
AP41-SF (Adds S-Video, Freeze, Strobe to AP41) **1149.95**
AP41-SP (Same as AP41-SF plus Digital Comb Filter).....**1499.95**
AP41-SPD (Same as AP41-SP plus SDI output).....**2099.95**
DOC Drop Out Compensator (only with machine) **189.95**

AR-31 TBC/Frame Synchronizer.....**599.95**
AR-31R AR-31 with Remote Panel **669.95**

AR-71-1 Dual Channel TBC/Synchronizer with remote **1549.95**
AR-71-2 Dual Channel TBC/Synchronizer with 2 remotes..**1599.95**

AT61 10-bit Frame Synchronizers **2069.95**
AT61-F Adds Freeze Field or Frame.....**2249.95**
AT61-AU Same as AT61F plus audio input/output **3099.95**
SDI SDI output option for AT61 series **449.95**

AS-800 Series Serial Digital Video Matrix Routers

AS-800/81 8x1...**1349.95**
AS-800/82 8x2 .....**1769.95**
AS-800/84 8x4....**2449.95**
AS-800/88 8x8 .....**2599.95**
AS-800/41 4x1....**1249.95**
AS-800/44 4x4 .....**2199.95**

SDI-to-Analog and Analog-to-SDI Converters

DA-ALL SDI-to-Analog (composite, Y/C and YUV out) **569.95**
DA-YUV SDI-to-Analog (YUV with composite sync out) **519.95**
DA-COMP-Y/C SDI-to-Analog (composite and Y/C out)....**499.95**
DA-COMP SDI-to-Analog (composite out) **359.95**
AD-ALL Analog (composite, Y/C and YUV in) to SDI.....**1079.95**
AD-YUV Analog (YUV in) to SDI **989.95**
AD-COMP-Y/C Analog (composite and Y/C in) to SDI **989.95**

AX-81 8x2 Video Router **1979.95**
Audio Follower XLR audio follower for AX-81 .....**674.95**
AU51 20-bit Broadcast Audio Delay **1799.95**

PENTA / PENTA II

Standards Converters

The Penta and Penta II use "Penta-field" interpolation which makes the traditional four-field interpolation scheme virtually obsolete. Through the addition of a fifth memory field, the quality of signal processing improves and judder anomalies are reduced two to one over other methods. The Penta II incorporates all the features of the Penta plus it adds component input/output and transcoding, a high performance encoder, and it incorporates an RS-232 port (optional on the Penta). Most important though, the Penta II also adds audio delay—making it the only standards converter that guarantees to maintain lip sync as a standard feature. However, no matter which Penta you choose, any standard in use today in the world today is accepted as either an input or an output, and all video formats are accommodated.

- Featuring an exclusive five field interpolation system, they virtually eliminate judder motion, and at the same time improve resolution for a sharper picture.
- Inputs: NTSC, PAL, PAL-M, PAL-N, NTSC 4.43 or SECAM.
- Outputs: NTSC, PAL, PAL-M or PAL-N.
- Built-in time base correction/synchronization within or between standards
- Full proc-amp
- Ultra-stable freeze frame/field
- Fully controllable from the front panel
- Variable rate strobe (field or frame)
- 3-way Adaptive Comb Filter
- They accept and transcode composite and Y/C
- They exceed broadcast standards
- 1U high rack-mountable unit.
- Full three year warranty

Penta II Step-up Features

- Automatic stereo audio delay to match lip sync
- In addition to composite and Y/C, the Penta II accepts and transcodes YUV component (12-pin to 3 BNCs)
- High performance encoder ensures minimal burst jitter when operating in a PAL (phase alternating line) environment.
- Built-in RS-232 serial port (optional on the Penta)

A / V TWISTER

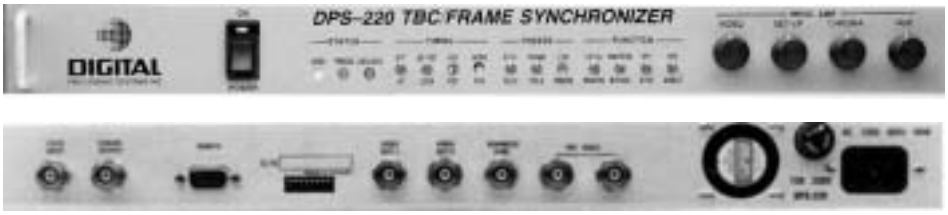
Audio and Video Transmission System

Video and audio cables are bulky, cumbersome, and expensive. Twisted pair wire, on the other hand, is lightweight, manageable, and inexpensive. But until now, you never thought of twisted pair wire as a substitute for cable. A/V Twister sends video feeds and / or stereo audio down a simple, everyday twisted pair of wire with no measurable loss of quality. Which makes it ideal for temporary setups to televise or tape special events and for transmission of video/audio within any facility, or group of facilities that can accommodate twisted pair wiring.

- Transmitter and receiver weigh only eight pounds each, are just 7 by 19 inches, less than 2 inches high.
- Broadcast quality video and stereo audio signals can be sent up to 10,000 feet (3,000 meters), with a self powered in-line amplifier at each 1,000 foot interval.
- Ideal for many types of temporary or permanent installations.
- Each transmitter can feed as many as 5 receivers.

DPS-220

Wideband TBC/Synchronizer



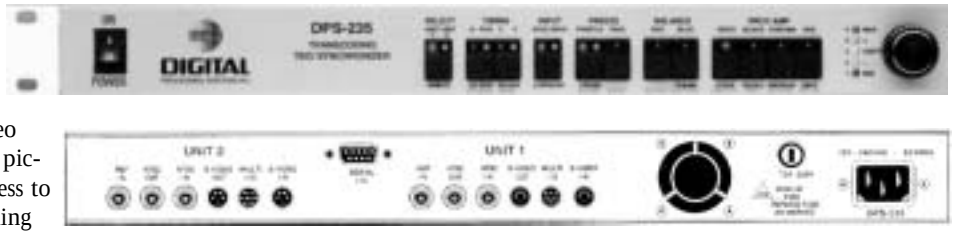
A longtime favorite of broadcasters, the DPS-220 combines straightforward operation with outstanding performance. Designed as a high performance Time Base Corrector for professional VCRs, it is equally well-suited for use as a Synchronizer. Because it is an infinite window device, only a single connection is required when connecting the DPS-220 to a Heterodyne VCR or direct color Video feed. Advanced Sync and Subcarrier outputs are also available. The DPS-220 provides full 6 MHz of Video bandwidth in all processing modes: Heterodyne, Direct and 3.58 Subcarrier feed-back. A sophisticated three-line Adaptive Comb Filter Decoder ensures that the composite Video signal is accurately and efficiently converted into Y/C components for internal processing. Automatic Power Off and user controlled Video bypass is standard. Individual front panel proc amp controls are provided for Video Level, Black Level, Chroma Level and Chroma Phase. Freeze Frame and Freeze Field controls are also standard. All proc amp and freeze functions can be remotely operated using the optional RC-220 remote control. Two RC-220 remote controls can be mounted in a single rack space.

DPS-220 Wideband TBC/ Synchronizer **2199.95**

ADC-220 Auto DOC 3-D Dropout Compensator **399.95**

RC-220 Parallel Remote Control Panel **289.95**

DPS-235 *Transcoding TBC/Synchronizer*

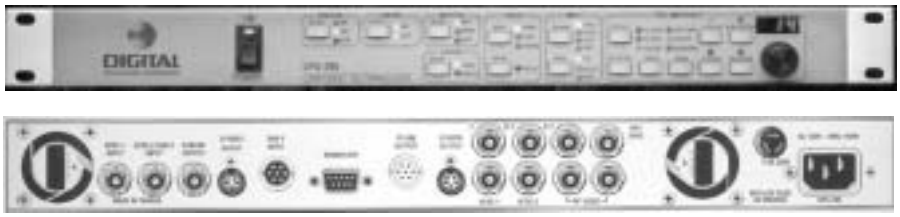


Available in both single and dual channel configurations, the DPS-235 is an ideal general purpose TBC/Synchronizer. Because the DPS-235 employs a three-line Adaptive Comb Filter Y/C Separator, it can also be used effectively as a Video Synchronizer without any loss of high frequency picture detail. Front panel controls provide easy access to all proc amp and configuration functions, including wide/narrow Vertical Blanking, Genlock Termination, Y/C Vertical Delay, Y/C Horizontal Delay and Comb Filter mode selection. Red and Blue color balance controls make it easy to adjust for color balance errors. A three-event scene memory enables all front panel settings to be instantly stored or recalled. Special effects include Freeze Frame, Freeze Field (1-3 selectable), Variable Strobe and Film Mode Strobe, which provides an ersatz film look by simulating 24 FPS (3:2 pull down) Video. Compatible with the RC-2000 and RC-2001 multi-channel remote controls, as well as with DPS Personal Series TBC control software.

DPS-235 TBC/Synchronizer **1549.95**

DPS-235D Dual Channel TBC/Synchronizer **2699.95**

DPS-295 *Component TBC/Transcoder*



The DPS-295 is compatible with composite, Y/C, U-Matic and component VCRs. An excellent Transcoder/Decoder, its Adaptive Comb Filter circuit provides 6 MHz bandwidth in all modes. More than a TBC, the DPS-295 also doubles as a component/composite test signal generator with almost fifty test patterns.

- Wideband NTSC Comb Filter Decoder with optional RGB outputs
- Optional WV-295 Waveform/Vectorscope Display with line select
- Digital effects include Strobe, Sepia, Solarization, Black Stretch and Posterization
- Auto DOC-3D Circuit can correct Multi-Generation Dropouts

DPS-295 Transcoding TBC Synchronizer **4250.95**

RC-295 Multi-Channel Serial Remote Control Panel **679.95**

RGB-295 RGB Output Option **209.95**

WV-295 WFM Vector Display Option for DPS-295 with Line Select and Cursors.....**679.95**

DPS-290

Component Transcoding TBC/Synchronizer

Available in single and dual channel rackmount configurations, the DPS-290 is perfect for all tape formats, including U-Matic, S-VHS and Betacam SP. Input any signal into the DPS-290 for full time simultaneous transcoding to all outputs. A 3-line Adaptive Comb Filter decoder makes the DPS-290 equally adept at synchronizing camera and satellite feeds, or decoding composite video sources into component and Y/C signals. Standard features include Digital Recursive Chrominance/Luminance Noise Reduction, 3-D RF Dropout Compensation and Red/Blue Color Balance controls. Special effects include Freeze Frame, Freeze Field, Variable Strobe and Film Mode Strobe. Front panel controls provide easy access to all proc amp and configuration functions, including CAV output levels, vertical blanking width, Y/C horizontal/vertical delay and DNR mode. An oversized back-lit LCD panel provides intuitive control over all functions. The 10-Event Scene Memory permits all front panel settings to be instantly stored or recalled. Component inputs and outputs are provided via supplied breakout cable, which connects to the multi I/O port.

DPS-290 Component TBC/Synchronizer **2349.95**
DPS-290D Dual Channel Component TBC/Synchronizer.....**3899.95**
RGB-290 RGB I/O Option.....**399.95**

RIO-290 Component RGB breakout panel, 1U Rack Panel with BNC connectors for component and Sync In/Out, plus GPI Trigger.....**249.95**

To keep your videos looking their best, DPS offers a series of digital video components designed to exceed your highest standards. Their engineers go to the core of each system to design quality components from the inside out. From the circuit boards down to the last toggle switch, you will see why professionals around the world have come to rely on DPS products.

RC-2001 *Compact Multi-Channel Remote*

For the utmost flexibility in controlling DPS TBCs and synchronizers, the RC-2001 is ideal for applications where a compact but powerful remote control is required. Compatible with all DPS MicroSYNC and Personal Series products, the RC-2001 can also be used with the DPS-235, 265 and 295. RC-2001 units can be daisy chained together to enable distributed control of multiple DPS products. Whenever a change is made at one control panel, all of the other RC-2001s in the system are automatically updated. The "personality" of each RC-2001 channel can easily be configured to match the specific DPS product being controlled. Each channel provides a full range of proc amp, memory and configuration functions. **RC-2001** **765.00**

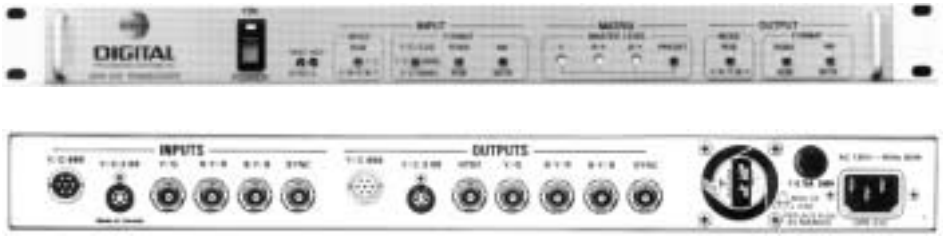
WHIPLASH *Slow Motion Video*

Network quality slo mo effects are no longer limited to those with network sized budgets. Whiplash puts broadcast quality slow motion within the reach of everyone. At a fraction of the cost of a dynamic tracking VCR, local broadcasters, cable companies, high schools, colleges, universities and others can now enjoy the benefits of a powerful slow motion recorder.

- Unlike VCR-based systems, you never rewind to search for something. Because live program material is digitally captured in a continuous loop using a dedicated hard drive, you can mark as many in-points as desired during recording and then instantly snap back at the touch of a button.
- Pre-recorded material, such as bumpers, promos and commercials are easily stored for later replay. Stored clips can be assembled into playlists at the touch of a button.
- Using the jog/shuttle control video clips can be played forward or reverse any speed from 0% to 100%. A software algorithm dynamically optimizes field and frame data to provide ultra-smooth slow motion playback. Compression is as low as 3:1 for excellent quality.
- All functions are accessible from the Whiplash control panel, so no VGA monitor is required.
- Component, composite, S-Video and balanced stereo audio input/output. Serial digital (SDI) is available as an option.

DPS-210

Universal Video Signal Transcoder



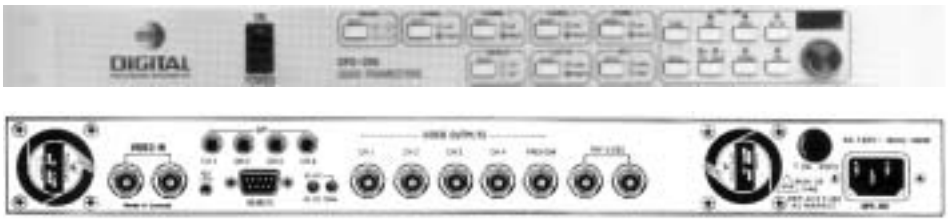
The DPS-210 is a Video Format Transcoder, allowing Video recording and processing equipment of different formats to be interfaced. The DPS-210 uses Component Processing for all signal paths and includes an NTSC output for monitoring purposes. The unit can operate as a simple Transcoder with one set of inputs connected, or as a combined source Selector and Transcoder for multiple sets of inputs.

The DPS-210 can be used as an interface between RGB computer graphics or animation systems, and Betacam or MII recorders. The unit also makes an excellent Component I/O device for many popular non-linear editing systems. Unlike some Transcoders, the DPS-210 can be configured to transcode in either direction. It can also be used to provide format transcoding and level matching for interformat tape duplication.

- Transcodes virtually any Video signal into any other Video signal
- 5.5MHz Bandwidth; 60 dB S/N Ratio
- Handles S-VHS, U-matic, RGB and RGB with separate Sync, as well as Component
- 19″ Rackmountable — only 1RU high
- Front Panel Level Controls with Preset Switch; Front Panel NTSC Monitoring Point

DPS-210 Universal Video Signal Transcoder **1199.95**

DPS-245 *Quad Framestore Synchronizer*



Designed for applications requiring the display of multiple full bandwidth still Video images, the DPS-245 provides the capability of four framestores in one compact chassis. This unique quad framestore is equipped with a single loop-through Video input, which feeds four independent output channels, each equipped with its own four-field freeze memory. A separate Preview output facilitates the monitoring of all four output channels. Any computer-controlled display application is a natural for the unit, since an RS-232/RS-422 serial remote control port is standard.

- Ideal Graphics Store
- Four RS-170A Video Output Channels
- View any of 4 Main Channels from the Preview Channel
- Digital Proc amp Controls with 10 Presettable Memories
- 6 MHz Bandwidth
- RS-232/ RS-422 Remote Control Capability

DPS-245 Quad Framestore/Synchronizer with RS-422 and GPI Control **4995.95**

DPS-265 *Four-Field Universal Synchronizer*

This Four-Field Composite Processing Synchronizer features full 6 MHz bandwidth for direct color sources, built-in TBC with Automatic Mode Switching for direct tape playback from color under VTRs, Digital Adaptive Comb Filter for broadcast quality freeze, Digital Test Signal Generator with separate output, and a standard VITS Inserter.

