Digital & Analog Digital Time Displays

1200DD & 1201DD
Data Digital Display

- Self-setting with SMPTE/EBU timecode input or battery back-up
- Built-in quartz time base oscillator with battery back-up
- May be operated as a timecode reader for use with countdowns
- Digital display is user-selectable between HH:MM:SS, 12/24 hour, HH:MM:SS FF and date
- May be configured as a timecode generator to drive other clocks
- LED brightness is adjustable
- Runs on 50/60Hz, 115/230V AC power line
- Built-in NTP agent
- User-programmable time offsets
- Rack mountable
- Green LEDs optional

Ordering Information
1201DD   1RU Rackmount Digital Display
1200DD   2RU Rackmount Digital Display

1216 & 1212
Remote Time Display

- SMPTE/EBU timecode input
- Three motors for quiet operation and rapid hand setting
- Addressable slave clocks with programmable time offsets
- Automatic daylight saving time adjustment
- Single cable distribution for both power and timecode
- Low voltage (12V) operation
- Master or slave operation with battery backed up clock
- Sweep or step second hand movement
- Optional illumination
- Two sizes: 16" or 12"

Ordering Information
1216   16" Diameter Analog Clock Display
1212   12" Diameter Analog Clock Display
1216L   16" Diameter Analog Clock Display with Back Lighting
1212L   12" Diameter Analog Clock Display with Back Lighting

1275A
Remote Time Display

- Multifunction time of day display
- Can be a slave to a master clock system or a self-contained presettable clock
- 60 bright rectangular LEDs are mounted in a circular arrangement simulating an analog second hand
- 12 individual round LEDs indicate the hour
- As a slave display, the unit reads SMPTE/EBU time code
- Programmable time zone offsets from the incoming mode
- As a standalone clock, it can operate in 12 or 24 hour mode
- 2 unobtrusive front panel push buttons allow presetting and accurate synchronization to a standard time source
- An eight-position DIP switch permits user-selection of four different operating & display modes and the time zone offset
- Beautifully finished with black wood trim, the 1275A is ideally suited for studio, lobby, board room or office mounting

Ordering Information
1275A-110   Digital Clock Display 115V/60Hz
1275A-220   Digital Clock Display 220V/50Hz
+DQS   Optional DQS-B6 Code Format

Master SPG, Master Clock & Test Set System

Also Featuring Evertz® Digital & Analog Clocks
- *1200DD*
- *1201DD*
- *1216*
- *1212*
- *1275A*

1216   1212   1275A

Combination Master Sync Pulse Generator, Master Clock & Test Set System

5600MSC Master Sync & Time Reference Generator

The 5600MSC is a Master SPG, Master Clock and Master Time Code Generator all in one box. It provides analog black and HDTV tri-level sync signals and solves the problem of locking the in-house master clock system to the master video sync pulse generator. The separate 5600ACO automatic changeover unit completes the package.

A high stability temperature controlled oscillator provides the 5600MSC with better than 0.5×10^{-8} (0.005ppm) frequency reference. The free running drift of this 10MHz reference will be less than 0.1Hz (amounting to less than 1 millisecond time drift per day). This guarantees that any frequency drift, with time and temperature, will be within the tolerances expected from the best SPGs or master clocks available in the industry. The 5600MSC may also be referenced to an external 5MHz or 10MHz master oscillator if higher stability is required. By adding the GPS option, both the SPG and the Master Clock sections may be referenced to high stability time and frequency standards present in the Global Position System (GPS). The 5600MSC provides a high stability 10MHz output reference for use by other devices. Through VistaLINK® PRO it is possible to set up password-protected "user" and "engineering" modes. User mode limits menu access, thereby preventing potential mis-configurations of key sync outputs.

