AUTOMATED SURFACE OBSERVING SYSTEM

NATIONAL WEATHER SERVICE

1998 **Rev. I**

READY REFERENCE GUIDE

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1 INTRODUCTION

1.1 **Scope.** The Automated Surface Observing System (ASOS) Ready Reference Guide provides the user signed on at the observer password level (OBS) with a quick reference to information pertinent to the operation and utilization of ASOS.

1.2 **Purpose.** The purpose of the ASOS Ready Reference Guide is to support the National Weather Service observer in the daily operation of ASOS.

1.3 **Organization.** Table 1-1 lists and describes the seven sections in the ASOS Ready Reference Guide.

1.4 **Usage.** The information contained in the ASOS Ready Reference Guide is intended to be used by the observers (OBS) as ASOS operators. The ASOS electronics technician (TEC), the system manager (SYS), air traffic control specialists (ATC), and unsigned user (UNS) may also refer to this guide. The acronyms OBS, ATC, TEC, SYS, and UNS represent the ASOS operator user levels. These acronyms, when included in the paragraph title of Section 3, indicate the access level of user(s) to the associated ASOS function. It must be noted that additional system functions may be available to the TEC, SYS, and ATC, which are not included in the Ready Reference Guide. Additional information on ASOS is provided in the ASOS Software User's Manual and the ASOS Site Technical Manual as listed in Section 5.

Table 1-1. Organization of Ready Reference Guide

Section	Title	Description
1	Introduction	Describes the scope and the purpose of the guide.
2	ASOS General Description	Provides an overview of ASOS and describes various characteristics of weather parameters and operator interfaces.
3	ASOS Data Processing Procedures	Provides step-by-step procedures for invoking weather data processing through the Operator Interface Device (OID).
4	1-Minute Screen Weather Parameters	Identifies and describes the weather parameters shown on the OID's 1-Minute Screen.
5	Related Publications	Lists other publications containing information pertinent to ASOS operations.
6	Maintenance Assistance	Provides sources of failure message data; also provides information needed to contact the ASOS Operations and Monitoring Center (AOMC).
7	Glossary	Contains a list of acronyms and definitions used in this guide.
	Appendixes	Contains additional information on sensor data quality algorithm checks, emergency power down procedure, configuring the OID terminal, and resetting the OID screen.

2 AUTOMATED SURFACE OBSERVING SYSTEM (ASOS) GENERAL DESCRIPTION

2.1 **Overview.** The ASOS is a modular system, designed to automatically collect, process, and archive weather sensor measurement data. Access to this data is available to a variety of users at local and remote locations on a 24-hour basis.

The ASOS system configuration consists of various modular components as shown on figure 2-1. The weather data are collected by the sensors and sent through the Data Collection Package (DCP) to the Acquisition Control Unit (ACU). The ACU software processes the weather data, generates reports, archives data, and establishes the communications required to transfer data to external devices. Concurrent with these operations, the continuous self-test program monitors the operational readiness of the system. The self-test program provides fault isolation to the Field Replaceable Unit (FRU).

The individual weather parameter data monitored and processed consists of:

- Sky Condition
- Visibility
- Runway Visual Range (RVR) (If Installed)
- Present Weather (type and intensity)
  - Freezing Rain (If Installed)
  - Thunderstorm (If Available)
- Obscurations
- Ambient Temperature, Relative Humidity, and Dewpoint Temperature
- Wind (speed, direction, gusts, and direction variability)
- Pressure (altimeter, station, density altitude, pressure altitude, and sea level)
- Precipitation Amount