DPS-265 Universal Synchronizer **4295.95**
RC-265 Multi Channel Serial Remote Control Panel **679.95**
VIRS-265 Vertical Interval Reference Signal ROM **149.95**

DPS-470

Serial Digital Component Video Synchronizer

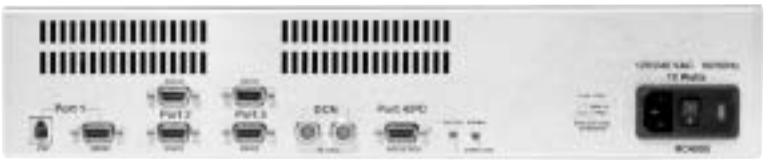
Equally suited for use in analog, digital or hybrid facilities, the DPS-470 Serial Digital Synchronizer is the ideal choice for broadcasters transitioning to DTV. Available in video only and audio/video configurations, the DPS-470 bridges the gap between analog and digital production facilities. As broadcasters prepare for DTV, the DPS-470 represents an excellent insurance policy against obsolescence. Use it today as an analog TBC/Synchronizer. Use it tomorrow to interface analog audio and video program sources to serial digital equipment.

- Provides four video input and output formats: Serial Digital Video (SDI), analog component, composite and S-Video
- 10-bit ITU-R-601 component processing and an Adaptive Comb Filter decoder provide maximum signal transparency.
- Built-in auto-sensing TBC circuit provides seamless mode switching between direct color and heterodyne sources, such as camcorders and VCRs.
- The DPS-470 is more than just a synchronizer. It is also a transcoder and a digital TSG (test signal generator). In TSG mode, any one of 32 different 10-bit test patterns can be selected to appear at all four outputs. You can even specify which test patterns are used by the built-in VITS inserter.
- Add the optional DPS AS-470 four-channel audio synchronizer module, and you have Dual Stereo Audio and Video Synchronization system in a single rack unit package.
- The AS-470 supports balanced analog, AES/EBU digital and embedded SDI audio input/output. All outputs are active simultaneously, which enables both analog and digital audio devices to be connected at the same time. Incoming stereo audio pairs can be selected from the analog, digital or embedded SDI inputs. All four audio channels dynamically track the internal delay of the video synchronizer whenever Auto-Track Mode is enabled. Up to 40 fields of fixed delay can be specified, ensuring proper lip sync – regardless of the program source. All audio parameters are controlled from an easy to use front panel menu or RC-4000 Remote.

DPS-470 Serial Digital Video Synchronizer (NTSC) **4399.00**
AS-470 4- Channel Digital Audio Synchronizer Module.....**1599.00**
DPS-470AV DPS-470/AS-470 Combo Audio/Video Synchronizer.**5795.00**
RC-4000 Multi-Channel Remote Control Unit **1199.95**
DPS-RS-L Rack Slide Kit.....**69.95**
DPS-RS-EXT Rack Slide Extensions for Racks > 25˝ Deep **14.95**

RC-4000 *Advanced Multi-Channel Remote with DCN*

The DPS RC-4000 represents the ideal remote control device for DPS synchronizers and time base correctors. Dedicated proc amp controls and direct station selection buttons permit efficient operation in facilities where multiple DPS products are used. Setup and configuration functions are available via easy to understand menus.



RS-422, RS-232 and DCN (DPS Coaxial Network) control ports are provided, making the RC-4000 compatible with all DPS Studio and Personal Series products. Advanced DPS products, such as the DPS-470AV can be interfaced to the RC-4000 using a single DCN coax connection. Over 100 DPS synchronizer or TBC channels can be controlled by a single RC-4000 and multiple RC-4000s can be employed in the same facility.

The RC-4000 can also be used to operate DPS audio products, such as the AES-2400 stereo audio synchronizer. With the addition of a DPS PPC-2500 Personal Protocol Adapter, the RC-4000 can even operate the internal TBC controls in Sony, Panasonic and JVC professional VCRs.

VS-2400/VS-2410

MicroSync and MicroSync-X Video Synchronizer Cards

The MicroSync series of Modular Video Synchronizers allow television facilities to handle satellite and other analog video feeds. Employing four-field composite processing on a single PC (ISA) card, they produce transparent stable video, free of bandwidth limitations or comb filter artifacts. And unlike infinite window TBCs, the MicroSync's 4-field composite processing eliminates the need to separate the incoming video signal into chrominance and luminance components. Any direct color or monochrome signal, such as the output of a satellite receiver or camera, can be connected to the MicroSync.

- Typically, the cards are installed in a DPS rackmount expansion frame. The frames provide power, front panel proc amp controls, and allow additional synchronizer channels, plus accessory cards, to be added as necessary. MicroSync cards can also be plugged into a PC where a variety of remote control options are available.
- Since the synchronizers cannot process non-time-base corrected heterodyne signals, such as those from S-VHS machines, the DPS-VT-2600WB wideband TBC card, which can also be used in a DPS rack expansion frame, is recommended for these applications.
- The VS-2400 and VS-2410 offer selectable Frame and Field Freeze, Variable Strobe, digitally controlled proc amp settings, selectable hot-switch modes, dual clamp speeds, genlock loop, RS-232 serial control and more.
- The main difference between the MicroSync VS-2400 and VS-2410 is that the VS-2400 is an 8-bit processing board, as opposed to the VS-2410, which is a 10-bit processing board. The VS-2410 also includes GPI Freeze, Vertical Line Advance, expanded (32 device) remote addressing and dual video output.

VS-2400 MicroSync 8-bit card **1199.95**

VS-2410 MicroSync-X 10-bit card **1599.95**

AS-2400 *MicroSync Stereo Audio Synchronizer Card*

The AS-2400 is the perfect solution for video lip sync problems. Offering up to 334 ms (20 NTSC fields/16 PAL fields) of audio delay, the AS-2400 can easily compensate for errors caused when a video signal passes through multiple frame synchronizers or other digital processors.

- The AS-2400 can automatically track the dynamic video delay of a VS-2400 or VS-2410 MicroSync, or a DPS-265 Synchronizer. In Auto Track mode, the AS-2400 provides one to twenty fields of audio delay to compensate for lip sync errors created upstream of your facility.
- Transparent operation is provided by 16-bit, 44.1 kHz audio processing. AS-2400 features include a built-in tone oscillator, variable Noise Gate, Compressor Limiter, two Low and a High Pass filter. Balanced or unbalanced audio signals can be accommodated.

AS-2400 Stereo Audio Synchronizer Card.....**1199.95**

AVS-2400 and AVS-2410 Stereo Audio/Video Synchronizer Systems

AVS-2400 combines an AS-2400 with a VS-2400 MicroSync card in one compact chassis

AVS-2400 (AS-2400 and VS-2400) **2799.95**

AVS-2410 combines an AS-2400 with a VS-2410 MicroSync-X card in one compact chassis.

AVS-2410 (AS-2400 and VS-2401) **3199.95**

Putting It All Together — Modular Accessories to Complete the System

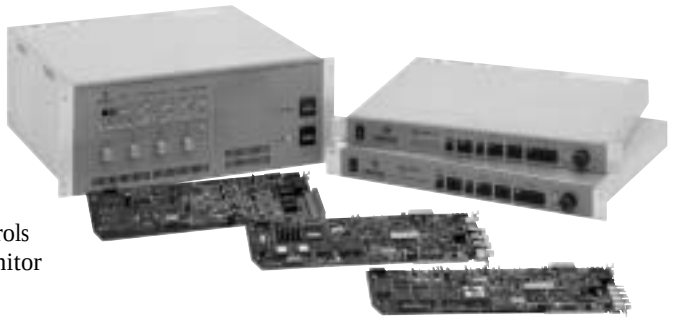
VT-2600/VT-2600WB Personal TBC IV and TBC IV Wide Band Transcoding TBC Cards

VDA-1000 1 x 4 Video Distribution Amplifier

RS-2800 8 x 1 Vertical Interval Video Switcher

ES-2200 Expansion Frame provides power and control for up to two DPS MicroSync, TBC, V-Scope, VDA or routing switcher cards.

ES-2000C Expansion System holds up to 12 cards. The front panel controls can address eight DPS MicroSync or TBC cards, plus a V-Scope and Monitor Switcher card.

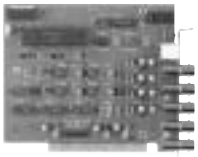


VDA-1000 *Video Distribution Amplifier*

The VDA-1000 is a 1 x 4 Video DA. The video input is coupled and features a switchable 75 ohm input termination. Space saving and economical, it is suitable for numerous applications, including tape duplication

VDA-1000 Personal VDA **139.95**

RS-2800 *Video Routing Switcher*



The RS-2800 may be configured as either a 4 x 1 Matrix Switcher utilizing the BNC connectors on the back of the card, or as an 8x1 switcher if used in conjunction with the ES-2000 Rackmount Expansion System (switching over the bus connector). Compact, economical and a super-clean video processor, it features vertical interval switching and addressable RS-232 control.

RS-2800 Personal Routing Switcher **269.95**

VM-2000 *Personal V-Scope*

The VM-2000 Personal V-Scope produces a digitally synthesized waveform monitor and vectorscope display which can be super imposed onto any video signal. It is PC compatible and comes with control software. Any NTSC video signal may be input to the VM-2000 which provides a buffered video output, a superimposed (software controlled) video output, and a full-time waveform/vector video output. When combined with the Personal TBC IV, the V-Scope provides a fully integrated video processing, manipulating and monitoring environment.

VM-2000 Personal V-Scope **849.95**

VT-2600/VT-2600WB

TBC IV and TBC IV-PLUS 'Personal' TBC Cards

The TBC IV utilizes component digital 4:2:2 processing and features composite and S-Video inputs and outputs. Whether used in PC or mounted in a DPS ES-2000 series rackmount expansion chassis, it can be controlled using the standard Windows control software or via a DPS RC-2000 or RC-2001 multi-channel remote control unit. Adjustments include full proc amp and color balance, horizontal and vertical Y/C delay, freeze field, freeze frame, variable strobe, film-mode strobe, GPI freeze, memory store/recall and genlock timing.

The TBC IV-PLUS adds a 3-line Adaptive Comb Filter Decoder for the composite input, making it suitable for use with U-Matic-SP VCRs and as a TBC/Synchronizer.

VT-2600 Personal TBC IV Transcoding TBC card **859.95**

VT-2600WB TBC IV 'Wideband'.....**1199.95**

774-532 Breakout Cable Provides GPI, Advanced Sync & RS-232 Control for TBC IV.....**19.95**

RC-2000 *Remote Control*

The RC-2000 is a low-cost remote control which can operate any combination of up to eight TBC or MicroSYNC cards as well as the V-Scope, DPS-235 and DPS-290. A compact desktop unit, the remote features ten non-volatile memory locations per channel. Four precision rotary shaft encoders enable instant adjust-ment of all proc amp parameters and genlock and configuration settings. Power for the unit is supplied by the DPS Personal TBC or MicroSYNC card(s) being controlled or, when used with a DPS rackmount product or over long distances, by an optional DC adapter. The RC-2000 provides a single RS-232 output which terminates in a 4-pin telephone handset connector.

RC-2000 Remote Control **239.95**

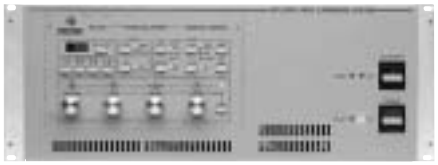
ES-2200 *Dual Channel Expansion System*

The ES-2200 provides power and control for two TBCs, router, DA or MicroSync cards in a compact 1U rack chassis. Independent operation of the cards is provided via the front panel controls. Two memory locations and a unit Reset function are available for each channel. A rear panel RS-232 connector provides compatibility with the DPS RC-2000 and RC-2001 remote control panels and software programs. Although the same basic frame is used for many different DPS modular products, various front panel and firmware combinations provide application specific functionality. Typical configurations include Single and Dual Channel TBC, Video Synchronizer, Audio Synchronizer and Audio/Video Combination System. This building block approach makes it easy and economical to reconfigure systems.

ES-2200 Dual Audio Expansion Chassis **549.95**

ES-2000C

12-Channel Rack Chassis with Integrated Controller



High density, high quality video signal processing is possible using the ES-2000C 12-unit Rackmount Expansion system. Four rack units high, this versatile chassis provides power and control for multiple MicroSync, TBC, Video DA and router cards.

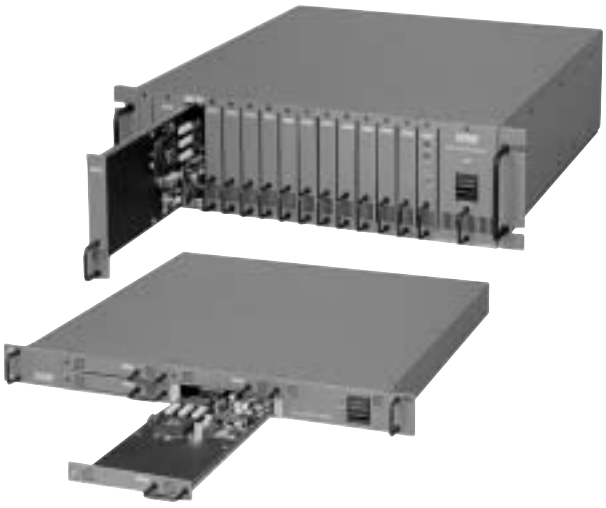
An integrated front panel controller enables the ES-2000 to address any combination of up to eight cards. An RS-232 interface provides for remote operation using DPS control software, or via the optional RC-2001 remote. The passive back plane of the ES-2000 can be used as a video bus to connect the outputs of multiple MicroSync cards into the 8x1 matrix of the RS-2800.

Ideal solution for multi-channel satellite systems, as well as CATV, mobile production, teleconferencing and other applications.

ES-2000C 12-Slot Expansion Chassis **1199.95**

STUDIOFRAME

Modular Video Processing System



Designed to accommodate the video and audio interfacing requirements of today and tomorrow, the StudioFrame is one of the most comprehensive signal processing systems available today.

A modular system, StudioFrame offers an efficient way to combine a wide variety of individual function (or processor) boards such as A-D and D-A Converters, Encoders and Decoders, and Synchronizers into more complex function groups, all in one equipment mainframe.

StudioFrame can be configured to accomplish a variety of ultra-transparent signal conversion/processing functions, and the scalable nature of its 10-bit architecture allows it to be easily reconfigured and/or upgraded. Based on two rackmount frame models , up to fourteen modules can be accommodated in a single

StudioFrame Modular Signal Processing Product Family

Broad, Comprehensive Module Range

With a wide range of modules, StudioFrame provides the most comprehensive signal processing system available.

Two Chassis Types

Based on two rackmount frame models (the SF-3 and SF-1), up to fourteen front-loading, slide-in processor modules and fourteen rear mounted passive interface cards can be configured in a single chassis. Module control is provided through either direct front panel access or an optional, networkable remote interface.

Unconstrained Module Mix

Without constraint, combine any mix of digital or analog composite/component video and audio in one frame.

Hot Swappable Design

"Hot Swappable" circuit cards allow power-on module insertion and removal. For mission critical environments, a redundant power supply can also be incorporated.

Networkable Remote Control

StudioFrame architecture offers the centralized control capability so critical to the coordination of multiple simultaneous projects.

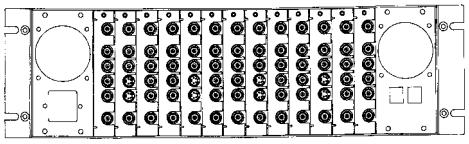
Redundant Power Supply Option

All components benefit from redundant load-sharing power supplies in the SF-1/SF-3 chassis to maintain continuous operation. Each power supply can be connected to independent power sources or UPS systems to guarantee meeting the most pressing deadlines.

SF-1 / SF-3 *Studio Frame Chassis*

The SF-3 is a 14-slot, 3RU chassis while the SF-1 is a 4-slot 1RU chassis. Designed to meet the most stringent broadcast requirements, they are backed by a two year warranty with guaranteed 24-hour turnaround service.

