Operating Instructions FLYTEC 3030

1. On - Off switch
2. Analog vario display
3. Digital vario display
4. Altitude 1: Absolute altitude
   Altitude 2: Relative altitude / Stopwatch
5. Speed display / Time
   Peak value memory
6. Vane wheel sensor plug /
   Rechargable battery charging socket
7. UP key / START / STOP / RESET
8. DOWN key / Zeroing Altitude 2
9. Descent tone / descent alarm key
10. Sound volume key / Vario attenuation
11. Changeover key - SPEED-TIME-MEMO
12. Changeover key - Altitude 1 -Altitude 2 -
    Chrono
13. REC switch
14. Printer connection

Starting: On 1 or On 2 (1). Two independent batteries (rechargeable). The switch should be set to OFF when the unit has switched off automatically.

Battery control: Power voltage is indicated on the analog vario display (2) for approximately 10 seconds and «Po» for power on the digital vario display. When all the segments in the ascent sector (green) light up, this indicates that the battery which has been switched on has an energy reserve of 100%. Inadequate power reserve is indicated continuously when switched on and during operation by the lighting up of one or several segments in the descent sector (red) and «Po». If this occurs, the unit does not shift into operating mode.
Please refer to «CHANGEOVER TO RECHARGEABLE BATTERY OPERATION» for BATTERY changing information.

Automatic Power Down: Power is automatically cut off approx. 30 mins after the unit is last used. The on/off switch must first be set at OFF before the unit can be used again.

Setting mode: 1. Change to setting mode by pressing the desired key (9, 10, 11 er 12) for approx. 4 seconds. The corresponding display will then flash intermittently and can be adjusted.
2. Use the «Up» (7) or «Down» (8) key to set the required value. When entering altitude figures, the number display can be speeded up by continuous pressing.
3. Finish by pressing the corresponding original key.

Altimeter: Altitude 1: Absolute altitude. Can be set within weather-dependent tolerances.
Altitude 2: Relative altitude. Can be set whenever required over the whole measurement range and zeroed at any time by pressing the key «CLEAR ALTI 2» (8). It can also be zeroed while ALTI 1 is shown on the display.
Opening the changeover key ALTI 1-ALTI 2 (12) indicates the desired altitude and marks it with an arrow.
Pressing the changeover key (12) for approx. 4 seconds will cause the unit to change to the adiustment mode of the altitude currently displayed (see Setting mode).
N.B. While a flight is being recorded (REC switch set to ON), the adjustment mode for Altitude 1 is not available. The altitude can only be reset after recording has been switched off.

Altitude gain/loss: Altimeter 2 (ALTI 2) can he used to show a gain or loss in altitude as it can be zeroed at any time using the key «CLEAR ALTI 2» (8), even while ALTI 1 is displayed.

Vario analog: Fully automatic segment display over the entire range. Individual segments remain displayed until the end of the first scale sector is reached. They are then deleted from zero in the secondscale sectorpass again until the end of the second scale sector is reached.

Vario digital: Display over the entire range.

Digital vario attenuation: Changeover into the vario attenuation setting mode is effected by pressing the volume key (10) for approx. 4 seconds (c.f. Setting mode).The following average value computations can be selected for the digital vario display:
0 = average value for the last second (5 measurements per second)
5 = average value for the last 5 seconds
10 = average value for the last 10 seconds
15 = average value for the last
15 seconds

20 = average value for the last 20 seconds
25 = average value for the last 25 seconds
30 = average value for the last 30 seconds
The analog vario display is not attenuated.

Vario sound: Sound can either be switched off entirely or 2 volume levels can be set by repeatedly pressing the volume key (10). The volume level currently set will sound when the key is pressed. When the unit is switched on, the volume is automatically set at level 1.

Ascent tone: A sound interval with a rising tone frequency dependent on ascent frequency and a timbre dependent on scale (ASI: Acoustic Scale Indication) . The response point is set to optimum response time (factory setting) and can be altered (please consult a specialist).