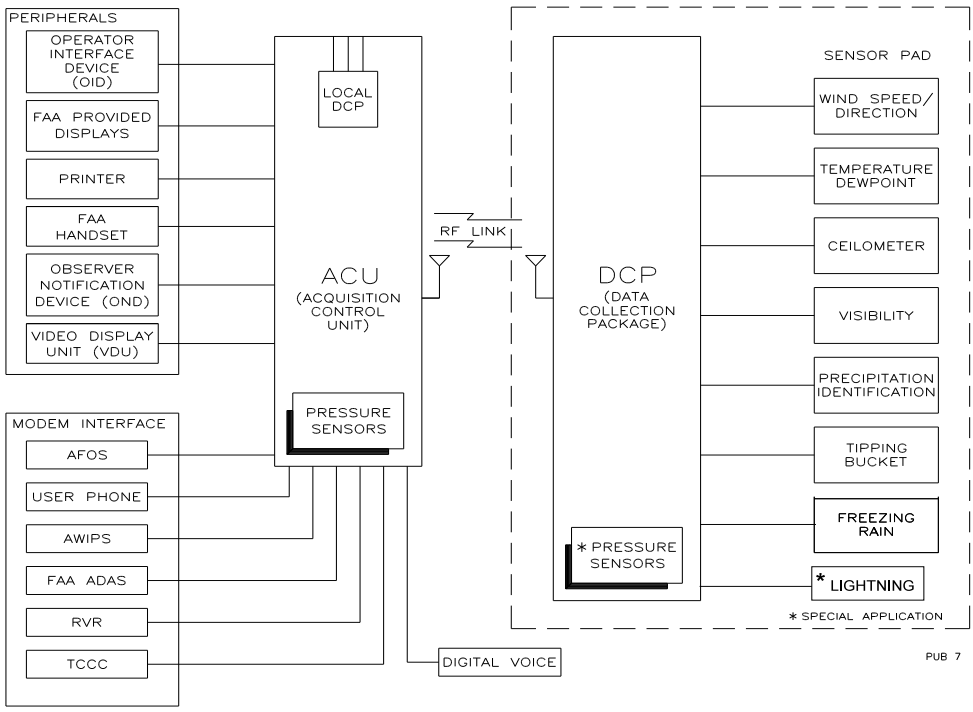

Figure 2-1. ASOS Simplified Block Diagram

Data are gathered from sensors and processed through algorithms to provide a variety of weather products. Table 2-1 lists the weather products provided by ASOS and identifies various characteristics of the products, including the type of product output (i.e., sensor data, observations, reports, and summaries), the frequency of updating weather data, the device used for accessing weather data, and the length per unit time of existing archive data.

Table 2-1. ASOS Weather Products

PRODUCTS	FREQUENCY	DEVICE WHERE AVAILABLE	ARCHIVE
• Sensor data	Varies depending on sensor data	OID Telephone (remote OID)	12 Hours
• 1-minute observation	Each minute	OID Radio (output is selectable) Telephone (voice broadcast, FAA provided displays, and remote OID) VDU Printer (before and after EDIT)	None
• 5-minute observation	Every 5 minutes	OID Telephone (remote OID)	12 Hours

Table 2-1. ASOS Weather Products - (CONT)

PRODUCTS	FREQUENCY	DEVICE WHERE AVAILABLE	ARCHIVE
• Aviation Routine Weather Report (METAR) • Aviation Selected Special Weather Report (SPECI)	Hourly report time When criterion is met	OID VDU Radio (output is selectable) Telephone (voice broadcast and remote OID) Long-line communications systems Printer	31 Days + Today
• Standard Hydrometeorological Exchange Format (SHEF)	Hourly and 15-Minute incremental	OID Telephone (Remote OID) Long-line communications systems Printer	3 Days + Today
• Daily Summary Product	Hourly	OID Telephone (remote OID) Printer	31 Days + Today

Table 2-1. ASOS Weather Products - (CONT)

PRODUCTS	FREQUENCY	DEVICE WHERE AVAILABLE	ARCHIVE
• Monthly Summary Product	End of Day at Midnight Local Standard Time (LST)	OID Telephone (remote OID) Printer	Previous Month + Current Month's Data
• Daily Summary Message @	Hourly	OID Telephone (remote OID) Printer Long-line communications systems #	10 Days for Final Message of the Day
• Monthly Summary Message @	End of Day at Midnight (LST)	OID Telephone (remote OID) Printer Long-line communications systems #	Previous Month + Current Month's Data

@ Message generation is a selectable option.
# Long-line dissemination is a selectable option.

