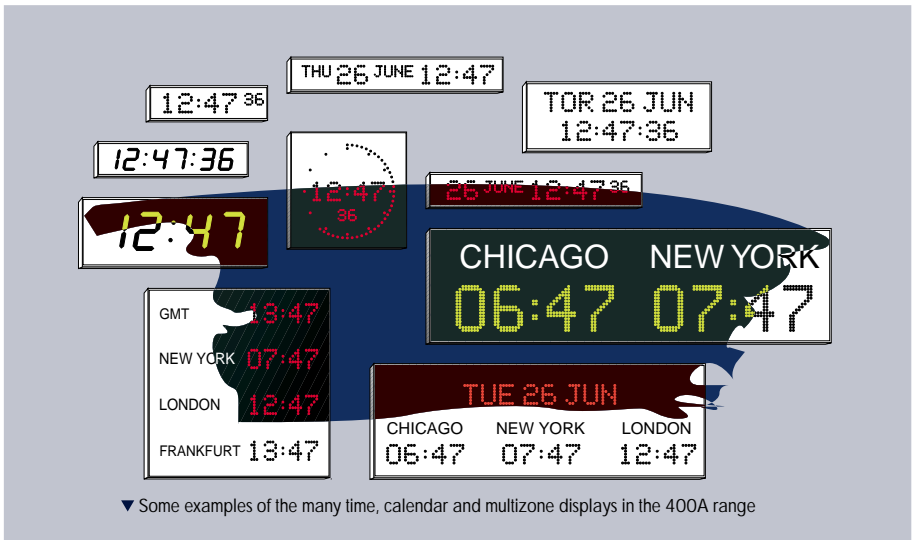


TIME

400A SERIES DIGITAL TIME, CALENDAR AND MULTIZONE DISPLAYS

400A SERIES



DESCRIPTION

The 400A series of digital clocks is a comprehensive range of elegantly housed time, date and world time zone displays for situations ranging from studio control desks to large reception areas.

Display heights range from 20mm to 200mm, giving viewing distances up to 100 metres.

The high-intensity LED displays have automatic brightness control for comfortable viewing in a broad range of lighting situations. Red LEDs offer high visibility, whilst green are ideal for in-camera locations such as news room clocks. Custom colours are available for quantity orders. Time can be shown in

12 or 24-hour format on any display. Calendar displays give the month and day in 20 languages,

optionally stepping between languages at chosen intervals. Studio displays include seconds

on an analogue LED "face" in addition to the digital read-out, for accurate countdown. With

an optional 406 Temperature Sensor, displays alternate between showing time and temperature.

Displays can be synchronized to many references including MSF, DCF, GPS, per-second and per-minute impulses, SMPTE/EBU timecode and serial data. For the greatest functionality, up to 50

displays can be connected to a 482 or 4850 Master Clock by a single looped pair, with each display showing any of fifteen time zones. Seasonal time changes, leap-years and leap-seconds are

automatically managed by the master clock. Alternatively, the displays may be used entirely independently, free running with an accuracy of better than 99.999%.

400A Series

▼ All of these displays can be connected directly to a 482 or 4850 Master Clock for fully automatic setting and operation, with up to 50 displays linked in parallel using twisted pair cable.

Battery backup is provided for the electronic circuits, ensuring that timekeeping is maintained if power to the display fails.

Loss of reference is indicated by a flashing colon; alternatively, displays can be programmed to blank or freeze during reference failure.

All programming features are easily accessed by conveniently-placed control buttons, including time and date setup, display mode selections, synchronization information and serial data output format.

Time Displays



▼ **Model 401A** displays hours, minutes and seconds in a bright, clear digital format in six sizes for viewing distances up to 100 metres, making this model useful in situations ranging from small control panels right up to very large public areas. The models are 401A.02 (20mm/14mm digits), 401A.05 (50mm/30mm digits), 401A.057 (57mm digits), 401A.100 (100mm digits) and, to special order, 401A.20 (200mm digits).

Model 401A.02 is available for panel mounting; larger models may be panel mounted or wall mounted.



▼ **Model 420A** is similar to model 401A, except that it offers hours and minutes without a display of seconds. The models are 420A.02 (25mm digits), 420A.05 (50mm digits), 420A.057 (57mm digits), 420A.100 (100mm digits) and, to special order, 420A.20 (200mm digits).