Master SPG Functions
• 6 independently timeable reference outputs
• PAL and NTSC blacks (simultaneously if required)
• 1Hz, 1/1.001Hz, 6/1.001Hz, PAL color frame
• HDTV Tri-level sync (simultaneously with blacks if required)
• All HDTV standards
• 5/10MHz reference input
• 10MHz reference output
• Optional NTSC/PAL, SDI and HDTV test generators
• DARS reference (optional with +STG test generator)
• Analog and AES audio tones (optional with +STG test generator)
• Sub carrier stability of better than 0.1Hz per month
• Optional GPS receiver with ATR video phasing
• Audio word clock may be generated from DARS with 520DARS-W module

Slave SPG Functions
• Genlock mode for locking to other external black burst source

Master Clock Time Code Generator Functions
• Two master LTC time code generators - may be different frame rates and different times
• 23.98, 24, 25, 29.97 (drop frame & non-drop frame) and 30Fps Time Code
• Date in the user bits (4 standards supported + manual entry)
• Daylight saving time compensation
• 6 VITC timecode outputs (in video blacks)
• Can support 6 additional time zones
• Optional GPS receiver for time of day reference
• Optional modem for time of day reference
• Optional network time protocol server (NTP)

Test Generator Options
• PAL/NTSC/SDI/AES/DARS Test Generator and Analog Audio Tone outputs
• HD-SDI Test Generator with Source Ident and Audio Tones (embedded)
• Multiple test signals; 28 SDI/PAL, 33 SDI/NTSC over 30 HDTV
• Programmable Audio Tones (continuous or interrupted)

GPS Reference Option
• The GPS receiver provides a reference for frequency, time and video based on absolute time reference
• Remote SPGs also locked to GPS reference may be used to time remote sources
• As both SPGs are locked to GPS, no frames will be dropped or repeated

5600ACO/5600ACO2 Automatic Changeovers

The 5600ACO & 5600ACO2 Automatic Changeovers are intended for use with two 5600MSC Master Clock/Sync Generators. The systems use latching relays ensuring maximum reliability & minimal disruption in the event of any failure. The complete system provides the highest level of security for television station video and time synchronization systems. The 5600ACO is a 1RU device for a subset of the 5600MSC outputs. The 5600ACO2 is a 2RU ACO for all outputs of the 5600MSC. Two power supplies are included to alleviate any single point-of-failure concerns.