Descent tone/Descent alarm: A continuous falling tone frequency dependent on descent with a timbre dependent on scale (ASI: Acoustic Scale Indication). Can be switched on or off by pressing the descent tone key (9). On switching on the descent tone/alarm and pressing the key, a segment will appear in the descent sector of the analog vario display to indicate the current response point. When the descent tone/alarrn is switched off, pressing the key will not produce a display.
The descent tone/alarm will only sound when the vario acoustic facility is switched on.
When the descent tone key (9) is pressed for approx. 4 seconds, the unit moves into the adjustment mode for descent tone/descent alarm (see setting mode). The response point can be adjusted within the entire range of the scale.

Wind speed display: The vane wheel sensor is connected to the socket (6) on the lefthand side of the unit. The readout appears in the lower display sector SPEED.

Stall alarm: Pressing the SPEED key (11) continuously for approx. 4 seconds will cause the instrument to change into stall alarm adjustment mode (see Setting mode). Acknowledge by pressing the SPEED key.

Stopwatch: The stopwatch can be activated by pressing the START/STOP/RESET key. Intermediate values can be timed by pressing this key briefly. They will be displayed in the upper display sector CHRONO. Further intermediate values can be measured by repeatedly pressing the START/STOP/ RESET key.
A flashing or immobile arrow in the CHRONO display sector indicates that the stopwatch has been activated. The stopwatch is deactivated by pressing the START/STOP/ RESET key continuously for approx. 4 seconds. The intermediate value mustbe timed before doing this.

Real time clock, date: Real time is shown in the lower display sector TIME.
Changeover into TIME setting mode is done by continuously pressing the TIME key (11). Enter the hour(s) and minute(s), acknowledge by pressing the TIME key. Enter the day and the month and acknowledge. Enter the year and acknowledge.
ATTENTION: The real time clock and the date can no longer be altered when the barograph recording has been activated with the REC switch (13). These two functions can only be reset when the rnemory has been cleared (q.v. BAROGRAPH: Clearing).

Peak value memory: Pressing the MEMO key (11) will display the flight data and peak values of the current flight (0) which are continuously updated during the flight. Maximum absolute altitude (ALTI 1). Maximum relative altitude (ALTI 2). Maximum ascent. Flight time. Date.
Pressing the DOWN (8) or UP (7) key will invoke the peak values of the last 20 flights (1, 2, 3, etc.), with flight 20 being the least recent flight.
Flight data is saved automatically when the unit is switched off (condition: the unit must have been switched on for 3 minutes and there must have been a clear difference in altitude).
Memories 0 to 20 are updated and the data of the least recent flight is deleted.

Barograph

Flight recording is started by switching on the REC switch (13) when starting, and stopped by switching off after landing. If this manual switch-off is forgotten, recording will continue until the unit is finally switched off. The barograph will save the current altitude every 15 seconds. The entire memory period is approximately 32 hours.

Clearing: Set the REC switch (13) to OFF. Select the MEMO function by pressing the changeover key (11). This is indicated by an arrow. A zero will appear in the display sector for the digital vario display (3). By pressing the reset key UP (7) and the DOWN (8) key simultaneously for approx. 4 seconds, the entire memory is cleared.

Printer: Your FLYTEC 3030 can be connected directly to a printer that satisfies the following specifications:
        Interface: RS232C
                      9600 bps
                      8 data bits
                      No parity
        Emulation: EPSON FX-8O/IBM Proprinter.
Bit-map mode command for graphic printout: ESC+L (Double density).

Print out: Connect the printer cable to the printer (serial printer port). Connect the other end of the printer cable to the printer connection socket (14). First switch on the printer and then your FLYTEC 3030.
Select the MEMO function by pressing the changeover key (11). This is indicated by an arrow.
A zero will appear in the display sector for the digital vario display (3). By pressing the changeover key (11) for approx. 4 seconds, all recordings saved will be printed out in the form of a list of contents. Barograph recordings are marked on the list with an asterisk and can be printed out subsequently. The flight number is given to the left of the list with flight 1 being the most recent flight recorded.
The flights which have been saved (1, 2, 3, etc). can be selected by pressing the DOWN (8) or UP (7) key. Each flight number is shown in the display sector for the digital vario display (3). By pressing the changeover key (11) for approx. 4 seconds, the flight selected can be printed out (q.v. sample printout).