Model 420A.02 (illustrated) is available for panel mounting; larger models may be panel or wall mounted.

Studio Displays



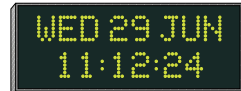
▼ **Model 490A** displays hours, minutes and seconds using a conventional digital format, surrounded by a ring of twelve LEDs indicating the hour positions on the clock face and a ring of sixty LEDs which provide an immediately recognisable analogue display of seconds. Programming options allow the digital seconds display to be disabled, and provide several options for the analogue display, allowing customisation to suit the viewer.

There are three sizes: model 401A.01 has 14mm high digits surrounded by an 80mm diameter analogue face; model 401A.02 has 20mm high digits and a 110mm diameter face; and model 401A.05 (illustrated) has 50mm high hours and minutes and 30mm high seconds, and a clock face of 240mm diameter.

Countdown Displays



▼ **Model 456A** is a calendar clock showing the day of the week, the day of the month and the month name, plus hours, minutes and seconds. This display alternates with a countdown showing days, hours, minutes and seconds, counting to a date and time determined by the user. It is available in one size with 50mm high digits and letters, model 456A.05.



▼ Display heights and approximate viewing distances:

Height	Distance
14mm	7m
20mm	10m
25mm	12m
30mm	20m
50mm	25m
57mm	30m
100mm	50m
120mm	60m
200mm	100m

Calendar Displays

▼ Calendar clocks display the date in addition to time, making them ideal for reception areas and other public places.

Display of the day of the week and the month name may be selected from many languages, including: Catalan, Croat, Czech, Danish, Dutch, English, Finnish, French, Gallician, German, Hungarian, Italian, Norwegian, Polish, Portuguese, Russian, Slovak, Spanish, Swedish and Welsh. Displays can be programmed to automatically step between two or three chosen languages, displaying each for a period of up to 15 seconds.

There are six different styles of calendar clock, available with either 50mm or 120mm high digits.

▼ Model 450A displays the day of the week, the day of the month and the month name, plus hours and minutes.



▼ Model 451A (illustrated)

displays the day of the month, the month name, hours, minutes and seconds.

▼ Model 452A displays the day of the week, the day of the month and the month name, plus hours and minutes.

▼ Model 453A displays the day of the week, the day of the month and the month name, plus hours, minutes and seconds.

▼ Model 454A displays the day of the week, the day of the month and the month name, plus hours and minutes.

▼ Model 460A displays the day of the month, the month name, hours and minutes.

The day of the week may be replaced with the day of the year or the week number, simply by selecting a different operating mode. Additionally, a numeric date may be shown in place of the time, in European (day, month, year) or US (month, day, year) format.

World Time Zone Displays

▼ The 400A Series World Time Zone Displays allow several different world time zones to be shown on a single display, with the option of the date on certain models.

Different case styles allow the times to be arranged either horizontally or vertically, to suit a variety of locations. Cases are individually silk-screened with city names (or other appropriate information) provided by the customer.



▼ There are four vertical models showing either three zones plus date (471A), four zones (473A), five zones plus date (470A, illustrated) or six zones (472A). Each is available in 50mm and 120mm digit sizes.

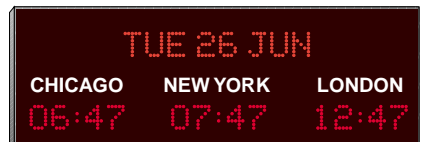
▼ There are two ranges of horizontal models, each available with either 3, 4, 5, 6 or 8 time zones.



Model 474A comes in digit heights of 25, 50, 57 and 120mm

for applications ranging from small control rooms to very large public areas. The illustration shows model 474A5/025, with 5 zones and 25mm high digits.

Model 475A is available with 50mm high digits and includes the date above the time zones. The illustration below shows model 475A3/05.



400A SERIES DIGITAL TIME DISPLAYS

Circuits of up to 10 displays can be operated without a master clock, using one synchronized "Local Master" display as the reference for the others. A special interface module is installed in the Local Master display which provide the time signal to the slave displays. A single zone of time and date information is transmitted, making this an ideal approach to simple systems. The displays can be connected to a 482 master clock, without modification, for multi-zone operation and the full range of facilities.