2.2 **Audible and Visual Alarms.**

2.2.1 **Audible Alarms**. The system constantly monitors its environment for conditions that invoke audible alarms. An audible alarm sounds at the Operator Interface Device (OID) when any of the following conditions exist:

a. An hourly routine report (METAR), special report (SPECI), or a local alert is automatically generated.

b. The sensor field of the 1-Minute Screen indicates that the associated sensor is set to manual mode and has not been edited since the transmission of the last METAR.

c. The data quality of a weather parameter is outside the acceptable range.

2.2.2 **Visual Alarms.** The visual alarm device for ASOS is called the Observer Notification Device (OND), which is a light that flashes to inform ASOS personnel when a report (i.e., METAR or SPECI) has been automatically generated by ASOS. The OND also flashes when system problems are detected.

2.3 **Data Processing.** Table 2-2 provides specific details on the processing of the observed weather parameters and describes the following weather parameter characteristics:

a.	RANGE	Defines the limits of the measurable parameters.
b.	SAMPLING RATE	Rate at which the sensor is read by the system.
c.	PROCESS DATABASE	Identifies the storage area in minutes where the sensor samples are stored. For example, the process database for the cloud height sensor is 30 minutes and the sample rate is every 30 seconds; therefore, the database will store sixty 30-second samples of cloud height data. These current 60 samples are then used to derive the sky condition.
d.	REPORTABLE VALUES	Identifies the specific values or parameters reported by the system.
e.	OUTPUT	Identifies reports, limits, resolutions, and remarks output by the system.
f.	OID SCREEN	Screen on which data are displayed.

Table 2-2. Processing ASOS Observed Weather Parameters

Parameter	Range	Sampling Rate	Process Database	Reportable Values	Output	OID Screen
SKY CONDITION					Up to 3 layers	**"ONE MINUTE"**
cloud height	0 to 12,000 ft	30 sec	30 min	3 digit code-reported in 100-foot increments, i.e., 001= < 100 ft 001= 100 ft 002= 200 ft 003= 300 ft through 120= 12,000 ft	Height in feet	
cloud amount				CLR, FEW, SCT, BKN, OVC	Layer amounts	
total obscuration				VV001 - VV020 001 = < 100 ft to 020 = 2,000 ft	VVaaa aaa= Height in feet reported in 100 feet Height of "000" can be manually entered	
remarks ..variable cig	Below 3000 ft				CIG minVmax	

Table 2-2. Processing ASOS Observed Weather Parameters - (Cont)

Parameter	Range	Sampling Rate	Process Database	Reportable Values	Output	OID Screen
SKY CONDITION remarks (Cont)						
..multisensor	0 to 12,000 feet	30 sec	30 min	3 digit code reported	CIG aaa location aaa = height in feet location= meteorological discontinuity location	**"ONE MINUTE"**
VISIBILITY						**"ONE MINUTE"**
index of visibility	0 to 10 miles	1-min average	10 min	M1/4SM, 1/4SM, 1/2SM, 3/4SM, 1SM, 1 1/4SM, 1 1/2SM, 1 3/4SM, 2SM, 2 1/2SM, 3SM, 4SM, 5SM, 6SM, 7SM, 8SM, 9SM, and 10SM	Visibility in statute miles Values of 0SM, 1/16SM, and 1/8SM can be entered manually	
remarks .. variable vsby	Below 3 miles				VIS minVmax	
.. multi-sensor					VIS aaa location aaa = visibility in statute miles location= meteorological discontinuity location	

Table 2-2. Processing ASOS Observed Weather Parameters - (Cont)

Parameter	Range	Sampling Rate	Process Database	Reportable Values	Output	OID Screen
VISIBILITY (Cont) .. tower vsby *	0 to 10 miles			0SM, 1/16SM, 1/8SM M1/4SM, 1/4SM, 1/2SM, 3/4SM, 1SM, 1 1/4SM, 1 1/2SM, 1 3/4SM, 2SM,2 1/2SM, 3SM, 4SM, 5SM, 6SM, 7SM, 8SM, 9SM, and 10SM	Manual entry by ATC or OBS	
.. surface vsby**	0 to 10 miles					
RUNWAY VISUAL RANGE	100 feet to 6,000 feet	1 min	10 min	Range / Increments < 1000 ft — 100 ft 1000 - 3000 ft — 200 ft 3000 - 6000 ft — 500 ft	Runway/value FT Runway/min V max FT	

*Tower visibility results from a manual entry by an ATC or OBS

**When the entered tower visibility is less than 4 miles and is less than the surface visibility, tower visibility is used in the body of the report and the surface visibility is placed in remarks. If the surface visibility is less than 4 miles and it is less than the tower visibility, then the tower visibility is encoded in remarks and the surface visibility is encoded in the body of the report.

