The confident touch

Philips PageWriter TC20 cardiograph

The PageWriter TC20 is advanced, easy to use, and affordable without compromising your evolving workflow needs. The 1-2-3 touch operation leads you through acquisition, analysis, storage, printing and accessing previous ECGs with ease. Further enhancing workflow, worklists and patient demographics can be downloaded leveraging current technologies, using wired or wireless LAN, via standard XML, HL7, and DICOM communications. The TC20 also provides the world class DXL Algorithm with industry leading clinical decision support. Confidence into the future is provided with a standard multi-year warranty.

DXL

Key advantages

- Easy to use 1-2-3 touch operation
- Automated workflow with one button push
- Clinical decision support with industry leading DXL ECG Algorithm

PHILIPS

sense and simplicity

Features

PageWriter TC20 Cardiograph (860332)

ECG functions	
Simultaneous lead acquisition	12 leads
ECG reports	• 3x4, 3x4 1R, 3x4 3R, 3x4 1R plus ST maps, 6x2, 12x1 • Standard and Cabrera formats, plus Pan 12 Cabrera
Standard measurements	• Ten interval, duration, and axis measurements • Configurable QT correction method
Rhythm strips	Up to 12 configurable leads
Disclosure *(D05)*	• Five minute history of all 12 leads • Complete ECG report of any selected 10 seconds
Event marking *(D05)*	• 6 independent events can be marked for later review and analysis • Event markers appear on ECG reports
Timed ECG	Support for pharma stress protocols
Report storage and transfer	Full fidelity at 500 Hz of 10 seconds and for all 12 leads
Report format	PDF or XML formats
DXL ECG Algorithm *(D03)*	
Interpretive statements	• >600 interpretive statements • Integrated pediatric analysis
Borderline statement suppression	Three configurable settings
Extended measurements	• 46 measurements of morphology analysis in each of the 12 leads • 21 parameters of rhythm analysis
Reasons	Selectable explanations of all interpretive statements
Nomenclature	Aligned with 2007 AHA/ACCF/HRS Recommendations, Part II[1]
STEMI diagnostic aids	
Graphical ST presentation	• Two ECG reports with polar ST Maps • Frontal and transverse planes
Age and gender criteria *(D03)*	Based upon 2009 AHA/ACCF/HRS Recommendations, Part VI: Acute Ischemia/Infarction[2]
STEMI-CA (Culprit Artery) *(D03)*	• Criteria that suggest any of 4 probable sites of the occluded coronary artery • Based upon 2009 AHA/ACCF/HRS Recommendations, Part VI[2]
Critical Values *(D03)*	Highlights 4 conditions requiring immediate clinical attention

1 AHA/ACCF/HRS Recommendations for the Standardization and Interpretation of the Electrocardiogram, Part II: Electrocardiography Diagnostic Statement List. *J Am Coll Cardiology*, 2007; 49:1128-135.

2 AHA/ACCF/HRS Recommendations for the Standardization and Interpretation of the Electrocardiogram, Part VI: Acute Ischemia/Infarction. *Circulation*, 2009; 119:e262-e270.

Advanced bi-directional network communications[3]	
Central time management *(D01)*	• Time can be manually or automatically synchronized to a Network Time Server • Network Time Service supported from hospital system, TraceMasterVue, or ECG Gateway
Orders Worklist *(D01)*	• Download of orders worklist from networked server • User-configurable drop down lists (e.g., by location, user, or shift) • Ad hoc query for specific orders based upon multiple user-entered or scanned search criteria (e.g., Patient ID, Last/First Name) • Supported by Open Worklist with TraceMasterVue and select departmental systems • Supported by standard HL7 and DICOM interfaces via ECG Gateway for departmental and hospital systems
ADT *(D02)*	• Query and retrieval of patient demographic information • Based upon user-entered or scanned search criteria (e.g., Patient ID, Last/First Name) • Supported by standard HL7 interface via ECG Gateway for hospital systems
Last ECG *(D06)*	• Automatic retrieval of previous ECG or list of available ECGs for current patient • Supported by TraceMasterVue
Interactive Query *(D06)*	• Retrieval of selected ECGs based upon user-entered search criteria • Supported by TraceMasterVue
Manual orders *(D07)*	Create patient worklists with complete demographic information for later retrieval
Signal quality indicators	
Leads off advisory	Anatomical lead map displays the location and label of loose or disconnected leads/electrodes
Lead color	Four colors to indicate quality of individual leads
LeadCheck	Lead placement software detects 20 different lead reversals
Heart rate	Continuous display of patient heart rate
Print preview	Full screen preview of ECG waveforms prior to printing
User training and self-help	
Application help	Integrated graphical Help for primary functions
Self-paced training	PC based, interactive, dynamic animation covering all major clinical functions
Training mode	Integrated waveform simulation