In automatic mode, all signals from both 5600MSCs are monitored to detect any abnormal signals. If a level, pulse width, phase, time code error or other abnormality is detected, the 5600ACO2 circuitry triggers and the entire bank of signals switches to the backup 5600MSC. In manual mode the changeover can be operated from a GPI or front panel switch. With VistaLINK® PRO, the user can configure switch-overs through voting control menus of facility-critical inputs.
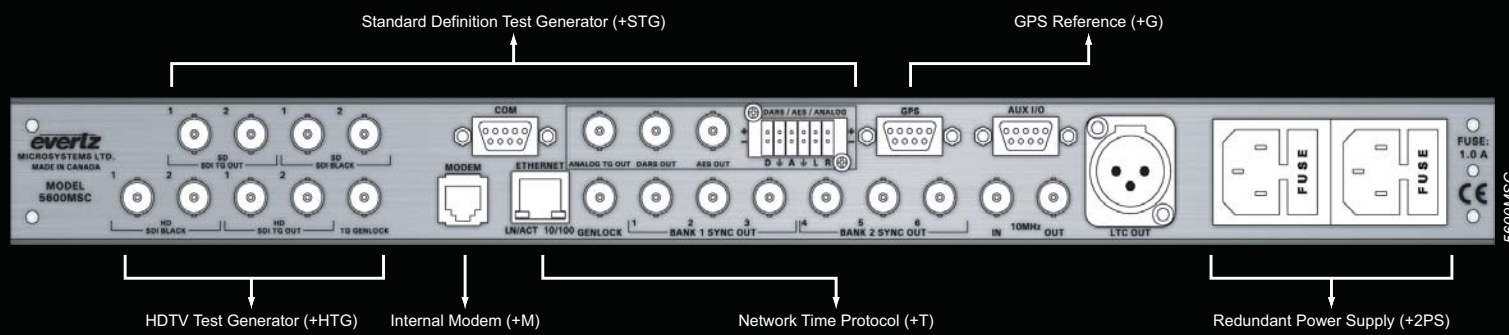
Features
• Three front panel switches select automatic, front panel or GPI activation of changeover
• Front panel switches are recessed to prevent accidental operation
• Front panel LEDs show the health of each of the inputs as well as the operational modes of the changeover
• Redundant power supply standard
• GPIO input/outputs
• ACO is a voting system based on which source has the most valid signals, and that the good signals on the present master are also on the backup
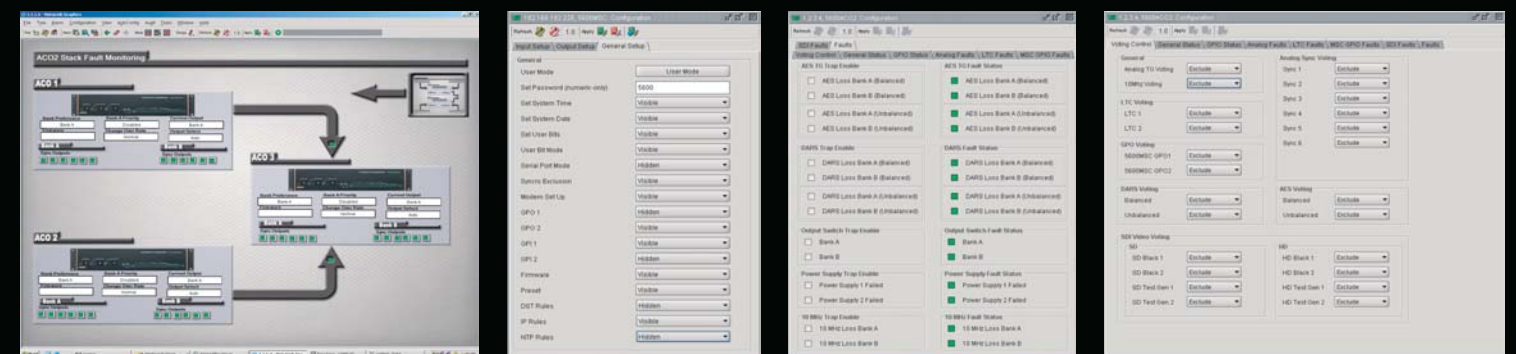
Protected Outputs
• 6 video/sync or other coaxial signals
• 10MHz frequency reference output
• DARS output
• 2 Linear Time Code outputs

Added Features of the 5600ACO2
• 4 HD-SDI and 4 SDI test signal outputs
• 1 analog video test signal output
• Balanced analog audio output (not monitored)

Standard Definition Test Generator (+STG)
GPS Reference (+G)
HDTV Test Generator (+HTG)   Internal Modem (+M)   Network Time Protocol (+T)   Redundant Power Supply (+2PS)

6 Bi-level/Tri-level sync
LTC 1 & LTC 2
10MHz
HD-SDI Test Sets
SDI Test Sets
NTSC/PAL Test Sets
AES Test Sets
DARS
Analog Audio Tones
NTP Server
Word Clock

GPS Reference
5/10MHz
Dial-up
NTSC/PAL/
Tri-Level HD/Reference

VistaLINK® Monitoring & Control

VistaLINK® PRO PLUS and 5600ACO Status Monitoring

5600MSC Engineer vs User Menu Display & Access

5600ACO Status Monitoring with SNMP TRAPS

5600ACO Bank Switch-over Voting Control

Ordering Information

5600MSC	Master SPG/Master Clock System
5600ACO	1RU Automatic Changeover System
5600ACO2	2RU Automatic Changeover System

Ordering Options & Accessories

+2PS	Optional Dual Power Supply
+LTC	Time Code input only

+GP	GPS Reference
+HTG	HD SDI Test Generator, 2 HD SDI test signals & 2 HD SDI black
+M	Modem Option
+STG	SD SDI Test Generator, 2 SDI test signals & 2 SDI black plus an AVTG
+T	Network Time Protocol (requires either +G or +M options)
+WC	Word Clock Option
5600-GPS	GPS field upgrade for a 5600MSC. Includes 50' cable