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## GLOSSARY

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### DEFINITION OF TERMS AND ACRONYMS

ACF	Auto Correlation Function
ADC	Analog to Digital Convertor or Digitizer
ARTIST	Automatic Real-Time Ionogram Scaler with True Height analysis – the FORTRAN based program which automatically scales (i.e., extracts characteristic parameters) raw ionogram files
AT	Advanced Technology – pertains to the system design used in the IBM AT personal computers
BCG	Black Communication Gateway
BCD	Binary Coded Decimal – software code format which packs 2 decimal digit into each byte of storage space
BIT	Built In Test
BNC	Bayonet Connector – a standard connector type for RF cables
C	The high level programming language used in the sounder's hardware control software
CIT	Coherent Integration Time – period during which time domain samples are integrated phase coherently by summation, pulse compression, or Doppler integration
CMOS	Complementary Metal on Silicon – a semiconductor technology used in digital integrated circuits
COTS	Commercial Off The Shelf
CP	Clock Pulse – the 10 Hz DPS timing signal which initiates each CIT
CPU	Central Processor Unit – the heart of any conventional computer
CW	Continuous Wave
DDS	Direct Digital Synthesizer – a device which generates a stream of sine wave samples at a frequency selected by digital control bits
DIX	Digital Equipment Corporation, Intel and Xerox
DPS	Digisonde™ Portable Sounder
DSP	Digital Signal Processor – an electronic board in the sounder's MAIN computer

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F #.*	Floating point format with the # indicating the number of digits including the decimal and the * indicating the number of digits to the right of the decimal point
FFT	Fast Fourier Transform – an algorithm which produces a Doppler spectrum
FM	Frequency Modulation
FMS	Frequency Management System
FTP	File Transfer Protocol
GPS	Global Positioning System – devices which use timing signals from a network of satellites to give accurate location and time
HF	High Frequency(ies) – those frequencies radiating in the radio frequency band of 3 – 30 MHz.
I #	Integer format with the # indicating the number of digits
IC	Integrated Circuit
IF	Intermediate Frequency
LC	Inductance/Capacitance – a type of RF filtering
LED	Light Emitting Diode
LO	Local Oscillator – a fixed or variable frequency unmodulated signal used to translate signal frequencies up or down
LSB	Least Significant Bit – the binary bit representing units ( $2^0$ power)
MIPS	Million Instructions Per Second – rating of computer speed
MMM	Modified Maximum Method – selection and processing of only the largest signal in each Doppler spectrum
MPA	Most Probable Amplitude – the ‘noise floor’, either in a height (range) profile or a Doppler spectrum, containing random noise contamination. This is the value of the peak of a probability density distribution of amplitudes in a height profile or Doppler spectrum.
MSB	Most Significant Bit – the highest weighted bit in a binary word
NA	Not Applicable
O	Ordinary Polarization – the circular polarization which propagates through a magnetoionic medium unaffected by the magnetic field
PC	Personal Computer – this term implies compatibility with an Intel 8086 based IBM PC using the PC or extended AT computer architecture
PCB	Printed Circuit Board
PGH	Precision Group Height – measurement of group delay by means of comparing phase vs. frequency of echo signals
PLD	Programmable Logic Device – a digital circuit whose function is read in from a design file
PM	Programmed Measurement – the automatically sequenced measurement modes selectable in

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	the VIS system
PPS	Pulses Per Second – as in 1-pps timing reference or 200-pps transmitter PRF
PRF	Pulse Repetition Frequency – number of pulses transmitted per second
RAM	Random Access Memory – volatile (needs power to be maintained), read/write computer memory
RF	Radio Frequency – any signal frequency useful as a radiating Electromagnetic wave
ROM	Read Only Memory – a permanently programmed, electronically accessed storage device
SAW	Surface Acoustic Wave – a technology used to make high performance RF filters
SCSI	Small Computer Systems Interface – a digital interface standard using a 50 pin connector which can be daisy chained to several devices
TBD	To Be Determined
TTL	Transistor–Transistor Logic – a high speed digital semiconductor technology used in the design and manufacture of digital circuits
UMASS	University of Massachusetts – the Lowell campus hosts the Center for Atmospheric Research which produces the DPS and its variants
UMLCAR	University of Massachusetts Lowell Center for Atmospheric Research
UTC	Coordinated Universal Time – the time at Greenwich Observatory, England
VGA	Video Graphics Adapter – a graphics display standard set by IBM for its personal computers and widely adopted by others, using a 480 x 640 pixel resolution
VHS	Very High Frequency(ies) – those frequencies radiating in the frequency band of 30 – 300 MHz
VI	Vertical Incidence (Sounding)
VIS	Vertical Incidence Sounder – a DPS specified by the Commonwealth of Australia for the JORN Project
X	Extraordinary Polarization – the circular polarization (linear at the magnetic equator) most affected by the magnetic field in a magnetoionic medium
XMT	Transmitter – in the DPS this refers to the signal generator card rather than the output amplifier
Z #	Hexadecimal format with the # indicating the number of characters

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