3 When networked with select hospital and departmental solutions; refer to supplier specifications

Technical specifications

User interface	
Touchscreen	• 1-2-3 operation • Context-sensitive application • 5-wire, resistive touchscreen
Keyboard	• Backlit 1-2-3 buttons • 65 button, standard full alphanumeric keyboard • Special characters supported
Membrane keyboard cover	Silicone based flexible cover protects keyboard from particulate and liquid ingress
Display	
Size	6.5″ TFT active matrix
Resolution	640 x 480 VGA
Colors	64K colors
Patient Connections	
Patient cable	Acquire data at 8000 samples/second on each patient connect
Long patient cable *(H23)*	Extended length lead wires enabling greater distances between the patient cable and the patient connections
End Connectors (Adaptors)	
Alligator clips *(E01)*	Alligator clips for tab electrodes
Wide tab *(E02)*	Flat adaptor for tab electrodes minimizes twisting (AAMI only)
Pediatric clips *(E03)*	Lightweight lead extenders for infant and pediatric applications
Welsh bulbs *(E04)*	6 Welsh bulbs and 4 limb clamps
Snap/Tab adaptor *(E06)*	Fits both snap and tab electrodes with metal on both sides
Printer	
Resolution	High-resolution, digital-array printer using thermal-sensitive paper; 200 dpi (voltage axis) by 500 dpi (time axis) at 25 mm/sec
Connectivity	
LAN *(D20)*	10/100 Base-TX IEEE 802.3 ethernet via on-board RJ45
Wireless LAN *(D23)*	802.11(b/g)
Internal storage (*D06)*	200 ECGs
External storage	200 ECGs with optional USB device
Automated data input	
Bar code reader *(H12)*	• Reads Code 39 Symbology • Flexible field data entry
Magnetic card reader *(H13)*	• Four configurable Patient ID fields • ISO 7810, 7811-1,-2,-3,-4,-5
Smart "IC" card reader *(H14)*	• ISO 7816 and EMV 3.1.1 • Supports SLE 4418/28 and SLE 4443/42

Pre-processing filters	
AC noise	50 or 60 Hz
Signal processing	Artifact Rejection and Baseline Wander
Presentation filters - 10 sec reports	
High pass	0.05, 0.15 and 0.5 Hz
Low pass	40, 100 and 150 Hz
Presentation filters - rhythm	
High pass	0.05 and 0.15 Hz
Low pass	40, 100 and 150 Hz
Electrical	
Battery	Lithium ion
Battery capacity	• Typically 30 ECGs or 30 minutes of continuous rhythm recording on a full charge • No fail operation during ECG printing
Battery recharge	4 hours to full capacity
Mains power	100-240 VAC, 50/60 Hz
Power consumption	60 W max
Mechanical	
Dimensions	31 x 40 x 21 cm (12 x 16 x 8 in)
Weight	8.6 kg (19 lb) includes battery, patient cable
Environmental	
Operating conditions	10° to 40°C (50°F to 104°F); 10% to 90% relative humidity (non-condensing); Up to 4,200 m (14,000 ft.) altitude
Storage conditions	-20°C to 50°C (-4°F to 122°F); 10% to 90% relative humidity (non-condensing); Up to 4,550 m (15,000 ft.) altitude
Safety and performance	
International standards and regulations	• General Requirement for Safety IEC 60601-1: 1988 +A1:1991 +A2:1995 • Particular Requirement for Safety of Electrocardiographs IEC 60601-2-25: 1993 + A1:1999 • Particular Requirements for Safety IEC 60601-2-51: 2003 • US General Requirements for Safety UL 2601-1: 2003 1997 • Diagnostic Electrocardiographic Devices AAMI EC11 1991 (R: 2001) • CAN/CSA-C22.2 No. 601.1-M90 S1:1994 B:1996 • Electromagnetic compatibility IEC 60601-1-2 second edition 2001

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