Table 2-2. Processing ASOS Observed Weather Parameters - (Cont)

Parameter	Range	Sampling Rate	Process Database	Reportable Values	Output	OID Screen
PRESENT WEATHER				+ FC, FC, TS, VCTS UP, DZ, FZDZ, RA, FZRA, PE/PL, SN, GR, GS BR, FG, VCFG, MIFG, BCFG, FZFG, FU, VA, DU, BLDU, VCBLDU, SA, BLSA, VCBLSA, BLSN, VCBLSN, SS, VCSS, DS, VCDS, HZ SQ	VCTS and UP are not allowable manual entries Ice Pellets reported as PL after a designated date	**"ONE MINUTE"**
PRECIPITATION	Manually Entered	1 Min	1 Min, 10 Min, 15 Min,	(1) Augmented WX: GS, GR, -PE/-PL, PE/PL, + PE/+ PL, -DZ, DZ, + DZ, -FZDZ, FZDZ, + FZDZ, + FZRA (2) Automated WX: TS, VCTS, -FZRA, FZRA, -RA, RA, + RA, -SN, SN, + SN, UP	Present Weather indication and remarks	

Table 2-2. Processing ASOS Observed Weather Parameters - (Cont)

Parameter	Range	Sampling Rate	Process Database	Reportable Values	Output	OID Screen
TORNADIC ACTIVITY	Manually Entered		1 min	FC, + FC	Present Weather indication and remarks	
OTHER PHENOMENA		1 min	1 min	SQ	Present Weather indication	
OBSCURATION	Manually Entered			(1) Augmented: VA, FU, MIFG, VCFG, BCFG, DU, BLDU, VCBLDU, SA, BLSA, VCBLSA, VCBLSN, SS, + SS, VCSS, DS, + DS, VCDS	Present Weather indication	
		multiple sensors	1 min	(2) Automated: HZ, BR, FG, FZFG, BLSN		

Table 2-2. Processing ASOS Observed Weather Parameters - (Cont)

Parameter	Range	Sampling Rate	Process Database	Reportable Values	Output	OID Screen
PRECIPITATION ACCUMULATION	0 to 10 inches	1 min	1 min	0.01 inch		**"ONE MINUTE"**
.. hourly amt			1 hr	Nearest 0.01 inch	Prrrr	
..3 and 6 hr			3 and 6 hr	Nearest 0.01 inch	6RRRR	
..24 hr cumulative amount			24 hr	Nearest 0.01 inch	$7R_{24}R_{24}R_{24}R_{24}$-reported at 12 UTC when more than a trace of precipitation has been measured	
DAILY precip total			24 hr	Nearest 0.01 inch	Calendar day total	**REVUE DAILY**
…hourly incremental amount			1hr	Nearest 0.01 inch	Hourly	

Table 2-2. Processing ASOS Observed Weather Parameters - (Cont)

Parameter	Range	Sampling Rate	Process Database	Reportable Values	Output	OID Screen
MONTH precip ..total			calender month		Monthly total and departure #days> = 0.01 inch #days> = 0.10 inch #days> = 0.50 inch #days> = 1.00 inch Monthly max/date	**REVUE MONTH**
			5, 10, 15, 20 30, 45, 60, 80, 100, 120 150, and 180 Min		Short Duration Maximum Period Amounts with the Ending Dates and Times of the Periods	
SHEF 15 min/hourly		1 min	15 min/hr	Nearest 0.01 inch	SHEF reports	**REVUE RPT SHEF**
TEMPERATURE						
AMBIENT	-80°F to + 130°F (-62.2°C to + 54.4°C)	1-min average	5 min	Whole Degrees F Nearest 0.1 Degrees C	Current 5 min avg degrees F and C	**"ONE MINUTE"**
..synoptic max/min			6 hours	Nearest 0.1 Degrees C	$1Sn_xT_xT_xT_x$ (Max) $2Sn_nT_nT_nT_n$ (Min) reported every 6 hours at synoptic time	**"ONE MINUTE"**