- The units are ruggedly constructed to endure studio rackmount, production van and OB mobile applications.
- "Hot Swappable" front card loading allows power-on removal/insertion of individual processing modules without disturbing others in the system. All cabling remains in place while you service any module.
- Intelligent "centerplane" provides power, sync, timing and data distribution, facilitating expansion to more complex, more cost-effective signal processing functions.
- DC operation is optionally available, as is a redundant supply with automatic switchover. Dual exhaust fans maintain proper airflow and cooling.
- Universal 110 or 240v AC 50/60 cycle power supply.



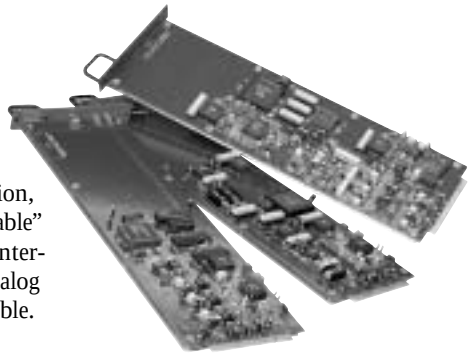
StudioFrame Serial Control Units

The StudioFrame Serial Control units allow remote, networkable operation of multiple StudioFrame processing modules in multiple StudioFrame chassis. Up to 99 modules can be controlled from a single control unit. There are three models for different operational requirements: The in-chassis StudioTrol-FP and rackmountable (1RU) StudioTrol RM and StudioTrol-2.

Each model has an LCD status display with soft function keys that take on the personality traits of the particular StudioFrame module being accessed. Numeric adjustments through a control knob and simple horizontal menu structure allow for exact and repeatable settings with quick and intuitive operation. Parameter settings and adjustments for each particular StudioFrame module can be saved in up to 10 preset memory registers for instantaneous recall. Connections to multiple StudioFrame chassis are made via a looping RS-232/422 serial interface.

ASD/SDA

Analog to Serial Digital 4:2:2 and Serial Digital 4:2:2 to Analog Converters



Incorporating the latest processing techniques for high-speed 10-bit A-D and D-A signal conversion, the ASD and SDA boards meet the most stringent broadcast requirements. They are "Hot Swappable" front card loading, facilitating servicing without disturbing other cards in the system. ASD cards interface analog signals with digital video formats, the SDA cards interface serial digital signals with analog video systems, as well as for signal monitoring applications. All cards are NTSC and PAL compatible.

ASD-1 *Analog Component to Serial Digital (D1)*

- Analog component RGB or RGB/S input
- Dual digital (D1) component outputs
- Picture positioning control

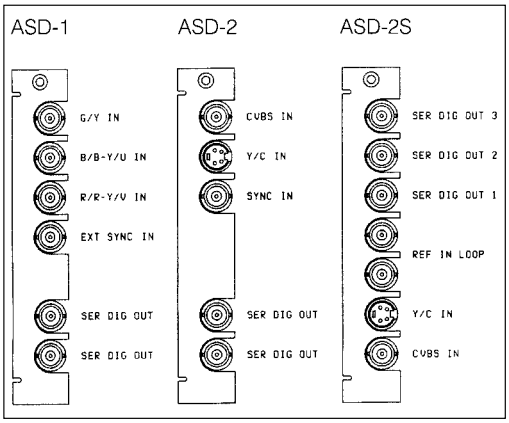
ASD-2 *Analog Composite and Y/C to Serial Digital (D1)*

- Analog composite and S-Video input
- Dual digital (D1) component outputs

ASD-2S

Analog Composite and Y/C to Serial Digital (D1) w/Synchronizer

- Analog composite and S-Video input
- Three 4:2:2 (D1) outputs
- Full frame auto timing synchronizer, genlock input w/loop
- Frame/field freeze, adjustable output timing, full EDH insertion



SDA-1 *Serial Digital (D1) to Analog Component*

- Serial digital component (D1) input
- Equalized and reclocked serial digital component output
- Analog component, RGB or RGB/S output
- Output level control

SDA-2 *Serial Digital (D1) to Composite and S-Video*

- Serial digital component (D1) input
- Equalized and reclocked serial digital component output
- Dual composite and S-Video outputs
- Color bar output selectable
- Output level control

SDA-2S *Serial Digital (D1) to Composite and S-Video*

- Serial digital component (D1) input
- Equalized and reclocked serial digital output
- Dual composite and S-Video outputs
- Genlock input for proper output color frame
- Full Frame memory for flexible retiming
- Full EDH monitoring
- Output Level Control

SF-1 Studio Frame Chassis.....**719.95**

SF-3 Studio Frame Chassis.....**1549.95**

Studio Trol-FP Control Unit **524.95**

Studio Trol-RM Rackmount Control Unit **524.95**

Studio Trol-2 Rackmount Control Unit **699.95**

ASD-1 Analog to Serial Digital Converter **1549.95**

ASD-2 Analog to Serial Digital Converter **1799.95**

ASD-2S Analog to Serial Digital Converter **1999.95**

SDA-1 Serial Digital to Analog Converter **1399.95**

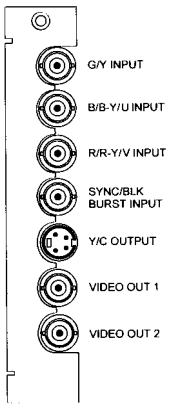
SDA-2 Serial Digital to Analog Converter **1099.95**

SDA-2S Serial Digital to Analog Converter **2099.95**

StudioFrame Coders — Encoders/Decoders/Transcoders

NC-1 *RGB/Component to Composite/S-Video Encoder*

The NC-1 is a 10-bit digital encoder that converts analog RGB or component video into Y/C and composite video. Designed to facilitate multi-format interface requirements, the module incorporates the latest digital video processing techniques, along with luminance and chrominance pre-comb filtering to assure the highest quality encoding. A frame of memory is utilized to provide an effective zero insertion delay.



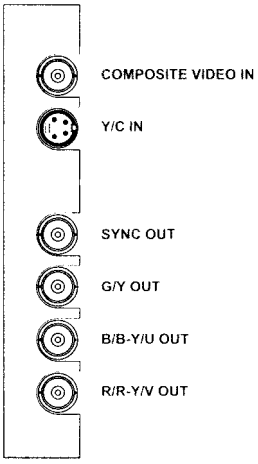
- Zero Insertion Delay, Frame of Memory
- Two composite, one S-Video output.
- Analog RGB (sync on Green or all three), RGB/Sync and YUV (Betacam) inputs.
- 10-bit processing, 8-bit D/A conversion
- Y and C pre-comb filtering for maximum encoding performance
- Remote Serial Control, Output Level Control
- Color Bar Output Selectable

NC-1 Encoder **1799.95**

DC-1

Composite to Component Decoder

The DC-1 interfaces analog composite or S-Video signals to analog component video environments.. Separating composite or S-Video inputs into component Y/R-Y/B-Y or RGB, the DC-1 facilitates the multi-format interface requirements of computer graphics, multimedia presentation, post production and broadcast systems. A three-line adaptive Digital Comb Filter eliminates cross-color, cross-luminance, dot crawl and provides 6 dB of chroma noise reduction.

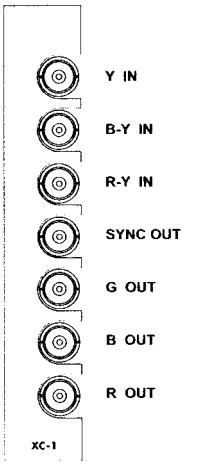


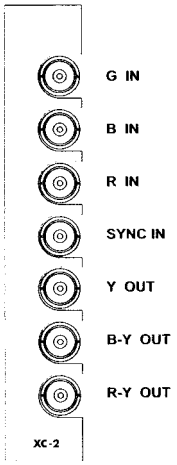
DC-1 Decoder.....**949.95**

XC-1 and XC-2

StudioFrame Transcoders

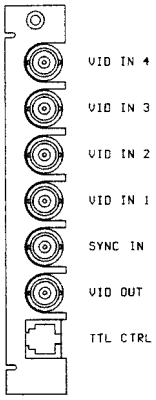
The XC-1 and XC-2 facilitate the various analog component interfacing requirements of computer graphics, multimedia presentation, post production and broadcast systems. The XC-1 converts Y/R-Y/B-Y (or YUV) inputs to RGB (or RGB/S) outputs. The XC-2 converts RGB inputs with or without separate sync to Y/R-Y/B-Y or YUV outputs.





XC-1 Transcoder.....**599.95**

XC-2 Transcoder.....**699.95**



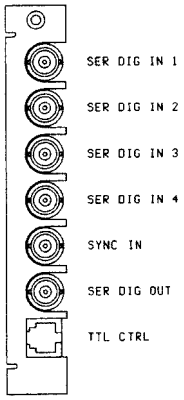
V-SW/SD-SW

4x1 Analog Video and 4x1 Serial Digital Switcher

Designed for high performance analog and digital video switching, the modules are controllable either through the front panel, direct GPI, or optional RS-232/422 serial interface. An external sync input allows for vertical interval switching. Multiple modules may be ganged together for multi-channel or analog component switching environments. Switcher modules slide in and plug directly into the front of the StudioFrame chassis and utilize a passive rear interface card for I/O connections.

VSW Analog Video Switcher **699.95**

SDSW Serial Digital Switcher **1049.95**

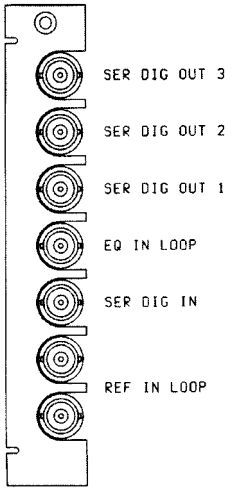


StudioFrame SYNCHRONIZERS—

Designed for Maximum Signal Transference and Operational Convenience

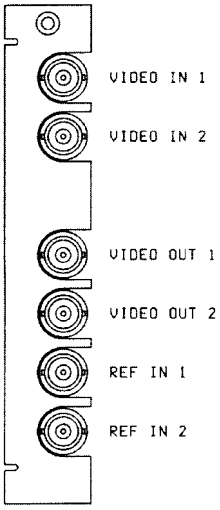
D1 Sync *Digital Component Synchronizer*

The D1 offers the most advanced capabilities for synchronizing and/or retiming 4:2:2 Serial Digital video to a local reference. Offering an equalized Serial Digital input with Active Loop-Through and three Serial Digital outputs, the D1Sync provides for Full Frame, Infinite Window Phasing adjustment. Ancillary data is processed without alteration, along with full EDH monitoring and insertion support. Should the input signal degrade, the D1 can freeze on the last good field or cut to black.



- Three serial 4:2:2 Outputs
- Serial 4:2:2 Equalized Input with an Active Loop-Through
- Frame and Field Freeze
- Full Frame Auto Timing, Infinite Output Timing Adjust
- Color Bar Test Signal Generator
- Looping Analog Reference Input
- Adjustable Vertical Blanking Width
- Multiple Hot Cut Switching Modes

D1Sync Synchronizer **2699.95**



SyncX *Video Frame Synchronizer*

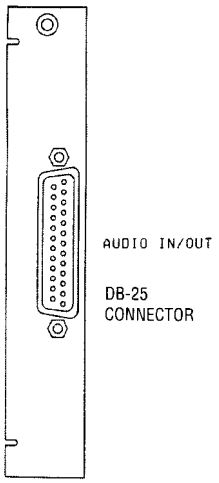
The SyncX offers advanced capabilities for synchronizing external video signals, such as Microwave, Satellite and other remote studio feeds. Precision 10-bit oversampling results in superb video transparency, flat frequency response, and very low differential gain and phase specifications. Dual video inputs provide for A/B source selection, and sophisticated hot cut detection ensures disturbance-free response to cuts between non-synchronous feeds. Upon power or reference sync loss, the SyncX switches to Bypass mode, routing input video directly to the output.

- 10-bit Composite Sampling
- Flat, 6 MHz Frequency Response
- Dual Video Inputs
- Automatic Bypass on Power or Genlock Loss
- 4 Field, Frame and Field 1/2 Freeze
- Adjustable Vertical Blanking Width
- Multiple Hot Cut Switching Modes

StudioSync Video Frame Synchronizer **2549.95**

AudSync *Stereo Audio Synchronizer/Delay Processor*

The AudSync offers the most advanced capabilities for Lip Sync correction, obscenity screening and/or other audio delay applications. Offering up to 8 seconds (in 1 millisecond increments) of audio delay, the AudSync can easily compensate for video time delays introduced through video frame Synchronizers or other video signal processing equipment.. Precision 20-bit sampling at 48k hz results in superb audio fidelity with wide, flat frequency response. Used in conjunction with the SyncX, the final audio output of the AudSync automatically follows the dynamic video delay of an incoming signal.



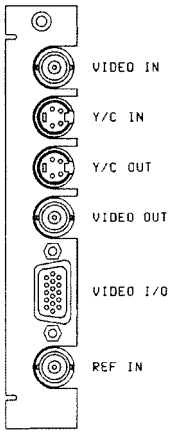
- Delay Range of up to 8 Seconds in 1 millisecond increments
- Balanced Stereo Analog Input and Output
- Wide Input/Output Level Range
- 20-bit, 48k Hz Audio Quality
- Automatic Power Loss Bypass

AudSync Synchronizer/Delay Processor **1899.95**

NOVA SYSTEMS

TBC-SF

StudioFrame Transcoding Time Base Corrector



Operates with virtually any 1/2˝ and 3/4˝ VCR (with or without advanced sync feedback) and provides up to 6 dB of chrominance noise reduction through a multi-line Adaptive Digital Comb Filter. Featuring component, composite and S-Video inputs and outputs, the TBC-SF will transcode any input format to all output formats simultaneously, while also synchronizing time-base stable feeds. The built-in sync generator genlocks to an external reference and allows for system timing and phasing adjustment.

- Full Frame 4:2:2 component synchronizer
- Freeze Frame, Field 1 and Field 2 with variable strobe
- Full 6 MHz bandwidth
- Eliminates cross-color, cross-luminance, dot crawl and provides 6 dB of chroma noise reduction.
- On-board genlock sync generator with system timing and phasing controls, advanced sync output

TBC-SF.....**1999.95**

MNR-SF *Median Noise Reducer*

The MNR-SF is a StudioFrame card that eliminates impulse and transmission noise, cleans up satellite, microwave and fiber feeds and fills in CODEC and time-based corrected videotape drop-outs. It features full bandwidth, uncompressed 10-bit digital processing for ultimate video transparency, as well as analog composite inputs and outputs.

- Eliminates “Sparkles”, those black and white dots that can appear on remote feeds. Proprietary Adaptive Three-Dimensional Median Filter analyzes pixels from several fields of video and replaces the impulse noise with uncontaminated, clean video.
- Universal drop-out compensation whether it is from a time-base corrected VCR source or the decoded output of a CODEC feed. The MNR-SF effectively fills in drop-outs with replacement video from the surrounding pixels and previous video field.
- Controls are accessible locally or remotely. 3-position threshold switch (Off/Low/High) adjusts system noise sensitivity, while a bypass/operate switch is also included. Both switches are remoteable via an RJ-11 jack.

MNR-SF.....**1199.95**

ALLEN AVIONICS

HEC SERIES *Hum Eliminators*

Hum eliminators work best in those circumstances where interference is caused by small differences in ground potential (less than 20 volts) or by induced currents in long cable runs. When there are multiple power panels in a building, or even on a single floor, equipment and lighting loads result in small differences in potential which induce ground loop current flow an 60Hz hum. Electromagnetically-induced currents in long cable runs also create hum. For 50Hz and 60Hz power systems, and where induced currents are high, the HEC-2000 and HEC-2000H increase the attenuation at the power frequency. Should a small amount of hum remain after an HEC has been an added to the circuit, a second HEC can be added in series, without significant degradation of the video signal.

HEC-500/100/2000/2000H/3000/4000 .....**Call For Prices**

RF transmission in cables in routinely plagued by 50Hz or 60Hz hum or other interference. When a cable is used for video signals, small electrical currents caused by differences in ground potential (ground loops) or induced common-noise, can result in considerable hum interference. Cameras, video recorders, monitors and effects generators—even switchers and computers downstream—are affected. Allen Avionics manufactures three types of products to eliminate hum caused by ground loops or induced currents. All are broadcast quality. Although they can be inserted anywhere in the transmission system, they are most effective at or near the end of the cable run.

VNE SERIES *Video Noise Eliminators*

Video noise eliminators are effective for video signals up to 30MHz—encompassing HDTV frequencies—with little distortion. For signals below 20MHz, they are totally “transparent”. Since hum reduction, using video noise eliminators, is not as great as with HEC eliminators, their use is recommended only where higher frequencies are involved.