Changeover to rechargeable battery operation: Order the FLYTEC AKKU SET from your local dealer (2 rechargeable batteries and 1 charging unit). Plug the charging unit into the charging socket (6) and recharge the batteries for approx. 8 hours. Both batteries will be automatically recharged during this period.
IMPORTANT: after a lengthy period of non-use the batteries will show an excessive operating voltage. This will fall to its actual value one minute after switching on the instrument. For this reason, the actual operating voltage should be checked again after approximately one minute. The average operating time per battery is approx. 12 hours (approx. 50 hours for alkaline batteries).
N.B.: Only use rechargeable batteries! The charging unit must never be connected when non-rechargeable batteries are being used.

Water damage: Open the unit immediately. If salt water has entered the unit, rinse it thoroughly (the printed circuit board, in particular) with hand-hot fresh water. Allow the unit to dry as well as possible, preferably in the sun. If this is not possible, the unit must be placed on a piece of wood in an oven. Allow the unit to dry off for one or two hours as required, at a temperature of approx. 50ºC. Leave the oven door open slightly to allow any moisture to escape!
N.B.: Never put the unit in a microwave oven!

Attachment: Clip or special attachment (fit to the rear of the unit). The clip can be unscrewed, twisted 90º and refitted.

Servicing, repairs: Return the unit to your nearest FLYTEC service agent.

FLYTEC AG
Ebenaustrasse 8a, CH-6048 Horw
Telefon: 041 / 340 34 24
Telefax: 041 / 340 54 24
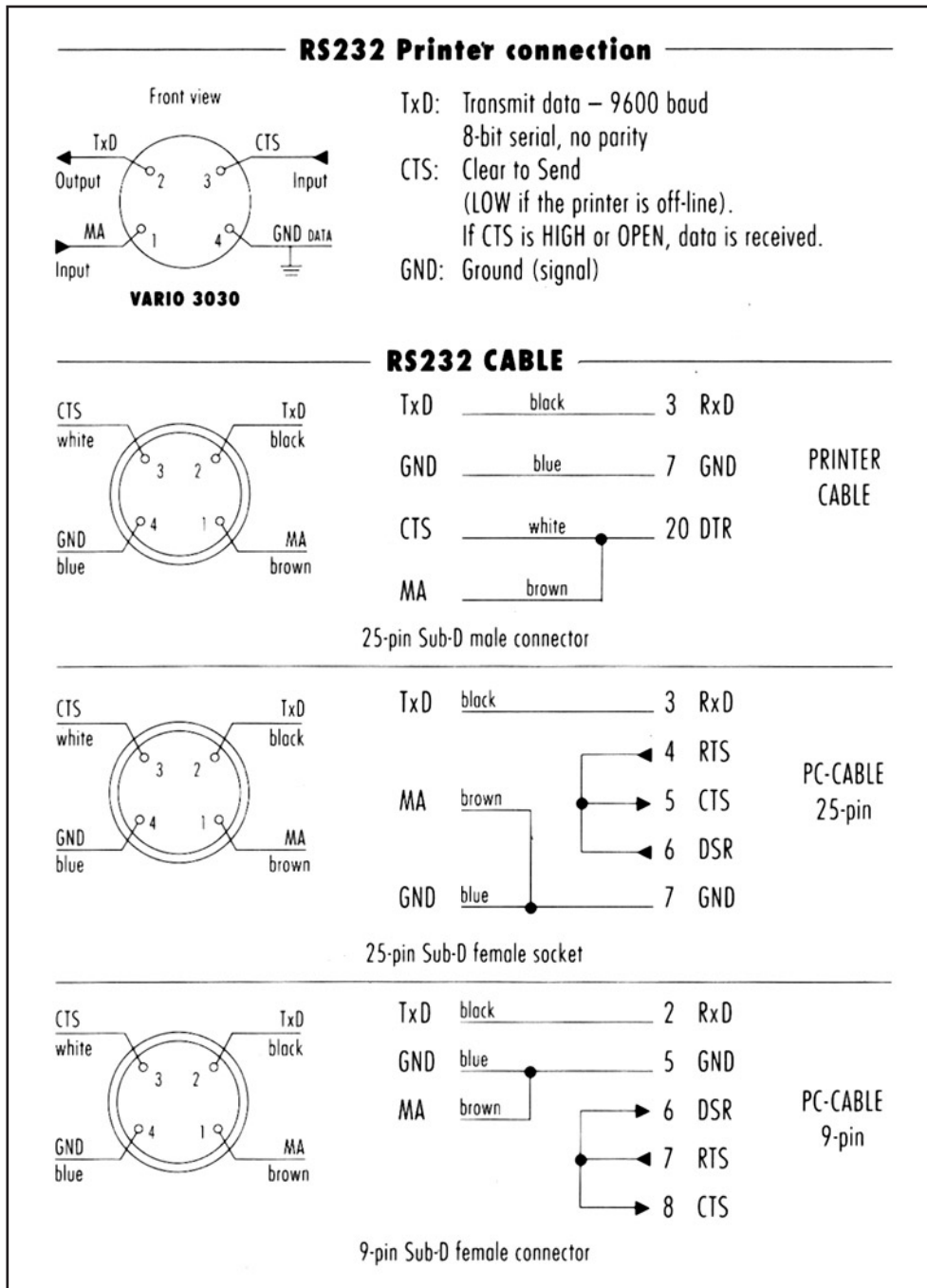
FLYTEC 3030 Barogroph: Procedure for official FAI observers