Table 2-2. Processing ASOS Observed Weather Parameters - (Cont)

Parameter	Range	Sampling Rate	Process Database	Reportable Values	Output	OID Screen
DAILY TEMP			24 hr	Nearest 0.1 Degrees C	4SnTxTxTxSnTnTnTn at 00 LST METAR	**"ONE MINUTE"**
… max/min				Whole Degrees F/Nearest Minute	Calendar day max/min	**REVUE DAILY**
…average				Whole Degrees F	Calendar day average	
…departure					Departure from normal	
…degree days					Heating or Cooling Degree Days	
…latest day max			07-19 LST			
…latest night min			19-08 LST			

Table 2-2. Processing ASOS Observed Weather Parameters - (Cont)

Parameter	Range	Sampling Rate	Process Database	Reportable Values	Output	OID Screen
MONTHLY TEMP						**REVUE MONTH**
.. max/min			calendar month	Whole Degrees F/Date Number of Days	Monthly max/min #days max> = 90 #days max< = 32 #days min< = 32 #days min< = 0	
.. average				Nearest 0.1 Degrees F Nearest 0.1 Degrees F Nearest 0.1 Degrees F	Avg daily max Avg daily min Monthly avg + departure from normal	
..degree days		24 hours	calendar month	Integer	Monthly Heating Degree Days/ Cooling Degree Days (HDD/CDD) & departure from normal Seasonal HDD/CDD & departure from normal	
DEWPOINT	-80°F to + 86°F -62.2°C to + 30°C	1-min average	5 min	Whole Degrees F Nearest 0.1 Degrees C	Current 5-min avg Degrees F/C	**"ONE MINUTE"**
RELATIVE HUMIDITY	0 to 100%		5-min	Nearest Percent (%)	RH%	AUX

Table 2-2. Processing ASOS Observed Weather Parameters - (Cont)

Parameter	Range	Sampling Rate	Process Database	Reportable Values	Output	OID Screen
WIND						**"ONE MINUTE"(AUX function for Magnetic Winds)**
DIRECTION true/ magnetic	0 to 359 degrees	1 sec	2 min	Nearest 10 Degrees	ddd	
SPEED	0 to 125 knots*****	1 sec	2 min	Nearest Knot	ff or fff	
.. calm			2 min	Nearest Knot	when ff< = 2	
gust			5 sec	Nearest Knot	ff (f) - values maintained for ten minute period	
VARIABILITY			2 min	Nearest 10 Degrees Nearest Knot	VRBff when 3 = < ff = < 6 dddff(f) dddVddd when ddd change > = 60 and ff> 6	

***** Observer can augment to 300 Knots

Table 2-2. Processing ASOS Observed Weather Parameters - (Cont)

Parameter	Range	Sampling Rate	Process Database	Reportable Values	Output	OID Screen
REMARKS						
.. peak wind			5 sec	Nearest 10 Degrees /Whole Knot/ Nearest Minute	PK WND dddff(f)/hhmm	**ONE MINUTE**
.. wind shift			15 min	Nearest Minute	WSHFT HHMM when ddd changes 45 in 15 min and ff > = 10	
DAILY						**REVUE DAILY**
.. avg wind spd			24 hours	Nearest 0.1 MPH		
.. fastest 2-min			24 hours	Nearest 10 Degrees/ Whole MPH/ Nearest Min.		
.. peak wind			24 hours	Nearest 10 Degrees/ Whole MPH/ Nearest Min.		