VNE-50/75/75-3.....**Call**

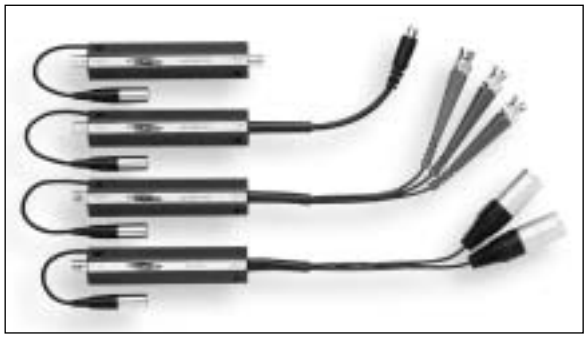
VIT SERIES *Video Isolation Transformers*

When there are hum problems caused by large potential differences (20v or more) an isolation transformer is needed. The dielectric withstanding voltage of the VIT is over 500 volts at DC. VITs are true isolation transformers —there is no DC path between the windings. Frequency response is flat over the range 20Hz to 45Hz. VITs also remove the hum created by electromagnetically induced currents from power lines or distribution systems.

VIT-50/75/75-3 .....**Call**

World's Smallest Decoders, Encoders and Converters

The picoLink Series offers an elegant and compact line of standalone miniature encoders, decoders and converters with a multitude of interfacing options. All picoLink modules offer excellent price/performance and a simple user interface. A lightweight, compact aluminum body combined with a simplified design ensures ease of installation and operation. Each picoLink module is powered by a compact wall mount power supply, while the 1RU LKS-CPS centralized power supply allows you to power up to 10 picoLink modules.



PicoLink Modules

ASD-171p
Component Analog to 4:2:2 Serial Digital Converter
The ASD-171p is the world's smallest component A-D converter, designed specifically to interface between the analog component video and serial 4:2:2 video signal. Accepts VCR-type sources.

ASD-271p
NTSC/PAL/SECAM Composite to 4:2:2 Serial Digital Decoder
Offers 2-line luma and chroma filters with an adaptive comb filter for NTSC. Accepts VCR-type sources.

ASD-272p
S-Video to 4:2:2 Serial Digital Decoder

SDM-171p
4:2:2 Serial Digital to Component Analog Converter

The smallest GBR/SMPTE/EBU video D-A converter available, the SDM-171p allows for monitoring of a serial 4:2:2 video signal and also provides a built-in color bar generator. This module automatically detects 525 or 625 line formats from incoming serial 4:2:2 signals to provide analog component GBR or Y/B-Y/R-Y signals.

SDM-271p
4:2:2 Serial Digital to NTSC/PAL Composite Video Encoder

This compact encoder converts from serial 4:2:2 to NTSC, PAL, PAL-M or PAL-N. It automatically detects 525 and 625 formats and provides a convenient built-in color bars generator. Ideal for monitoring 4:2:2 signals in composite analog.

SDM-272p
4:2:2 Serial Digital to (NTSC/PAL/PAL-M based) S-Video Encoder

The SDM-272p converts from serial 4:2:2 to NTSC, PAL, PAL-M or PAL-N based S-Video. It automatically detects 525 and 625 formats and provides a convenient built-in color bars generator. Ideal for monitoring or dubbing in mixed 4:2:2/S-Video environments.

ARC-371p
NTSC/PAL/SECAM Aspect Ratio Converter
The ARC-371p is a miniature composite aspect ratio converter which automatically detects NTSC, PAL and SECAM standards and provides a composite output signal. You can choose 16:9 to 4:3 or 4:3 to 16:9 conversion, or convert standards such as NTSC to/from PAL-M, PAL to/from PAL-N or SECAM to PAL or PAL-N. It offers 2-line luma and chroma filters with adaptive luma comb filter for NTSC and a color bar generator.

IDA-771p
AES/EBU Repeater and Impedance Converter
This compact unit converts 75 ohms to or from 110 ohms AES/EBU signals. Unlike "passive" impedance converters, the IDA-771p reclocks the output signal to reduce jitter created by long cable lengths. It also ensures that output signals conform to AES/EBU level specifications.

ASD-771p
AES/EBU Analog-to-Digital Converter
The ASD-771p is a 24 bit/48 kHz analog to digital audio converter. An external reference input allows the output to be synchronised to composite video, AES-3id Digital Audio Reference (DARS) or word clock signals. A choice of three full scale levels (+20/+22/+24 dBu) of input signals is possible.

SDM-771p
AES/EBU Digital-to-Analog Converter
The world's smallest digital to analog audio converter, the SDM-771p offers choice of 3 full scale output levels (+20/+22/+24 dBu).

ADX-171p
Analog Audio Demultiplexer
Packing both audio extraction and 20-bit quality D to A conversion in a very compact unit, the ADX-171p can extract either AES pair from any of the 4 embedded audio groups in a 4:2:2 video stream. The full scale output level (0 dBFS) can be set to 20, 22 or 24 dBu. Also provides a relocked serial digital output.

300W/302WVA

Pico Scope and Micro Scope Portable Waveform Monitors

The 300W Pico Scope and 302WVA Micro Scope are designed for use in the field, as well as in the studio.They are ideal for camera setup, monitoring a signal during a shoot, and for matching signals during post-production editing. They offer battery power or AC operation, are extremely small and compact (the Pico Scope fits in the palm of your hand and weighs less than a pound), and digitally generate 1%, 1° waveform measurements with their associated graticules for display on any monitor. The 302WVA adds audio inputs, RS-232 interface and software and a blackburst generator. Hamlet also offers a monitoring device, the PLM-1 Program Level Meter, for a low-cost alternative for those who don't need test measurement.

300W Pico Scope

The super-compact 300W Pico Scope is a portable waveform-only unit designed for field use. It is ideal for applications that do not require a vectorscope. Operating in composite, it weighs only 15 ounces and measures 6 x 3½ x 1″.

- 1%, 1° accuracy of waveform measurement
- Graticule brightness adjustment
- Selectable 1/4 and full screen display of 1H waveform. Also offers Luma-Pass and Chroma-Pass and Flat-Pass filters displays
- One composite video input (BNC)
- Reference cursor for setting pre-determined thresholds
- Built-in calibrator ensures measurement accuracy
- Battery (2 AA) or AC powered (includes AC adapter)
- Incredibly small and lightweight —only weighs 15oz.

302WVA Micro Scope

The Hamlet 302WV is a portable Waveform/Vectorscope with audio display designed for ENG/EFP field use. It is a composite video and audio, battery operated unit weighing only 24 ounces. It comes standard with rechargeable nicad batteries and an AC adapter. Measures 5¼″ x 1¾″ x 5¼″.

Same features as the 300W, *PLUS*—

- One composite video input (BNC) plus two audio inputs (XLR-balanced)
- Selectable display screens (1/8, 1/4 and full-size screen, display modes (including H, 2H, V, 2V, H Mag and V Mag) and filter displays (Full-Pass, Luma-Pass and Chroma-Pass)
- RS-232 Serial Port Remote Control
- External Reference with HFT (Hands Free Timing)
- Linear PPM or VU audio bar graph display
- Freeze and Store Functions
- 3 Store and Recall functions (presets)
- Built-In Blackburst Generator
- 2x Vertical Gain Magnification
- On Screen Display Mode Indicator
- Membrane Control Front Panel
- Bundled Windows 95 Software Control for full control of the 302WVA plus unlimited storage of display presets

PLM-1 *Program Level Meter*

A low-cost alternative to video/audio measurement, the PLM-1 is a portable audio and video monitoring device. Ideal for applications that do not require measurement, just monitoring. Measures 7 x 11⁄2 x 31⁄2″ and weighs 14 ounces.

- Digitally generates three sets of colored bar graphs fo display on any NTSC monitor. One set provides separate luminance and chrominance video parameters. The other two sets provide PPM or VU audio displays for four audio inputs.
- When video and audio go out of limit (NTSC limits) an audio alert is triggered.
- On-screen display of active picture, setup, black and audio levels
- Composite or Y/C input and four audio inputs (XLR-balanced)

Hamlet PC Scope Plus

Same exact feature set as the 302WVA except it is a PC card and is controlled with the bundled Windows 95 Control Software. It also offers two composite video inputs (the 302WVA only has one video input) and unlimited store and recall functions.

301 JR

The 301 JR is actually the PC Scope Plus housed in a dedicated 1RU high chassis. It is operated by its own front-panel controls or via the bundled software.

302WVR

The 302WVR is a half-rack version of the 301JR plus it adds two more selectable composite video inputs (four total). Has 8 store and recall functions (the 301 JR has unlimited store and recall functions).

503AR Stereo Scope

The 503AR is a half-rack audio monitoring device that measures level errors, phase errors and distortion. It displays four mono or two stereo pairs for left a nd right channel assessment on any NTSC monitor. Also ideal for aligning audio tape recorders and balancing amplitude of audio associated with video feeds. Can be used stand-alone or in conjunction with the 302WVR.

- One video input (composite or Y/C) and four XLR-balanced audio inputs
- Peak levels indicators
- Color PPM or VU graphic displays

Hand-Held Signal Analyzer

A powerful signal analysis tool, the Digital Window is a state-of-the-art test and measurement device that combines both powerful and convenient functions from an ultra-compact, power-saving enclosure.

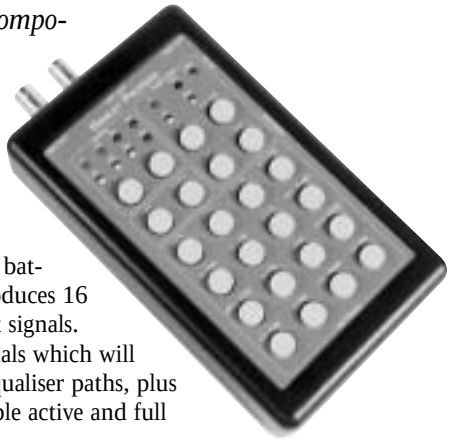
Offering analysis of digital video, it features the same tests as larger more expensive units, as well as integrating a host of measurement features. In addition, it is programmable, offers real-time clock and date/time stamp logging, and has an RS-232/RS-422 port.

The Digital Window is for analysis of CCIR 601 (SMPTE 259M) digital video and embedded audio data. As well as Error Detection and Handling EDH/CRC (SMPTE RP165). It is powered by battery or 12v AC adapter. Measuring 8.5 x 3.9 x 1.7" and weighing under two pounds it is especially convenient for easy hand-held operation.

- Over 50 individual test/measurements and error count indicators, including: video signal amplitudes, SDI strength jitter, 8 or 10-bit resolution, television standard, CRC of active area and full field, CRC check sum, Gamut, Illegal values, Code errors, and audio
- Re-clocked output plus composite monitor output of SDI signal input
- Data store and recall modes
- Alarm mode
- ASCII data output file to printer or computer
- Baud rate selection, up and down load data
- Auto shut down and battery status
- Remote Control
- Displays are in four languages
- Built-in composite reference signal generator
- Calibrated for PAL and NTSC accuracy

PROTEAN

Hand-Held Analog/Digital Video Test Generator



The Protean is a hand-held 10-bit component digital and analog composite video test signal generator. It produces full broadcast-quality video outputs in both formats, together with a a precision audio line tone.

Powered from built-in nickel metal halide batteries or a 6v DC adapter, the Protean produces 16 full CCIR-601 broadcast specification test signals. They include pathological check field signals which will stress test digital phase locked loop and equaliser paths, plus cyclic redundancy check codes which enable active and full field signal path correlation.

SVR-1100 SERIES

Self-Contained Waveform Monitor/Vectorscopes with Built-in 6-inch CRT

The 1100 Series is specially designed for multi-format editing studios, TV and cable stations, and ENG/EFP operations. Eight models to choose from, they are all self-contained with a rear-panel simultaneous input connections, and world-wide power-supply. User-friendly operation requires no menu settings for different formats—all switching is done automatically.

FEATURES

- Smart master control is ideal for dimly lit environments or for first time users. Single control takes you through all inputs and display modes without having to go through complicated menus to choose proper settings for different formats.
- You can connect all your input cables at the same time and choose the desired mode on the front panel without switching cables in the back of the unit.
- High resolution 6-inch CRT offers superb quality for digital and analog formats.
- 2-or 4-channel external reference overlay eliminates the need for special timing generators. This allows you to view directly on-screen, interchannel timing for all inputs —for genlock operation and component timing.
- Mix and match single or overlaid displays
- World-wide power supply 120-240v, 50/60 Hz
- All models are available in NTSC or PAL
- They weigh 19 lbs and measure 6.5 x 11.5 x 15.5" (H xW x D)
- Optional rackmount kit available
- Two year warranty parts and labor

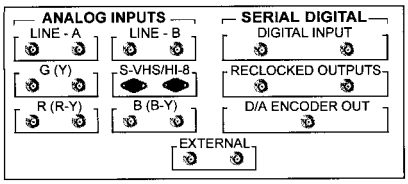
SVR-1100 Configurations	DV	SDI	CBA	CB	CA	S8B	B	A
4:2:2 Serial Digital Component	Yes	Yes						
Analog Component (Beta, MII, R.G.B.)	Yes	Yes	Yes	Yes	Yes			
4 Channel Parade Display	Yes	Yes	Yes	Yes	Yes			
Digital DA and Composite Encoder	Yes	Yes						
Analog Composite	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Analog S-Video (Y/C, S-VHS, Hi-8)	Yes		Yes	Yes		Yes		
External Reference	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
All Simultaneous Connections	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Overlaid Waveform/Vectorscope	Yes		Yes	Yes		Yes	Yes	Yes
Overlaid Waveform/Vector	Yes	Yes	Yes	Yes	Yes			
6″ Extra Brightness CRT	Yes	Yes	Yes	Yes				
6″ Normal Brightness CRT					Yes	Yes	Yes	Yes
Universal Power Supply	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Custom Configurations Available	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Price	**4450.00**	**2899.00**	**2899.00**	**2199.00**	**1949.00**	**1795.00**	**1649.00**	**1239.00**

Serial Digital Component

SVR-1100 DV

4:2:2 Serial Digital and Analog Component, Composite and Y/C , Waveform/Vectorscope/Vector

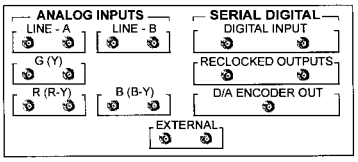
- Digital and analog component 525/60 and 625/50
- Composite and Y/C (NTSC or PAL)
- Digital reclocked distribution amplifier
- Automatic equalization up to 1000 feet.
- Digital to composite analog encoder
- 4-channel parade display with overlays
- Betacam (YUV) and RGB Y, R-Y, B-Y, (Y,Pb,Pr)



SVR-1100 SDI

4:2:2 Serial Digital and Analog Component Waveform Monitor

- Same as SVR-1100 DV except no composite or S-Video vectorscope.

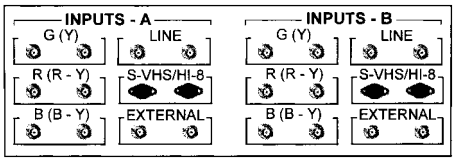


Analog Component

SVR-1100 CBA

Dual Analog Component, Composite and S-Video Waveform/Vectorscope/Vector

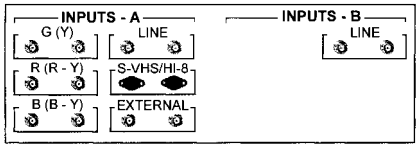
- Analog component 525/60 and 625/50
- Composite and Y/C (NTSC or PAL)
- 4-channel parade display with overlays
- Betacam (YUV) and RGB Y, R-Y, B-Y, (Y,Pb,Pr)



SVR-1100 CB

Single Analog Component, Composite, S-Video, Waveform/Vectorscope/Vector

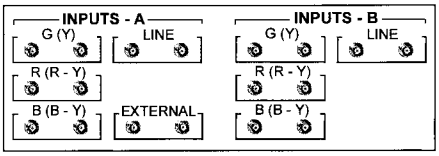
- Same as SVR-1100 CBA except only has single inputs for component, composite and S-Video



SVR-1100 CA

Dual Analog Component

- Same as SVR-1100 CBA except does not have composite and S-Video vectorscope

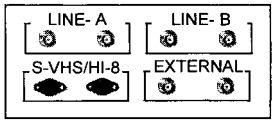


Analog Composite & Y/C

SVR-1100 S8B

Dual Composite, Y/C Waveform/Vectorscope

- Composite and Y/C, (NTSC , PAL)
- Overlaid Waveform/Vectorscope



SVR-1100 B

Dual Composite Waveform/Vectorscope

- Same as SVR-1100 S8B except no S-Video

SVR-1100 A

Single Composite Waveform/Vectorscope

- Same as SVR-1100 S8B except no S-Video and a single composite input

Available Options

Dual Trace Oscilloscope w/X-Y Display 20MHz.....**279.95**

Dual Trace Oscilloscope w/X-Y Display 40MHz.....**469.95**

Rack Mount **84.95**

DC Input (4-pin XLR).....**234.95**

Additional S-VHS Input **254.95**

Line Select (14 to 21 Lines Field-1 or 2, VAR Sweep, Z-Axis Input) **479.95**

SVR-3000 Series—Low-cost Analog Component or Analog Component/Serial Digital Monitoring

SVR-3000A

Analog Component / Composite Waveform

- Analog component 525/60 and 625/50
- 4-channel parade display with overlays
- Composite waveform display

SVR-3000AD

Analog Component / Serial Digital Waveform

Same as the SVR-3000A plus it adds SDI serial digital input

SVR-3000A.....**1469.00** **SVR-3000AD**.....**2499.00**

POCKETGEN SERIES

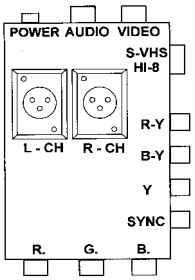
Pocket-Sized Video/Audio Generators

The PocketGen Series is a perfect solution for advanced multi format signal source, where small size (weighs only 7 oz.) and long battery life are required. Supplied AC adapter easy transforms PocketGen into full time designated unit for studio operation.