1. The observer must familiarize himself with the instrument for a period of a least 1 hour.
2. At the take-off site, the observer must note the pilot's name and the type and serial number of instrument to be used. He must verify that the case is intact and undamaged. He must inspect both FLYTEC seals on the back of the unit and ensure that they are in place and undamaged. Please see the drawing at the end of the text.
3. The observer must switch the instrument on and check that the time, the date and the take-off altitude have been set correctly. If any of these values are incorrect, the observer must set them to the correct value. Change to set mode by pressing the desired key for approx. 4 seconds.
   How to check the time and date:
   Step 1: Real time is shown in the lower display sector TIME.
   Step 2: Changeover to DATE is done by continuously pressing the TIME key.
   Step 3: Hour(s) and minute(s) are shown.
   Step 4: Acknowledge by pressing the TIME key.
   Step 5: Day and month are shown.
   Step 6: Acknowledge by pressing the TIME key.
   Step 7: The year is shown.
   Step 8: Acknowledge by pressing the TIME key.
   ATTENTION: The real time clock and the date can no longer be altered when the barograph recording has been activated with the REC switch. These two functions can only be reset when the memory has been cleared (q.v. user manual BAROGRAPH: Clearing),
4. The observer must switch the barograph on (REC).
5. The observer must continuously observe the pilot until take-off and verify that the pilot takes off with the instrument. The observer must note the exac time of take-off using an independant timepiece.
6. After landing, the pilot must set the REC switch and the instrument to OFF.
7. Printout: The observer must verify that the instrument displays the correct time and date and note any discrepancies with respect to local time. The observer must verify that the instrument is intact. He must also inspect both seals and ensure that they are undamaged. He must ensure that the instrument is connected directly to the printer by a single cable. The observer must also verify that nothing else is connected to the printer, e.g. an additional cable or instrument. Connection of the printer to the electrical mains is, however, permissible. The observer must verify that the printer paper is blank.
8. The observer starts the printout of the flight record and verifies that ihe instrument number printed out is identical with the number noted at take-off. The observer must also verify that the time of take-off and the date in the printout agree with bis records. The observer must be present during the entire printout procedure. When the printout is finished, the observer must remove the entire printout from the printer and add the date and his own signature.

FAI: Each FLYTEC 3030 is supplied with two factory -fitted FLYTEC seals which must be undamaged for FAI flights. If the instrument has been opened or if the seals have been damaged, the instrunent must be returned to the factory for checking and resealing.
The observer must ensure that FAI regulations are adhered to (q.v. «Procedure for official F.A.I. observers»)