Table 2-2. Processing ASOS Observed Weather Parameters - (Cont)

Parameter	Range	Sampling Rate	Process Database	Reportable Values	Output	OID Screen
PRESSURE	26.0 to 31.0 inches in Hg	10 sec	1 min	0.005 inch Hg		
altimeter setting			1 min	0.01 inch Hg	Altimeter setting in inches of mercury	**"ONE MINUTE"**
sea level pressure			1 min, 12-hr temp	0.1 hPa	Sea level pressure in hectopascals	**AUX**
…daily min				0.01 inch Hg/Nearest Minute	Sea level pressure in inches of mercury	**REVUE DAILY**
…monthly max & min				0.01 inch Hg/Date/Nearest Minute		**REVUE MONTH**
…monthly average				0.01 inch Hg		
density altitude			1 min	100 ft	Density altitude in feet	**AUX**

Table 2-2. Processing ASOS Observed Weather Parameters - (Cont)

Parameter	Range	Sampling Rate	Process Database	Reportable Values	Output	OID Screen
PRESSURE (Cont)						
station pressure			1 min	0.01 inch Hg	Station pressure in inches of mercury	**AUX**
…daily 6-hourly values				0.005 inch Hg		**REVUE DAILY**
…daily average						
…monthly average						**REVUE MONTH**
pressure altitude			1 min	10 ft	Pressure altitude in feet	**AUX**
REMARKS						**"ONE MINUTE"**
.. rising rapidly			20 min		PRESRR	
.. falling rapidly			20 min		PRESFR	
.. change/tendency			3 hours		5appp	

2.4 **System-Generated SPECI and Alerts.**

2.4.1 **System-Generated SPECI Reports.** The system automatically generates SPECIs with appropriate remarks for the following:

- Thunderstorms
- Squalls
- Wind shifts
- Predefined visibility conditions*
- Predefined sky conditions for ceilings and layers*
- Freezing rain and drizzle occurrences/changes in intensity
- Hail

NOTE

When ice pellets (PE/PL) are augmented a SPECI will not be automatically generated by ASOS for the beginning, ending, or changes in intensity. A SPECI report will have to be manually generated for these events.

Ice Pellets will be reported as "PL" after a designated date.

*Conditions for these SPECIs are defined on the system criteria (REVUE-SITE-CRIT) screens.

2.4.2 **Alerts.** The system generates local and SHEF alerts. The local alerts are generated for predefined sky and visibility conditions as defined on the criteria display pages. These alerts result in the audible and visual alarms being activated, but do not result in a SPECI report being transmitted. The SHEF alerts are automatically generated and transmitted based on the parameters defined on the criteria pages.

2.4.3 **System Processing of Multiple SPECIs Within EDIT TIME.** When two SPECIs are generated within the same edit time period, the second SPECI is transmitted immediately. Any edit time that remains since the beginning of the first SPECI is canceled. For example, if visibility decreases to less than 3 miles, a SPECI is generated. The observer has the amount of edit time that has been allocated on the site physical characteristics page to edit the SPECI before transmission; however, if the visibility decreases to less than 2 miles prior to the transmission of the SPECI, another SPECI is generated. If this occurs during the edit time of the first SPECI, the second SPECI is transmitted immediately, regardless of the amount of edit time remaining from the first SPECI, and the first SPECI is canceled.

2.5 **Operator Displays.** The ASOS system could consist of three types of displays: an Operator Interface Device (OID), the Video Display Unit (VDU), and the airline display.

2.5.1 **Operator Interface Device (OID).** The OID is an interactive device that allows the operator to review, edit, generate, and monitor the processing of weather data. The OID consists of a display terminal and keyboard. The terminal has a 13-inch, full color, nonglare screen with an image area of 80 columns across by 25 lines down. The OID is the most frequently used display and enables the operator to access and invoke the primary functions of ASOS. The OID is an input/output device used for direct communication with the system's Central Processing Unit (CPU) housed inside the ACU.