They All Feature

- All video and audio outputs can be used at the same time without any complex menu set-ups
- Power light and low battery indicator
- Front panel with Up-Down controls for easy selection of desired video test pattern
- Runs on 4-AA batteries (up to 90 hrs)
- Available in NTSC (RS-170A) or PAL (B,C,D,G,H,I,K,L or M)
- Two year warranty parts and labor

PocketGen-8



- Composite, S-Video and component output
- RGB, sync output
- 2-CH XLR balanced audio and 1 kHz audio tone (BNC)
- 10 Test Patterns including:
  - SMPTE Bars
  - Black Burst
  - Full Field Bars
  - Crosshatch
  - Center Cross
  - Red
  - Green
  - Blue
  - White
  - Dots

PocketGen-6A

- Same as PocketGen 8 except no RGB

PocketGen-9

- Component output only
- 1 Test Pattern only (SMPTE Bars)
- 2-Ch XLR Balanced Audio only

PocketGen-7A

- Same as PocketGen-9A except composite output only

PocketGen-5

- Composite and S-Video output
- 10 Test Patterns
- 1 kHz audio tone (BNC)

PocketGen-4

- Same as PocketGen 5 except no S-Video output

PocketGen-3

- Same as PocketGen 5 except no SMPTE Color Bars (9 test patterns total) and video and audio outputs are RCA

PocketGen-1

- Same as PocketGen 3 except only has one test pattern (Full Field Bars

PocketGen Series	9	8	7A	6A	5	4	3	1
Component Output	Yes	Yes		Yes				
Composite Output		Yes	Yes	Yes	Yes	Yes	Yes	Yes
S-Video Output		Yes		Yes	Yes		Yes	Yes
RGB Sync Output		Yes						
10 Test Patterns (including SMPTE Bars)		Yes		Yes	Yes	Yes	9 (No Bars)	
1 Test Pattern	SMPTE		SMPTE					Full Field
1-Channel Mono Audio		Yes		Yes	Yes	Yes	Yes	Yes
2-Channel XLR Balanced Audio	Yes	Yes	Yes	Yes				
All Simultaneous Outputs	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
4 AA Battery Operation	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
AC Adapter Included	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Custom Configurations Available	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Price	**429.95**	**1149.95**	**379.95**	**949.95**	**469.95**	**379.95**	**439.95**	**279.95**

7-Day Customer Satisfaction Guarantee

SVR-7000A/8000A/9000

Audio and Video Test Generators

Powerful enough to run entire studio, yet small enough to carry in your brief-case! CompuVideo's test generators can be used desktop or rackmount with unlimited choices to configure your system. Designed to meet the most demanding requirements of video professionals.

- Front panel with rotary selector of all 12 test patterns for easy selection
- NTSC (RS-170A) or PAL (B,C,D,G,H,I,K,L or M)
- All outputs can be used at the same time without any complex menu set-ups
- They measure 2.51 x 8 x 6.5" (H x W x D) and weigh only 2 lbs
- Optional Rackmout Kit available
- Two year warranty parts and labor
- 12 Test Patterns include:
  SMPTE Bars, Black Burst, Full Field Bars, EIA Bars, Crosshatch, Center Cross, Red , Green, Blue,White , Dots, Gray Scale

SVR-9000

- Composite, S-Video and component output
- RGB, sync output
- 2-CH XLR balanced audio and 1 kHz audio tone (BNC)
- Six output black burst generator and one SC output
- 12 test patterns

SVR-9000.....**1399.95**
SVR-7000C.....**1099.95**
SVR-7000A.....**649.95**

SVR-7000C
Same as SVR-9000 except no RGB and no stereo audio output

SVR-7000A
Same as SVR-7000C except no component or SC output

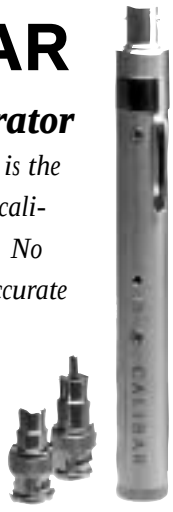
SVR-8000
Composite (6) /S-Video (1) blackburst generator only

SVR-8000.....**369.95**
Rackmount Kit.....**129.95**
Internal Battery Operation.....**295.95**

NEWTEK CALIBAR

3-Oz. Pocket-Sized Test Generator

Actually the size of a ball point pen, Calibar is the fastest, easiest and most portable way ever to calibrate video equipment. There's just one cable. No patch bay racks. So besides giving you fast accurate readings in the studio, it's perfect for off-site events or trouble-shooting in the field.



- Just tuck Calibar in your pocket and you're ready to go. Touch the button to generate SMPTE color bars, touch it again to calibrate convergence and so on.
- Calibar performs 24 test pattern functions. 10-bit 4fsc precision digital-to-analog conversion assures the highest accuracy.
- The size of a fountain pen, Calibar runs on a single internal battery. With the optional AC adapter, it can also function as a black burst generator.

Calibar **269.95**

GTC INDUSTRIES

TONE PLUG *Audio Tone Generator*

No larger than a standard microphone connector, the Tone Plug is a unique audio test instrument capable of generating a variety of test signals for the rapid troubleshooting, analysis and calibration of audio systems and components. Equally at home in the studio or on the road, the Tone Plug produces 11 distinct audio system test functions. The Tone Plug's compact size and multiple functions make it one of the handiest audio test instruments you could own.

11 Test Functions
The Tone Plug offers five user selectable sine wave test tones at frequencies of 100, 250, 400, 1K and 10kHz. An additional 5 special function test signals are also provided. These include a 40/2400 Hz signal for testing the VLF components of a system such as sub-woofers, crossovers, amplifiers; a unique short duration, multi-frequency pulse for adjusting speaker time delays, reverbs and echo units; An amplitude sweep function for adjusting compressors, limiters and setting tape levels; Automatic frequency stepping of the five fixed frequencies and a unique sweep tone for tracing wiring in racks and buildings. The Tone Plug even includes a bright LED indicator for checking microphone cables and phantom power.

Easy To Use
A single push button on the side of the Tone Plug allows for quick selection of the five fixed frequencies or the other special test functions. Always ready for immediate use, Tone Plug features a balanced mic output and is phantom powered, requiring no batteries or plug-in power.....**49.95**

AVM-510/510N/510C/510T

Automated Video Signal Monitors

Magni's AVM-510 Series represents the next generation of monitoring equipment. High-performance, high resolution Waveform Monitor/Vectorscopes with real-time auto-measure capability, they offer the best solution for identifying and alarming out-of-limit conditions in your video signal. Designed for the operational areas of broadcast and cable stations, production and post-production facilities, the AVM-510 Series does the tedious work your staff is not fond of doing. Advanced features measure key video signal parameters without requiring a test signal. Select from an array of Measurement sets and alarm capabilities that simplify error detection and reporting in all multiformat and multistandard television facilities. This frees producers and editors from interpreting Waveforms or graphs and to focus solely on creative content – with the confidence that any signal problems will be immediately flagged.

AVM-510 is packed with features to perform comprehensive monitoring and measurement functions for video signal proof of performance and signal verification. It is specifically designed for "live" video signals with or without VITS (Vertical Interval Test Signal), as well as for Automated Measurement Standard Frequency Response Test signals and standard color signals. Providing key information for applications in post production, it is ideal for monitoring the video signal quality of switchers, cart machines, video servers, VCRs and disk recorders.

AVM-510N adds a measurement set for non-linear distortions like Pulse-and-Bar, Differential Phase, and Differential Gain.

AVM-510N adds a measurement set for non-linear distortions like Pulse-and-Bar, Differential Phase, and Differential

AVM-510C adds components measurements and SDM series interface

They support IBM-compatible PCs, Sierra switchers, US Robotics modems, and the Magni 700 Series VITS Inserters

AVM-510 Series Applications:

The AVM-510 Series can be utilized anywhere where video signal quality is important – studios, TV stations, as well as video production, transmission and routing.

Transmission Facilities

The monitors provide continuous monitoring of signal quality, Waveforms, Vector displays and Measurement results. They can also record any failures to a PC via the Magni Logbook software.

Post-Production

Use the WVM Series to monitor Video and Audio Signal parameters and to replace small-screen CRT Waveform and Vectorscope units mounted in your console. The behind the scenes PictureGuard capability is ideally suited to post-production work.

Television Studio and Master Control

Replace your Waveform/Vectorscope with direct viewing of Measurement parameters on any video monitor. Quality control is simplified as you overlay your Waveform and/or Vector over the picture for total assessment of video signals. Store up to six different Measurement setups to assist operators in routine checking. Multiple-camera setup is simplified by comparison of stored images. Measurement alarms allow unattended and continuous monitoring of all parameters.

AVM-510/510N/510T

Waveform and Vectorscope

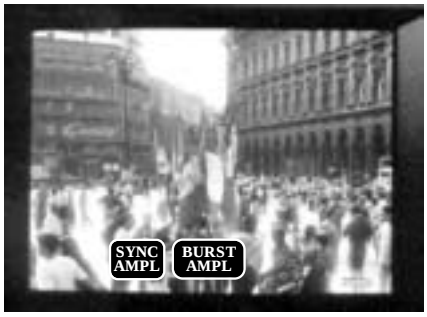
- Highly accurate and full-functional as waveform monitors and vectorscopes, they have an 864 MHz equivalent sampling rate for high resolution flat-frequency response. They offer separate waveform and vector displays, combined displays, separate and side-by-side displays keyed over video or mixed into the video. Color and intensity of the waveform, vector and graticule can be easily adjusted.
- Like their sister model (MM-400), the AVM-510 Series do not incorporate a CRT, but, rather, provide accurate Waveform, Vector and Measurement displays on any standard video monitor. With 10-bit internal resolution, they produce displays that are far sharper than other rastorizing monitors and as clear and accurate as conventional CRTs

Graticule Markings

- Graticule marks can be displayed to indicate standard tolerances within the horizontal blanking interval. These marks can be stored in memory along with the waveform position to quickly check for proper Sync width, burst amplitude, burst width or overall width of the entire horizontal blanking interval.
- Equipped with electronic graticule markings to help you get your bearings. Switch between waveform and vector displays, and the graticule will change accordingly. No CRT non-linearity problems or etched lines to deal with.

Auto-Measurement

- Choose from an array of measurement sets for signal error detection, reporting and equipment setup. For "live" video, the "System Video" measurement set determines Peak video, APL, Horizontal Blanking, Sync and Burst amplitudes without having to interpret the waveform or use test signals. Equipment setup is simplified with the "Color Setup" Measurement screen providing amplitude and phase information on red, green, blue, and yellow colors.



- Simplifies signal measurement by allowing limit ranges to be set for multiple parameters. Extremely easy to use, all measurement parameters are accessed by simple push-button controls or pull-down menus. Measurement limits can be set graphically and numerically. Easily set and select the colors of the displays and waveforms to make the information meaningful. Once limits are set, the full-screen Auto-Measure display provides a continuous status check.
- Your signal goes out of limit. A proprietary automated alert system, the unique PictureGuard, displays a pop-up warning indicator directly over the picture to notify you. Out-of-limit conditions will generate a report and trip a ground closure for added alarm capabilities. Or, when actual measured data is being displayed, out-of-limit parameters are highlighted in red.
- Two additional measurement sets address all aspects of video production and distribution. The AVM-510N can measure distortions common in studio and routing applications. The AVM-510T for monitoring signal performance in broadcast or cable RF distribution systems. Both make their measurements on SMPTE 75% or 100% color bars, and NTSC 7 composite.

Venetian Blind Display

- Unique “Venetian Blind” is a picture display which alternates between video and reference every 32 scan lines. This allows quick setting of timing, luminance, chrominance and color hue. For example, if video signal timing does not match the reference signal, segments of the display will offset from each other and change color. This is easily seen and corrected.

Stereo Audio Display

- A stereo audio display indicates both levels and phasing between the left and right channels. The amplitude display includes a user definable reference level. If measured amplitude exceeds the reference by more than 8 dB, the display color changes to red.

Computer Control

- RS-232 interface enables remote or local control (from a PC or via modem), data storage, and hard copy of waveforms. They are compatible with Magni's Logbook II software, which provides full front panel control and easy viewing of VITS, waveform/vector displays and measurement screens on a PC. Proof of performance features include time-code and "time of day" stamps when errors occur. Results can be stored to a file or printed to a report.
- You can also connect the monitors to a serial-equipped printer to obtain hard copies of either a questionable signal parameter or the complete signal waveform for off-line analysis and trouble shooting. Unattended error reporting on parameters include Peak video, APL, S/N, Horizontal Blanking width, and loss of video and audio. Errors are logged with time-code or time of day stamp to a printed report.

Multiple Inputs

- They are extremely flexible with their multi-standard (NTSC, PAL) and multi-format (composite, S-Video, component) capabilities. Also multi-voltage (90-250v, 50/60 Hz) for use anywhere in the world.
- To enhance their capabilities the SD1 (see next page) works with them to provide vital digital signal parameters, including Eye Pattern, Jitter, EDH and audio.

SDM-530/SDM-550

Serial Digital Monitors

The SDM-530 and SDM-550 are designed to monitor the vital signs of your serial digital signal—whether it comes from cameras, video servers, tape recorders, post production, digital content creation, or format conversion. 19-inch rack mountable they can be used either stand-alone for applications where Reclocking (Digital In/Out), Signal Conversion (Digital In/Analog Out) and signal monitoring are required, or in conjunction with the AVM-510C to form a complete analog/digital signal monitoring and measurement system. The SDM-550 is the same as the SDM-530 plus it adds an eye pattern output and decoded audio output.

FEATURES

- They display information where you work– on your color picture monitor, where you naturally see it.
- Once you set limits for signal parameters, icons will pop up on the video monitor notifying you of any out-of-limit conditions. You will immediately be warned of problems — like the signal level falling below an acceptable level or gamut errors.
- Speaking of gamut errors, there is no more guessing about which video format has been violated. Errors are shown if in GBR, component, and/or composite.
- To help locate the illegal color, the SDM highlights the offending area on your picture monitor. This is especially useful if you are a digital content creator whose work will go to broadcast or video tape.
- If you need to monitor signal quality or audio levels, bar graphs will be displayed– no need to interpret waveforms to monitor signal strength, signal recoverability, or audio levels.
- Intuitive front-panel buttons, on-screen menus, and configuration memories make setup and monitoring a snap.
- A connector on the SDM's rear panel provides a ground closure alarm when any selected parameter is in an out-of-limit condition. You can attach the connector to a variety of devices to notify you.
- Set them up to log errors to your computer, log errors at scheduled intervals, log errors that last longer than a specified period, or report when all errors are cleared. The log file documents your signal's quality, and you can post-process it for further analysis.

Magni's serial digital monitors show you everything you need to know. No more illegal color, weak signal, or missing audio surprises. Rest assured. If your video, audio, or ancillary data's pulse is not up to par, Magni's SDM will alert you. They continuously monitor the following "live-video" parameters:

Signal Strength:
Notifies you if the SDI signal falls below your threshold.

Gamut Error:
Notifies you if a gamut error occurs. PictureGuard icons show if an error occurred in the GBR, component, or composite formats.