The 400A series is available in surface-mounting (for walls) and flush-mounting (for panels) anodised aluminium cases, 58mm deep. Hinged brackets allow surface-mount clocks to be positioned at an angle to avoid reflections from the display surface. Flush-mount displays have a 6mm flange, and fit into an aperture slightly larger than the case dimensions given below. The fittings accommodate a panel of up to 22mm thickness. Models 401.02 and 420.02 are available in flush mount only.

SPECIFICATIONS

400A SERIES

- Free-running accuracy
- Standard synchronization
- Optional synchronization
- Time format
- Temperature display
- Display colours
- Fail mode (std sync)
- Fail mode (opt sync)
- Multi-zone operation
- Seasonal change mode
- Languages
- Master Clock system
- Local Master system
- Mounting options
- Power

Digital Displays

- Better than 99.999% from internal oscillator
- 482 code, MSF/DCF/GPS receivers, 6-24V impulses
- Serial, EBU, IRIG-B
- 12 and 24 hour (selectable)
- With optional sensor
- Red or green
- Blank or continue with flashing colon (selectable)
- Freeze or continue with flashing colon (selectable)
- 15 zones (selectable) with 482D Master Clock
- UK, European and US modes (selectable)
- 19 (selectable) on calendar displays
- Up to 50 slave displays with selectable time zones
- Up to 9 slave displays from 1 "Local Master"
- Surface (wall) or flush (panel)
- 110 or 230V AC, 24V DC option

DIMENSIONS

Model	Size WxHxD (mm)	Model	Size WxHxD (mm)	Model	Size WxHxD (mm)
401A.02	132 x 58 x 150	454A.05	300 x 300 x 58	474/6A.05	1804 x 180 x 58
401A.05	305 x 90 x 58	454A.12	600 x 600 x 58	474/8A.05	2408 x 180 x 58
401A.057	390 x 90 x 58	456A.05	480 x 180 x 58	474/3A.057	904 x 180 x 58
401A.100	670 x 180 x 58	460A.05	460 x 90 x 58	474/4A.057	1204 x 180 x 58
401A.12	670 x 180 x 58	470A.05	525 x 750 x 58	474/5A.057	1504 x 180 x 58
401A.20	1335 x 300 x 58	470A.12	1040 x 1500 x 58	474/6A.057	1804 x 180 x 58
420A.02	132 x 58 x 150	471A.05	525 x 510 x 58	474/8A.057	2408 x 180 x 58
420A.05	240 x 90 x 58	471A.12	1040 x 1020 x 58	474/3A.12	1804 x 300 x 58
420A.057	305 x 90 x 58	472A.05	525 x 750 x 58	474/4A.12	2408 x 300 x 58
420A.100	480 x 180 x 58	472A.12	1040 x 1500 x 58	474/5A.12	3004 x 300 x 58
420A.12	480 x 180 x 58	473A.05	525 x 510 x 58	474/6A.12	3604 x 300 x 58
420A.20	900 x 300 x 58	473A.12	1040 x 1020 x 58	474/8A.12	4804 x 300 x 58
450A.05	550 x 90 x 58	474/3A.025	454 x 120 x 58	475/3A.05	904 x 300 x 58
450A.12	1450 x 180 x 58	474/4A.025	604 x 120 x 58	475/4A.05	1204 x 300 x 58
451A.05	550 x 90 x 58	474/5A.025	754 x 120 x 58	475/5A.05	1504 x 300 x 58
451A.12	1450 x 180 x 58	474/6A.025	904 x 120 x 58	475/6A.05	1804 x 300 x 58
452A.05	480 x 180 x 58	474/8A.025	1204 x 120 x 58	475/8A.05	2406 x 300 x 58
452A.12	940 x 400 x 58	474/3A.05	904 x 180 x 58	490A.01	112 x 112 x 58
453A.05	480 x 180 x 58	474/4A.05	1204 x 180 x 58	490A.02	144 x 144 x 58
453A.12	940 x 400 x 58	474/5A.05	1504 x 180 x 58	490A.05	300 x 300 x 58

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