2.5.1.1 ***Keyboard.*** The OID keyboard is divided into four keypad groups: the main keypad, editing keypad, auxiliary keypad, and function keypad. Figure 2-2 identifies each functional area of the OID keyboard.

a. Main - The main keypad contains the RETURN key, spacebar, and alphanumeric keys. These keys are frequently used during the routine operation of ASOS. The back arrow key is located in the upper right corner of the main keypad and is used when augmenting, or backing up, to delete the character located to the left of the cursor.

b. Editing - The editing keypad area contains the arrow keys and the RE-MOVE and INSERT HERE keys. The RE-MOVE key is located in the upper right corner of the editing keypad and is used to delete the character under the cursor. The INSERT HERE key is located to the left of the RE-MOVE key. The INSERT HERE key enables data to be inserted at the cursor's position.

c. Auxiliary - The auxiliary keypad area is used to access the operator displays. The menu keypad area on the OID display overlays the auxiliary keypad area, where key 7 auxiliary represents the function in the upper-left corner of the menu keypad and key 3 represents the function in the lower-right corner of the menu keypad. This scheme is shown on figure 2-2.

d. Function - The function keypad area contains the HELP key that is used to access the system help feature, the F3 key (used to set up the terminal), and the F11, F12, F19 and F20 keys are used to control the audible alarm. The help feature can also be accessed by pressing the zero key in the auxiliary keypad area.

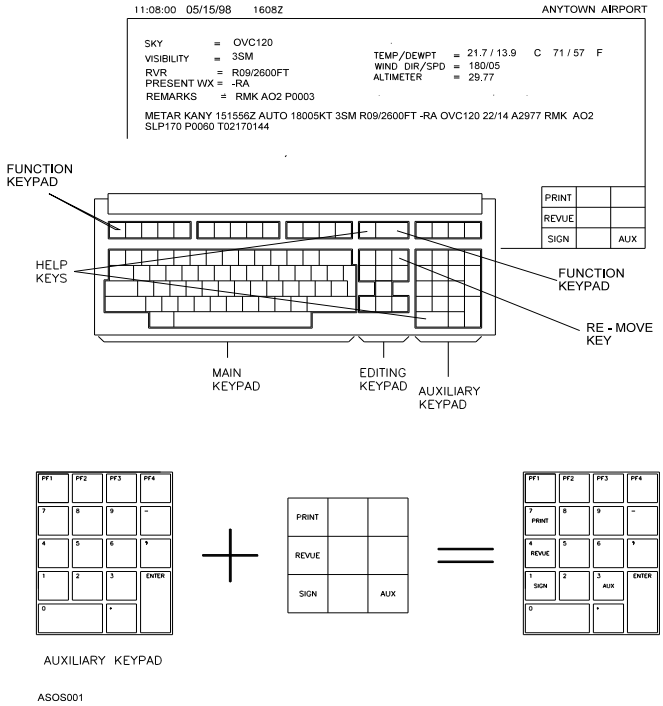

Figure 2-2. OID Keyboard Identification

2.5.1.2 ***Special Keys.*** Table 2-3 describes the special keys, which are divided into three categories.

Table 2-3. Special Key Definitions

Category	Special Key	Definition
Help	HELP or 0	Provides an on-screen definition of each ASOS function displayed on the OID keypad of the current display page. (0 is located on the auxiliary keypad).
Alarm	F11 and F19	Disable the audible alarm for the current alarm only.
	F12 and F20	Permanently disable the audible alarm. These keys are toggle keys: pressing either key once disables the alarm; pressing either key again enables the alarm.
General Function	ABORT	Cancels any data entry process and exits the display page without changing the current system data. The user is returned to the 1-Minute Screen.
	BACK	Saves any changes made and returns the user to the previous display screen/keypad.
	EXIT	Saves any changes made and returns the user to the 1-Minute Screen.

2.5.1.3 ***Display Screens.*** The ASOS system uses a number of OID screens to display current weather and system data to the user. Access to various OID screens is via the auxiliary keypad. Display screens are defined as the output to the OID terminal as a result of invoking a primary ASOS function on the 1-Minute Screen.

2.5.1.4 ***OID Users.*** There are four user levels available to the operator when signing onto the system via the OID: observer (OBS), air traffic control specialist (ATC), electronics technician (TEC), and system manager (SYS). Each user level requires a site-specific password assigned by the system manager for access to certain OID functions. The system uses the password to determine the type of user (i.e., OBS, ATC, TEC, or SYS) signing onto the system and the OID functions available to that user. In addition, another user level is available, the unsigned user (UNS), which does not require signing onto the system with a password. The unsigned user can review system data via the OID.