Signal Jitter (PLL):
Notifies you if the SDI signal has depleted your defined reserve range. (The PLL reserve range represents the remaining alignment jitter margin and indicates the receiver's ability to recover the digital data.)

EDH Error:
Notifies you if the EDH error rate exceeds your threshold.

Audio:
Notifies you that one or more channels of audio is embedded in the SDI signal. Audio levels can be displayed on the display monitor.

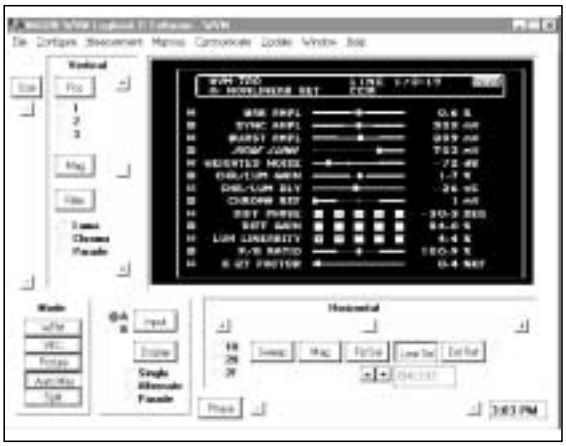
Ancillary Data Present:
Notifies you that ancillary data, excluding the audio and EDH, is present in the SDI signal.

Eye pattern and decoded audio outputs are available if you need additional monitoring information. If your application requires you to measure both serial digital 601 and analog video, Magni's AVM-510C should be used in conjunction with the SDM. The AVM-510C adds quantitative measurement for serial digital, component (SMPTE, EBU, GBR, beta, and MII), and composite (NTSC/PAL) parameters.

SDM-530: Serial Digital Monitor for serial digital 601 signal monitoring.
SDM-550: Serial Digital Monitor (same as the SDM-530, plus an eye pattern output and decoded audio output.
SDM-730: Serial Digital Monitoring and Measurement System (SDM-530, AVM-510C, and interconnecting cables)
SDM-750: Serial Digital Monitoring and Measurement System: (SDM-550, AVM-510C, and interconnecting cables)

LOGBOOK II

Remote Control Software for AVM-510 Series



Magni's Logbook II is a Windows 95/NT package (included with the AVM-510T) that links your PC to the WVM-510 Series via serial port or modem. With full control of all front panel functions and easy viewing of VITS, Waveform/Vector displays and Measurement screens, Logbook II allows full, unattended signal monitoring for a variety of applications. A programmable timer and Event Manager add even more powerful capabilities to unattended video signal monitoring, automated test sequences and RS-232 control of supportive equipment, including a Switcher, Test Signal Generator or VITS Inserter.

Log video signal performance to hard disk or printer, save Waveforms or Vector displays as graphic files, or output to a printer. Perform remote monitoring at preset intervals to detect and report errors via RS-232 or modem, and sound an alarm on the PC whenever an error is detected. The ideal solution for proof of performance archiving in applications that include unattended multi-site and multi-channel monitoring.

- "Event Manager" lets you automatically poll the monitors at regular intervals, and receive video signal status (in ASCII text form) at your PC. Signal status can then be logged to hard disk or a printer.
- Waveform, Vector and Auto-Measure displays can be received and viewed on a VGA monitor, as well. The displays can be similarly stored on hard disk or printed out.
- For automated monitoring, Logbook II can be set to detect errors in key video parameters at specified sampling times. The samplings can occur as frequently as once a minute to a maximum of four hours. If an out-of-limit condition is detected, an audible alarm can sound on the computer to alert you.
- For unattended monitoring, the Video Parameter Data can be logged to hard disk or a printer. This parameter logging can occur at each specified sampling time, or can be set to occur only when an error is detected at one of the specified sampling times. Time and date information is also included with each log, providing complete documentation of signal performance.
- For monitoring at remote points, such as unmanned transmitters, cable head ends and distribution nodes, Logbook II lets you connect the AVM-510 Series to your computer through a modem and view the Waveform and Vector displays on your monitor. Up to 32 different channels can be polled sequentially, and any out-of-limit conditions can be set for alarm, printing or stored to a PC file.

VIT-700G/TSG-700

VITS Inserters and Test Signal Generators for AVM-510 Series

The Magni Generator Series provide a stable and accurate reference signal source for all video applications. These Vertical Interval Test Signal Inserters and Test Signal Generators are the perfect companion to the AVM-510 series to perform automated Measurement, Waveform and Vector monitoring functions.

VIT-700G VITS Inserter

The VIT-700G VITS (Vertical Interval Test Signal Inserter) gives you the cost-effective capability to insert reference signals in all phases of video production and routing. The VIT-700G provides insertion test signals for evaluating video quality in operational applications. VITS sets include FCC, NTC7 and the Philips Ghost Reference (GCR) signal for both transmission and routing. With the VIT-700G, you can fully utilize the AVM-510 Series' automated capability to insert vertical test signals to video during production and routing. Also available is the VIT-701 ITS Inserter for PAL Insertion Test Signals.

TSG-700 Test Signal Generator

The TSG-700 is a genlockable Test Signal Generator for studio or out-of-service equipment testing. With its genlock capability, the TSG-700 can serve as the main test generator for teleproduction studios, broadcast stations, and cable facilities. Its unique complement of 12 signals was selected for general studio applications. A Stereo Audio Tone output completes the package. For PAL applications, the model TSG-701 is available and the TSG-705 offers a solution for both NTSC and PAL on a single Test Signal Generator.

MM-400

Waveform Monitor/Vectorscope

A low-cost alternative to CRT-based waveform monitoring, the MM-400 produces a video picture of the input signal's waveform and displays it on any video monitor. It provides a simple, affordable and accurate way to set camera levels before a shoot, or to check TBCs for color fidelity when editing.

- Converts waveform or vector displays into a standard video signal which can be displayed on a monitor or routed around. No need for additional monitors. Easily switch between pictures and waveforms .
- Three loop-through inputs can accept three composite signals or one component, or RGB signal.
- Easy-to-see dedicated push-button waveform and vectorscope controls include Channel, Sweep Speed, Position Control and Phase Rotation.
- No complex displays or special test signals are required for component monitoring. Interchannel timing and amplitude display make component monitoring easy.
- Incorporates an advanced SC/H Phase and color frame indicator that is a must for editing and post production. At a glance it tells you if subcarrier-to-horizontal phase is properly adjusted and if the color frame matches the blackburst connected to the MM-400's external reference input.
- Works anywhere, in any analog format — NTSC, PAL (automatic detection), component or S-Video.
- Besides instant toggling between picture and waveform, a mix mode combines waveform and picture displays for simultaneous viewing.
- Can be readily used by even novice operators. Has easy-to-understand set-up menus for Display Color, Interchannel Timing, SC/H Phase Alarm.

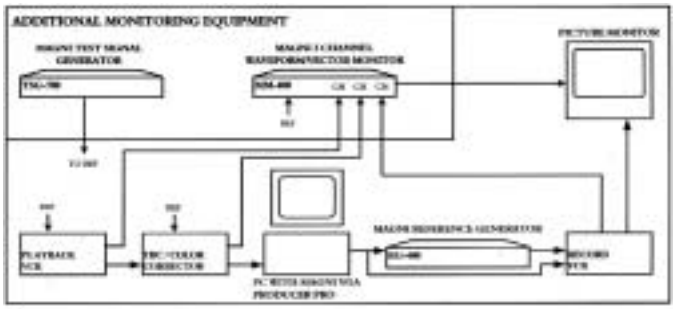
RG-400

Multimedia Video Reference Generator

The RG-400 is a test signal generator designed specifically for multimedia and desktop video applications. It has a unique Reference Overlay mode which combines the RG-400 generated color bars at the top and bottom of the picture with incoming video shown within the Safe Title area. The resulting display can be used in place of a waveform monitor and vectorscope in many applications. By visually checking the computer generated video colors to the reference color bar, level errors and illegal color values can easily be detected. This helps avoid sudden and unexpected color shifts when going to tape.

- When the incoming video signal is also a color bar from a tape leader for example, a more accurate assessment of video levels, color hue and saturation can be made. Any errors in the incoming video are quickly spotted by comparing it to the RG-400 generated signal at the top and bottom of the picture.
- Supports both composite and S-Video. A video input allows genlocking to an external video source. Two test signal outputs are provided for maximum flexibility in connecting the RG-400 into your system. A stereo audio test tone output is also provided to aid in setting proper audio levels between left and right channels.
- In addition to the color bars, the RG-400 has eleven test signals optimized for desktop video production applications. These broadcast quality test signals can be used for overall system assurance or recorded as a tape leader for downstream monitoring purposes.

- "Pass-Through" mode, which allows the input video signal to appear at the generator output, permits switching between full field test signals and program video, without the need for an external switcher. In a typical operation, RG-400 Reference Overlay is used to adjust video levels and color settings on the TBC or color corrector. Test signals from the RG-400 are then recorded onto the tape leader. Once levels have been set up and verified, the RG-400 is placed in Pass-Through mode to record the program video.



SIGNAL CREATOR

Multi-Format Test Signal Generator

Composite, component and digital formats stand alongside one another in many facilities creating the need to work in multiple formats. Regardless of the format in use, each has its own personality and have very different test and measurement requirements. But space is at a premium, and generators dedicated to each format not only eat up rack space but require multiple purchases. Signal Creator reconciles these elements using pocket-sized memory (PCMCIA) cards. These cards are capable of holding up to 100 different test signals in memory. The signals used most frequently may be permanently downloaded to the generator's memory, but the majority of the signals reside on the card itself (as well as on floppy disk back-up). The added space is what allows Signal Creator to generate signals for practically any current video format or standard including Betacam, GBR, and Dl , D2 digital formats.

- LCD screen displays a menu showing test signal sets presently "resident" in the unit and a sub-menu which provides various configuration selections. You can also determine initial settings for ext. reference (if present), trigger output, and APL levels.
- Timing changes may be made to the test signals and independently to the pulse/black burst outputs with respect to the selected reference: the frequency of the master oscillator may also be adjusted to more nearly match a known standard. Selections for bounce rate, audio tone frequencies and levels, character ID, and countdown timing can also be made .
- Depending on the complexity of the formats and signals involved, more than one signal family may reside simultaneously in the downloaded memory A user definable two-line ID of 24 characters per line may be placed on the video output.
- Memory cards makes the Signal Creator a go-anywhere generator. For example, one card can have a selection of signals which would be useful for end-to-end testing of the signal processing path. Another could be a standard "checklist" of signals to be stepped through easily and quickly. Equipment manufacturers and systems designers could group specialized tests for different pieces of equipment into families, for streamlined QC and testing.
- Built-in safety features include passcodes to block unauthorized users from changing timing settings or signal sets. Cards can also have individual users' IDs.
- Simultaneous analog and digital outputs are offered, as well as a separate output of NTSC SMPTE bars which is independent of the downloading process.

Programmable analog outputs are 10-bit

Configuration Options

SC-P: Basic unit generates composite NTSC and PAL, and all analog component signals:

SC-STD: Same as above plus it adds Black Burst (BB) and Serial Digital Output (D1 and D2 in both serial and parallel). factory installed options,

SC-DLX: Same as above plus it adds 12 MHz Sweep and Zone Pattern Outputs

Each comes bundled with Creator Software allowing you to design test signals of your own, group existing test signals into custom sets of signals, load signal sets from a PC directly to the Signal Creator, or load signal sets onto a RAM card in the Signal Creator.

WAVEFORM MONITORS/VECTORSCOPES

Leader has been manufacturing test and measurement equipment for forty years. The electronic instruments they design and manufacture are the standard of excellence against which others are measured for reliability, performance and cost effectiveness. Before a product is brought to market, an exceptional degree of energy and effort goes into its design. Prototypes are built and tested to withstand environmental and other factors, far exceeding actual operating conditions. These include high humidity, extremes of heat, cold, shock and vibration. Manufacturing quality is built in every step of the way. Only the finest parts are used, for optimum reliability. At each production run, subassemblies are separately tested before they are integrated into the finished product. Then, each product is tested again. This is why less than half of one percent of all Leader products are ever returned for repair or adjustment.

5100 *Analog Component/Composite and HDTV Waveform Monitor*

A four-channel waveform monitor, the 5100 monitors the three channels associated with component operations and adds the fourth channel for simultaneous composite observations. Waveforms may be observed in both overlaid and parade forms. A vector display shows chroma signal accuracy at a glance.

- The timing display automatically displays a bow tie pattern for precise measurement of interchannel timing errors.
- A four-page menu offers user-friendly setup to select the proper mode of operation.
- System selection sets sweep rates to operate with 525/60, 625/50 or 1125/60 (HDTV) systems.
- On-screen cursors with front panel position controls allow easy and precise measurements of voltage or time spans on observed Waveforms. The Preset mode stores the 5100's front-panel setup conditions for instant recall.
- Bandwidth of all four vertical channels extends to 30 MHz to accommodate HDTV signals in the Flat filter mode selection.
- Low-Pass filter and Differential-Step modes facilitate linearity measurements in all four channels.
- On-screen cursors with front panel position controls allow easy and precise measurements of voltage or time spans on observed Waveforms. The Preset mode stores the 5100's front-panel setup conditions for instant recall.
- Universal power supply accepts 90-250v AC, 48-440 Hz as well as 12v DC power.

LV-5100D/LV-5100DE

Serial Digital and Analog Component/Composite Waveform Monitors

Working in serial digital component (SDI 4:2:2) as well as analog component and composite (and mixed operations), the LV-5100D/LV-5100DE provide comprehensive waveform, vector, timing and picture monitoring capabilities. Menu-driven control functions extend familiar waveform observations into highly specialized areas and include local calibration control, to show or blank SAV/EAV signals, the ability to monitor digital signals in GBR or YCbCr form, line select (with an adjustable window), memory storage of test setups with on-screen labels, flexible cursor measurements, automatic 525/60 and 625/50 operation and much more.

LV-5100DE Adds 'Eye Pattern':
The LV-5100DE adds an equivalent-time sampling technique to display the SDI Waveform for analysis of Amplitude, Phase, Frequency and Jitter effects on 270 Mb/sec data stream.

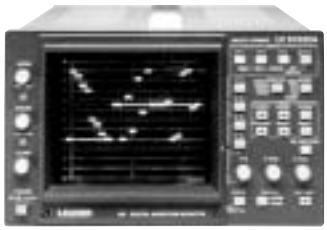
- Analog composite and component
- 4:2:2 Serial Digital Component (SDI)
- Component Vector Display
- Digital Signal-Status Readout
- Analog video out (BNC x3)
- Picture Display of Y or G
- Overlay, Parade and Timing Waveforms
- X-Y Stereo Display
- Full line select with strobe on picture
- Preset/recall of 10 front panel setups
- Active serial output of selected A or B serial input

LV-5100DU *Serial Digital Waveform Monitor*

- Same as LV-5100D without analog capability

LV-5152D/LV-5152DA

HDTV Digital and Analog Waveform Monitors



LV 5152D provides full monitoring for 720p, 1035i, 1080i serial digital as well as analog component signals. It accepts two SDI inputs and provides a switched active output of the selected input. One set of analog-component inputs accepts YPbPr or GBR. Waveforms may be monitored in YCbCr or GBR form, in three-channel overlaid or parade display. Other display modes include vector (with the choice of electronic or external illuminated graticule), timing (bowtie), picture and stereo (Lissajous).

- Handles 1035i, 1080i and 720p Systems
- Two serial digital inputs (SDI)
- A decoded three wire picture monitor output may be set in either YPbPr or GBR.
- Extensive menu-selected operations give wide control over operating parameters including line select and precision cursor measurements of level, time and frequency.
- Stores ten front-panel settings for instant (and remote) recall.
- Overlay, timing and parade 3-channel waveforms.
- Choice of electronic or external (illuminated) vector display
- Full line select with strobe in picture display
- An advanced error reporting system, applicable to 1080i systems, logs time of first error, time elapsed and total error count
- Errors are detected in video embedded audio and ancillary data with error details. A programmable error alarm system displays alarms on the front panel with provision for remote indication.

LV-5152DA *Step-up Features:*

- HDTV waveform monitor with 1080/24 segmented frame capability in addition to all other standards
- Hex readout of all data points improves trouble shooting capabilities.
- Separates embedded digital audio from the SDI and outputs 8 channels of AES/EBU digital audio.
- AES/EBU digital audio output (4 pairs)
- Gamut error log
- Readout of SDI level in terms of equivalent cable length
- Dual matrices
- Automatic system recognition set-up and display (see chart).

Format	Lines/Frames	Applicable Standards
1035/60i	1920x1035/59.94i (60i)	SMPTE 240M, 260M BTA S-001B. 002B
1080/60i	1920x1080/59.94i (60i)	SMPTE 274M BTA S-001B, 002B
1080/50i	1920x1080/50i	SMPTE 274M
1080/30p	1920x1080/29.97p (30p)	SMPTE 274M
1080/25p	1920x1080/25p	SMPTE 274M
1080/24p	1920x1080/23.98p(24p)	SMPTE 274M
1080/24sF	1920x1080/23.98sF (24sF)	SMPTE 274M
720/60p	1280x720/59.94p (60p)	SMPTE 296M

LV-5836B *Surround-Sound Monitor*

Capable of displaying a precise sound image that visually matches the human aural perception of sound directivity in surround-sound systems. The digital processor works out phase and amplitude aspects to display the sound image. Both L-Ctr-R-S (3-1) and L-Ctr-R-LS-RS (3-2) are accommodated as well as 5.1 Dolby system. Accepts 5.1 Dolby in the form of 6-channel AES/EBU digital audio. A separate on-screen level indicator is employed for the low frequency woofer (0.1) channel.

- In addition to the sound image, dedicated bargraph level indicators are provided.
- Accepts six channels of AES/EBU digital audio as well as five channels of analog in both balanced and unbalanced form.
- Six multi-Lissajous displays are available to show phase and polarity between pairs in the five channel group to spot polarity inversion in signal feeds at a glance.
- Peak or average response may be chosen, auto gain feature ensures optimum display.
- A spot killer protects the CRT from extended no-signal operation.

5860C

Waveform Monitor with Luminance Linearity

The standard workhorse of studio monitoring, the 5860C handles routine monitoring operation, plus offers extended operating options such as lH, 2H, 1V and 2V sweeps for closer Waveform inspection and vertical amplifier response choices of flat, IRE (low pass) and Chroma A Differential-Step filter facilitates luminance linearity checks using staircase signals. Differential-Gain filter also sets up differential gain measurements. The 5860C syncs to the selected A or B feed or accepts Blackburst or Composite Sync as an external reference. Built-in calibrator and On-Off control of the DC restorer is also provided. Picture monitor output jack drives a video monitor with the selected A or B video feed. Fits half-rack adapter.

5850C *Vectorscope with Electronic Graticule*

The perfect mate for the 5860C Waveform Monitor, the 5850C extends monitoring and timing adjustments into Chroma aspects. It accepts a Phase reference from either input (A or B) or from an external reference (can be composite video, blackburst or CW Subcarrier). Unique to the 5850C is an electronically-generated scale of coarse and fine error limits for either 75% or 100% Color Bars. These targets allow precise adjustments from relatively large viewing distances and eliminate the need for fussy centering adjustments. The illuminated internal graticule facilitates Differential Gain and Phase measurements. An unblanking input jack on the rear panel accepts a strobe signal from Waveform monitors equipped for line-select operation for vector display of selected lines. Electronically-generated graticule (scale) gives an across-the-room indication of vector error that is parallax free and immune to centering error.

5222 *Multisystem Composite/Component Waveform Monitor*

Operates in both NTSC and PAL systems, providing powerful monitoring in composite, S-Video and component applications. It features 8-channel operation in groups of four with A/B selection. Overlay and parade displays may be selected, and sync may be chosen from CH1-A, CH2-A, CH1-B, CH2-B or from an external reference. The video of the selected input may be monitored, and the picture displays the line(s) highlighted during line-select operations. Full-raster line selection is offered with on-screen readout of selected line(s) in both NTSC and PAL notation. Menu controlled setup provides access to fundamental operating choices, such as DC clamp speed, IRE unit or volts readout, etc. On-screen readouts include TV system, TV field and line select, as well as channel in use for sync and cursor readouts. Cursors gauge level, time and readout in IRE, volts, voltage ratio (in % or dB), time-difference, or frequency. Operating flexibility is extended through remote control and memory storage, with local or remote recall of up to 10 panel setups. A universal power supply accepts 90-250v AC, 48 to 440 Hz. DC power (11-20v) is also an option.

- Handles NTSC, PAL and SECAM
- 8 Channels plus EXT REF
- Parade and Overlay Displays
- Picture Display (with Line-Select Strobe)
- Full Line Select with 525/60 and 625/50 Notation
- Menu Selected Setup
- Memory Storage of 10 Panel Setups
- Cursor Measurement of level and time (0.5%)
- Level Cursors read in Volts, IRE, % and dB
- Dual Filter Display
- RGB and YRGB
- Y/C Monitoring
- X-Y Operation and White Phosphor (Option)
- Universal Power Supply (90-250v, 48-440 Hz

Rackmount Adapters

LR-2400VI: Rackmount for 5870, 5872A, 5850C, 5860C, 5212, 5222, 5100, LV-5100D/DE/DU, LV-5152D/DA, LV-5836B, 5835.....**227.95**

LR-2400VI-02: LR-2400VI without a blank panel.....**204.50**

LR-2427I-U: Cabinet with Handle and Bottom Feet for 5870, 5872A, 5850C, 5860C, 5212, 5222, 5100, LV-5100D/DE/DU, LV-5152D/DA, 5836B, 5835 ..... **125.00**

LR-2450-16I: Rackmount Adapter for 408/408NP..... **183.95**

LR-2450-20I: Rackmount Adapter for 430 ..... **269.95**

5212 *NTSC/PAL Vectorscope*

Operating automatically in NTSC or PAL, the 5212 overlays Vector displays for 4 signals (3 input channels plus an external reference.) A touch on Auto Phase automatically zeros burst to the -B-Y (-U) axis, using the reference chosen from any channel or an external reference. Digital Phase Readout makes it easy to measure precise Phase differences between channels. Of particular value is semi-automatic setup for high-resolution measurements of Differential Phase and Gain.

Other features include menu selected calibration for signals with or without setup and for 75% or 100% Color Bars. A +V key inverts -V signals for a less cluttered PAL display. Up to 10 front panel setups may be stored for instant recall, and remote control with line select strobe is provided via connection to the 5222 Waveform monitor. X-Y operation for stereo monitoring is standard and is accessed via a rear panel connector.

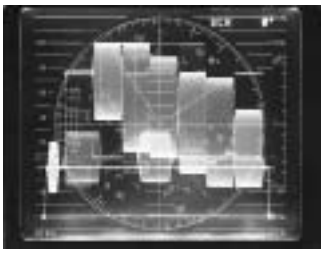
- Overlay Display of 3 Channels Plus EXT REF
- Auto Burst Zeroing
- CRT Readout of DG/DP to 2 Decimal Places
- Digital Phase Measurement
- Phase Accuracy within 1°
- Universal Power Supply (90-250 Vac, 48-440 Hz)

5870/5872A *Waveform Monitor/Vectorscope Combos with Line Select*

5872A

Combining the standard features of a Waveform monitor and Vectorscope in a single half-rack package, the 5870 and 5872A add a number of powerful measuring advantages. Among these are the ability to overlay Waveform and Vector displays from two input signals for precise level, timing and phase matching. A 5x Vertical Gain multiplier, 200 ns/major division fastest Time Base and wide-range centering controls permit close inspection of all parts of the Waveform for high resolution adjustments. The use of the decoded R-Y signal facilitates easy high-resolution measurements of Differential Phase and Gain. Chroma and IRE filters may be inserted on a full-time or line-shared basis. Both employ a switching mode power supply that accepts 90-250v AC 48-440 Hz to operate in any locality where AC power is available. In addition, DC power is standard and vehicle or battery power at 11-20v DC is accepted.

Line Select—Both offer full raster line select with lines chosen from Fields 1/3, 2/4 or ALL. Field and line numbers appear on screen and a strobe is added to PIX MON OUT signals to highlight the selected line(s). Full Waveform and Vector manipulation is available in the line-select mode. Memory storage of up to 9 resettable field/line numbers provides instant recall for routine tests. Provision is made for remote control, including recall of line presets.



SCH Indication

5870 Only

The 5870 (only) offers an On-Screen Digital Readout of SCH in degrees of error referenced to the signal observed, or an external reference for color framing checks.

Where Line-Select is a Must

Where line select is a must — as in satellite/STL operations, or to meet the new proof-of performance requirements for cable systems, the 5872A is an ideal choice. It offers full line-select, as well as the preset line selection features of Model 5870 (but without SCH capability). The preset mode permits routine call-up of designated lines carrying the vital test signals needed to gauge performance and to meet the needs of FCC Measurement of DG/DP and Chroma/Luminance delay. All of the features of the 5872A are retained, including the universal power supply and DC power (11-20v DC standard).

5864A/413S

EFP /ENG Test Instruments

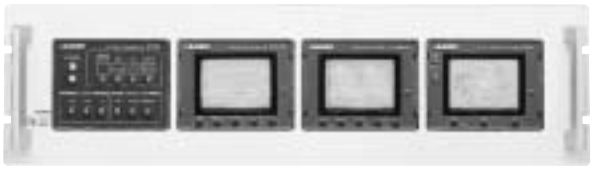
Designed for EFP and ENG operation, the 5864A waveform monitor and 413S test generator feature compact size, light weight, and 12v DC power operation. Thus full monitoring facilities can be carried into the field and powered from NP-1 batteries, battery belts and vehicle power. Operating controls are miniaturized to facilitate the maximum in monitoring options with the operating simplicity demanded in field work.

5864A Waveform Monitor

A two-input Waveform monitor that offers full monitoring facilities for cameras, VCRs and video transmission links, the 5864A offers front panel selection of A or B inputs, the choice of 2H or 2V display with Sweep magnification, and Flat Frequency response or the insertion of an IRE filter. In addition, a switchable gain boost of 4x magnifies setup to 30 IRE units, and a dashed graticule line at 30 units on screen facilitates easy setting of master pedestal. Intensity and focus are fixed and automatic for optimum display. Supplied with an instruction manual and DC power cable.

413S Test Signal/Pattern Generator

A signal source to be integrated into field operations, the 413S provides both video and audio test signals for system checkout, tape lead-in and source identification. Video test patterns include a flat, 100% white raster, ENG Color Bars, EIA and SMPTE Color Bars. The 413S also provides balanced audio output using the standard XLR connector. The level is zero dB and frequency is selectable from 400 or 1000 Hz. Of particular value is a field programmable 8-digit source identification that is superimposed on the selected video pattern. Two sizes and screen locations can be selected, or the source ID can be switched off.



LR-2451 Four EFP/ENG Instrument Rackmount

The LR-2451-011 rackmounts up to four EFP/ENG instruments in a 19-inch rack, taking up only 3 standard vertical rack units (5¼″) of vertical space. A front-panel power switch permits distribution of 12v DC to all units at once.

LR-2452-02 Base Plate

Accommodates any two EFP/ENG units and provides switched power distribution.

5835 Stereo Audio Monitor

The 5835 provides the means to monitor stereo signals with an X-Y plot that shows both amplitudes and relative Phase of L and R signals (a Lissajous pattern). Further, an automatic alarm is triggered if a serious Phase error results in a significant L-R component for more than five seconds. The warning appears on a front-panel LED and can be rigged for a remote alarm. Two interchangeable graticules allow set up for the standard of L versus R plot or the newer plot of L+R versus L-R. Balanced (XLR) and single-ended (phono-type connector) inputs are provided. A -20 dB, 0 dB, +10 dB range switch includes a calibration setting and is augmented with a variable control. Mounts in a standard half-rack.

Waveform Monitors at a Glance

Video/Audio Monitors	LV5152DA	LV5152D	LV5100D	LV5100DE	LV5100DU	5100	5870	5872A	5860C	5850C	5222	5212	5864A
Systems													
HDTV 1125/60	Yes	Yes				Yes							
DTV 525/60,625/50			Yes	Yes	Yes								
NTSC			Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
PAL			Yes	Yes	Yes	Yes					Yes		
Input Signals													
4:2:2 SDI 1125/60	Yes	Yes											
Analog Component 1125/60	Yes	Yes				Yes							
4:2:2 SDI 525/60, 625/50			Yes	Yes	Yes								
Analog Component 525/60,625/50			Yes	Yes		Yes					Yes		
Analog Composite			Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Stereo/Surround Audio	Yes	Yes	Yes	Yes	Yes							Yes	
Display/Readouts													
Eye Pattern				Yes									
Waveform	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes		Yes
Overlay/Parade	Yes	Yes	Yes	Yes	Yes	Yes					Yes		
Timing	Yes	Yes	Yes	Yes	Yes	Yes					Yes		
Line Select	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes			Yes	Yes**	
Cursor Measurements	Yes	Yes	Yes	Yes	Yes	Yes					Yes		
Pictures	Yes	Yes	Yes	Yes	Yes						Yes		
Composite Vector							Yes	Yes		Yes		Yes	
Component Vector	Yes	Yes	Yes	Yes	Yes	Yes							
SCH (Digital Readout)							Yes						
EDH Error	Yes	Yes	Yes	Yes	Yes								
EDH Alarms	Yes	Yes	Yes	Yes	Yes								
SDI Cable Length	Yes		Yes	Yes	Yes								
Gamut Error	Yes												
Stereo (Lissajous)	Yes	Yes	Yes	Yes	Yes							Yes	
Miscellaneous													
DC Power (+12v)						Yes	Yes	Yes					Yes
Presets	Yes	Yes	Yes	Yes	Yes	Yes					Yes	Yes**	
Remote Control	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes			Yes	Yes**	

* Includes Digital Composite

** Via Model 5222

LT-441D

Multi-Format (14 Systems) HDTV Digital Generator

The LT-441D meets the SDI test signal needs for fourteen formats based on 720, 1035 and 1080 lines displayed. These include the newer formats that employ variations of the 24 SF systems. Three SDI outputs are provided plus analog tri-level sync, H and V drive. Features include eight channels of embedded AES/EBU digital audio for the most popular formats. Six channels of AES/EBU digital audio are supplied separately in signal pairs on three BNC connectors. Digital genlock locks to tri-level sync from HDTV reference or black burst from 525 line timing references. Provision is made for selectable advance/delay to ±100 lines.Two clock references accommodate 60/30 and 59.94/29.97 and other frame rates. Colorimetry (Y formulation) is selected automatically to match the system selected. The generator also supports applicable error-detection systems. Test signals include a new 16 x 9 monoscope pattern, the pathological check field, and two dynamic systems to provide the means to check the effects of concatenated compression. These employ a moving target whose direction and speed may be controlled and a menu controlled sequence of selected test patterns with controlled dwell times. A 20-character programmable source ID is also provided.

- Monoscope Pattern for all Formats
- Three SDI Outputs
- 20 Character Source ID
- Clock Stability 1 ppm/Year or Less
- Genlock Range ±100 Line Advance/Delay
- Analog Tri-Level Sync Plus H & V Drives
- Pathological Checkfield and Moving Marker
- Digital Genlock to Tri-Level Sync or NTSC/PAL Black Burst
- 8 Channels of Embedded + 6 Channel AES/EBU Audio Output

Reference SMPTE Standard	Total System Nomenclature	Total Samples Per Line	Lines per Frame	Embedded Audio
260M	1920x1035/60/2:1	2200	1125	Yes
	1920x1035/59.94/2:1	2200	1125	Yes
274M	1920x1080/60/2:1	2200	1125	Yes
	1920x1080/59.94/2:1	2200	1125	Yes
	1920x1080/50/2:1	2610	1125	
	1920x1080/30/1:1	2200	1125	Yes
	1920x1080/29.97/1:1	2200	1125	
	1920x1080/25/1:1	2640	1125	
	1920x1080/24/1:1	2750	1125	
	1920x1080/23.98/1:1	2750	1125	
	1920x1080/24 sF	2750	1125	
	1920x1080/23.98 sF	2750	1125	
296M	1280x720/60/1:1	1650	750	
	1280x720/59.94/1:1	1650	750	

LT-440D *HDTV Signal Generator*

The LT 440D fills the need for a precision source of test signals at 1125/59.94 scan rates. It provides three Serial Digital outputs with embedded Digital Audio and includes a separate AES/EBU digital audio feed. Analog outputs include Tri-Level Composite Sync, as well as horizontal and vertical drive. The unit genlocks to Composite Tri-Level Sync or Blackburst and provides timing adjustment of ±100 lines (menu-selected), with fine adjustment to ±1 ps. Full EDH facilities are provided. Test signals include 100% and 75% Color Bars, a Flat Red Field, 100% and 50% Flat White Field, Line Sweep, Multiburst, Timing Signal, Ramp, Shallow Ramp, 10-Step Staircase, Pulse and Bar and the pathological Check Field. Other patterns include Red Field and Crosshatch. Modification to 1125/60 is available as an option.

- 1035 or 1080 Lines Displayed, Switchable
- Embedded and Separate AES/EBU Digital Audio
- 8 Channels of Embedded Audio, 2 separate
- Digital Genlock with ± 100 line Advance/Delay
- Analog Tri-Level Sync, H and V Drive Outputs
- 20-Character Programmable Source ID

LT-1606

Video Encoder for NTSC, PAL & HDTV

The LT 1606 extends the flexibility of programmable RGB generators, in terms of stock and custom patterns and raster parameters (within limits), into the testing of monitors and systems that operate in fully encoded NTSC, PAL and the new HDTV systems. NTSC and PAL outputs contain fully encoded subcarrier and burst and are available in full composite and separate Y/C using the standard 4-pin SVHS connector. Analog component feeds YPbPr, as well as actively buffered RGB, are available at the same time. This makes the encoder an extremely useful tool for engineering, service and QC applications.

- Generates NTSC, PAL and HDTV analog components
- Operates from R, G, B, CS and clock from Leader LT-1610A, LT-1611, LT-1613, LT-1615 RGB Generators
- NTSC, PAL or HDTV set up automatically from input clock
- NTSC and PAL outputs in full Composite, separate Y and C and analog components YPbPr
- HDTV Includes 1080i, 1080p, 720p, 480p and others
- HDTV analog outputs are 3-wire YPbPr with tri-level sync
- Simultaneous active RGB outputs to drive RGB monitors

LT-425D *Digital Component Test Signal Generator*

A precision source of 10-bit 4:2:2 Component Digital Test Signals, the LT 425D offers features that make it an ideal choice for production and development applications. These include both embedded AES/EBU digital Audio test tones and a dedicated rear panel AES/EBU output. Front panel switching includes 625/50 or 525/60 operation (test signals adapt automatically to suit the system selected) and On-Off control of Y, Cb and Cr.

Menu control of operating options is facilitated with front panel keys and on-screen menus. These include Embedded Audio Channel On/Off control and Tone Frequency selection. ID character and Calendar/Clock Programming, Timing Advance/Delay to ± 16 lines, EDH On/Off, Key Lock and control of the moving target and switched pattern displays. The latter are of value in compression testing and controls the effect of the speed and direction of the moving target and the dwell intervals for sequential switching of selected test patterns.

Digital genlock includes front panel Advance/Delay keys (Coarse and Fine). The Coarse keys operate in 3 ms increments, the fine keys in increments of 20 ns. This, combined with a ± 16 line menu selected Advance/Delay, yields precise, calibrated timing control. Rear panel facilities include four serial outputs (one Digital Black), one Parallel output, one AES/EBU Digital XLR Audio output. two Blackburst Analog outputs, a pair of genlock Loop-Through inputs and a 27-MHz Clock output.

- 4 Serial (includes Digital Black) and one Parallel Outputs
- EDH Codes in accordance with RP-165
- 4-channel AES/EBU Embedded Audio Plus, Independent AES/EBU Digital Audio Output
- Compression Tests include Variable Speed, Direction Controlled Marker and Sequentially Switched Patterns
- Digital Genlock with Programmed Advance and Delay
- 27-MHz Clock Output
- Two Analog Blackburst Outputs
- 20-Character Programmable ID and Calendar/Clock
- Test Signals (adapt automatically to 625/50 or 525/60 requirements)
- Full Field 100% Color Bars
- Full Field 75% Color Bars (EBU Bars in 625/50)
- SMPTE Color Bars (BBC Bars in 625/50)
- Combination Color Bars/Ramp (SMPTE or BBC)
- Flat Field, Red
- Multiburst, 100% or 60%
- Multipulse
- Line Sweep, 100% or 60%
- Bow Tie (used with permission of Tektronix. Inc.)
- 10-Step Staircase
- Ramp: Oversize, Digital Limit and Shallow (10)
- SDI Pathological Check Field

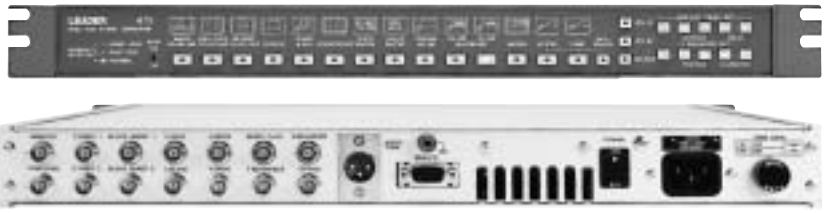
425A

Component Video Test Signal Generator

A precision Test-Signal source for Component and Composite systems, the 425A operates in Betacam, RGB Components, Composite and Y/C. For Component needs RGB or Y, R-Y, B-Y (3 wire) feeds are provided. The latter is tailored to Betacam specifications. In addition, Y and time-compressed Chroma in the CTCM or CTDM format (2 wire) may be selected. All signals are synthesized from a 10-bit D/A to provide both precision and long-term stability. Component test signals include those tailored for Linearity and Transient response in Component systems, as well as a new (patent pending) timing signal – the Shark Fin – that provides timing measurements over a wide frequency range. Composite Test Signals include Color Bars, 50% White and Color-Bar, Red Raster, Pulse/Bar and Modulated and Unmodulated Staircase. Setup is front-panel switchable to 7.5% or zero. A standard dub connector provides direct connection to Betacam systems, and the generator accepts source selector settings from a compatible recorder that receives its drive from the dub connector.

411 *Genlockable NTSC Test/Sync Generator*

Ideal choice for Master Sync and Test-Signal Generator for production, post production and systems maintenance, the 411 offers the stability and precision of Digitally Synthesized Analog signals.



A 10-bit D/A provides excellent accuracy for all test signals, while an 8-bit D/A is used for sync blanking and related signals. Test signals include: SMPTE and Full-Field Color Bars; Split Field Bars with reversed bars in lower half; Window; Pulse-Bar (2T, modulated 12.5T and bar); Dot/Crosshatch; Red and Blue rasters; White rasters at 100 and 50 IRE; 100 and 50 IRE Multiburst; Matrix Test Pattern that includes Crosshatch, Pulse Bar, SMPTE Bars and Multiburst; 10-Step Staircase and Ramp with Modulation On/Off or each; and a 10 and 90 APL signal with bounce On/Off control.

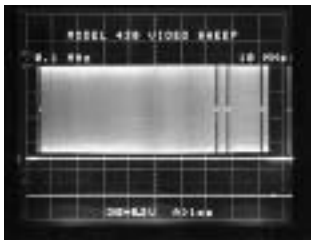
Also offers digital genlock with front panel fast and slow Advance and Delay fingertip control. Mode LEDs show Sync Generator status in terms of internal reference and both Burst and Sync Lock. A dedicated SMPTE Color Bar output, featuring a 16 digit alphanumeric source identifier, provides a convenient Color Bar/Source ID available at all times. Character selection is easily set up at front panel fingertip controls. Included are audio tones at 400 or 1000 Hz (internally switchable) at 0 dBm (internally adjustable from -3 to +6 dBm), balanced output at XLR connector. A Master Sync Generator that offers long-term dependability, accuracy and stability, with all the test signals that an NTSC environment is likely to need, the 411 stands out in overall value, yet uses up only one unit (1-3/4″) of vertical rack space.

410C *Synthesized NTSC Sync/Test Generator*

Maintenance and alignment instructions for Professional-Grade Video equipment call for the use of specialized test signals, such as the Sin^2 Pulse, Modulated 12.5T Pulse, Multiburst, Modulated Staircase and others. The 410C meets these needs and ensures both short and long term accuracy through the use of 10-bit Digital Synthesis. Rear panel facilities include a 14-pin remote control connector, a second video feed (isolated from the front panel output), CW Subcarrier output (2v p-p) and three Blackburst outputs. The 410C occupies 1¾″ of vertical rack space and weighs 13.1 lbs., making it suitable for rack, bench or field use.

- 10-Bit Digital Synthesizer
- Complies with RS-170A
- Pulse/Bar with Modulated 12.5T Pulse
- Multiburst at 50% and 100%
- Modulated and Unmodulated Staircase
- 3 Blackburst Outputs
- SMPTE, EIA and Full-Field Bars, Dot/Crosshatch
- Calibrated and Continuously Variable Outputs with 3 Blackburst, Composite Sync and CW Subcarrier Outputs.

Video Sweep Generator with Multiburst



The 430 supplies Sweep and Multiburst signals, as well as SMPTE and Full Field Color Bars and Flat Field rasters in eight colors, including B&W. The Field Rate Sweep features start-stop control to tailor Sweep width to the band of interest. Five separate sets of precision dropout markers spot key frequencies, and each set can be used alone or in combination with the others. Both Sweep and Multiburst are continuously variable, independent of Sync Amplitude, but a separate control sets overall output level. For Sweep/Multiburst operations where sync is not desired (preamp checks), sync may be switched off. Here the scope is triggered from V or H drive signals or composite sync for WFM monitors.

- Start-Stop Sweep to 10 MHz
- 5 Sets of Sweep Markers
- Sweep and Multiburst
- Sweep with and without composite sync
- Y/C operation
- Sweep Amplitude Continuously Variable

LCG-412B *Handheld NTSC Pattern Generator*

Small enough to slip into a coat pocket, briefcase or toolbox, the LCG-412B is the ideal video pattern generator for field service of TVs, VCRs and monitors. It features baseband video output that handles the standard 75 ohm load and provides Full- Field 75%, Color Bars, Crosshatch, Dots, a Corner Marker and White, Red, Green or Blue Full-Field rasters. These signals are also modulated on VHF or UHF carriers with 1 kHz internal sound modulation. Full broadcast coverage is provided with a slide rule dial for channel indication. Runs on six AA cells or an AC adapter,.

408/408NPS

NTSC • NTSC/PAL/SECAM Test Generators

MicroProcessor control and digital synthesis give the 408 extreme flexibility in test signal programming of both video and RF outputs. Signals available simultaneously include composite video, Y/C, Y/R-Y/B-Y, RGB, Full Sync Generator outputs, Audio Test tones (400 Hz and 1 kHz) and modulated output from 30 to 900 MHz. Multiple test patterns include Wide and Narrow Video Sweeps and Multiburst with last burst variable to 15 MHz. Signal modifiers include Polarity Inversion, Superimposed Circle and Moving Marker, as well as On/Off and Level control of Burst, Sync, Setup, Luminance, Chroma, R, B and G. Genlock and remote control are standard. GPIB is available as an option. Applicable video and audio modulation is selected by system designation. The FUNCTION DATA block provides easy access to all programming functions. Here, up to 100 test setups can be stored, each one holding front panel settings (Pattern Selected, Genlock On/Off, Signal Modifiers, etc.), tailored or standard video parameters. RF channel are selected or tailored to any carrier frequency between 30 and 900 MHz. Program control over video parameters allow component values for Betacam to be set up. The LCD panel shows partial programming menus, but the full menus may be superimposed on the selected pattern on a monitor screen.

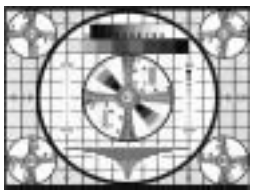
- Composite, RGB, Y/R-Y/B-Y, Y/C
- VHF/UHF/Cable R-F Coverage
- Programmable Parameters
- 100 Program Storage
- 15 MHz Sweep and Multiburst
- VHF/UHF Modulator Accepts Internal and External Video and Audio

The 408NPS operates in the NTSC system plus it extends all operating features into PAL (PAL-B, C, D, G, H, I, K and L) and SECAM (SECAM III-B, D, G, H, K and L).

435B

Monoscope Pattern Generator

The Monoscope Test Pattern was first used by broadcasters to provide a test pattern for receiver adjustments. It employed a special analog generator, using an engraved CRT with precision deflection. Digitally synthesized generators followed but were prohibitively expensive. Leader now offers the 435B, featuring a digitally-generated Monoscope Pattern with wedges calibrated to read up to 1000 lines of TV resolution –the ideal source to test and offer proof of performance for high-performance TV monitors and VCRs. The Monoscope Pattern also offers perfect geometry for precise deflection size and linearity adjustments, provides resolution patterns in the corners to check corner focus, includes a 10-step grayscale to check tonal range and calibrated markers to check line-rate tilt (the cause of H streaking) and ringing. To round out the 435B's value as a professional generator, it offers Pulse and Bar Signal for critical Chroma-Delay checks, a Line Rate Sweep for frequency response, a window signal for Tilt/Shading checks and a Modulated Staircase for Linearity measurements. Both Full-Field and SMPTE Bars are included, and Color Bars may be superimposed on the Monoscope Pattern. Monoscope, Dot/Crosshatch, Window and Character patterns may be inverted for a negative image.



- 1000 Line Monoscope Pattern
- Full-Field and SMPTE Color Bars
- Pulse/Bar and Modulated 12.5T Pulse
- Line Sweep with Markers
- Modulated 5-Step Staircase
- Dot/Crosshatch
- Window Pattern
- Character (Computer Style) Pattern R, G, B, White and Magenta Rasters
- RF (CH3/4), Composite Video and Audio Out

401YB *NTSC Video Pattern Generator*

The 401YB has toggle switches for raster combinations of Red, Green, Blue, Yellow, Cyan and Magenta, in addition to White and Black. Black burst can be obtained by setting all front panel switches in the Out position. Outputs are available in Composite, RF CH 3/4, as well as Y/C and RGB TTL, with RGB Analog available as an option. Considering its capabilities, this stable generator is an excellent value.

- 11 Test Patterns
- Full-Field and Split Field Color Bars
- 8 Color Rasters include White and Black
- S-Video Output
- RGB Output (TTL Level)
- Composite Video + CH3/CH4
- Dots/Crosshatch/Single Cross
- Progressive and Interlaced Scan

LT-1607 *PC Scan, NTSC Pattern Generator*

Little bigger than a paperback book, the LT-1607 provides a precision, stable source of test signals for a wide range of computer and NTSC monitors. Controls are simple and straightforward, with raster formats called up from keys labeled with recognized computer formats, such as VGA, MACI3, etc.

Patterns include those most often required to check color operation, deflection size, linearity and centering. On/Off control of RGB and Sync are useful for monitor adjustments, as Full Field rasters can be set up in White, Black, Yellow, Cyan, Green, Red, Magenta or Blue. A feature not included in many service-type RGB generators is the addition of fully encoded NTSC, as well as Y/C as one of the eight systems covered. Auto Pattern sequencing steps through the five Pattern keys twice – once with normal polarity and, again, with all patterns reversed (Inverted Polarity).

- RGB Test Source Drives most Computer Monitors
- Includes Composite and Y/C Drive for NTSC Monitors
- Compact, Lightweight and DC Powered
- Twelve Test Patterns
- On/Off Control of RGB and H & V Sync
- Individual RGB Level Control
- Auto Pattern Sequencing
- Handles VGA, SVGA, XGA, SXGA, MAC13, MAC16, MAC19 and Composite, Y/C NTSC

Test Generators at a Glance

Video Generators	LT 441D	LT 440D	LT 425D	425A	411	410C	430	408	408 NPS	435B	401 YB	LCG412B	413S
Systems													
HDTV 1125/60	Yes	Yes											
DTV 525/60, 625/50			Yes										
Analog Component				Yes					Yes				
NTSC				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
PAL				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
SECAM									Yes				
Output Signals													
4:2:2 SDI 1125/59,94, 112	Yes	Yes											
4:2:2 SDI 525/59,94 625/50			Yes										
Analog Component 525/59.94				Yes				Yes	Yes		Yes		
Analog Component 625/50									Yes				
Analog Composite				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Y/C				Yes			Yes	Yes	Yes	opt.	Yes		
Y/CTCM or Y/CTDM				Yes									
AES/EBU Digital Audio	Yes	Yes	Yes										
Embedded Digital Audio	Yes	Yes	Yes										
Audio Test Tones					Yes			Yes	Yes	Yes		Yes	Yes
RF Output								Yes	Yes	Yes	Yes	Yes	
Black Burst			2	3	2	3		2	2				
Digital Black													
Sync Signals	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes		Yes		
Test Signals	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Color Bars	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Video Sweep	Line	Line	Line	Line			Field	Field	Field	Line			
Functions													
Genlock	Yes	Yes	Yes	Yes	Yes			Yes	Yes				
Remote Control	Yes	Yes	Opt	Yes	Yes	Yes		Yes	Yes				
Programmed Functions	Yes	Yes	Yes					GPIP	GPIB				
DC Power												DC Pwr	DC Pwr