2.5.2 **Video Display Unit (VDU) and Airline Displays.** The VDU contains 1-minute data and the last transmitted METAR or SPECI report as shown on figure 2-3. The VDU is a monochrome display. The airline displays may be provided by the airport or others who desire ASOS information to meet their operating needs.

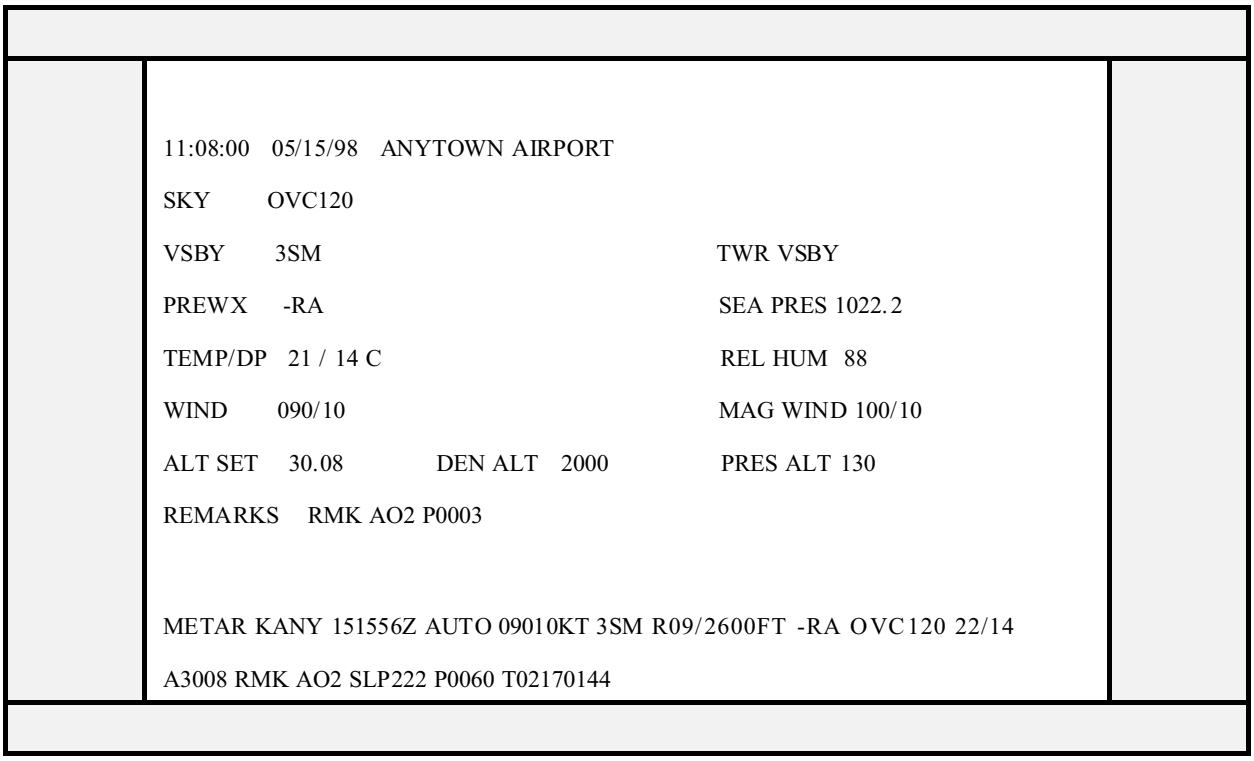

Figure 2-3. Typical Video Display Unit (VDU) and Airline Display Data Format

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3 AUTOMATED SURFACE OBSERVING SYSTEM (ASOS) DATA PROCESSING PROCEDURES

The ASOS data processing procedures provide step-by-step instructions for executing ASOS functions. These functions utilize ASOS sensor data and manual input data for subsequent processing by the ASOS computer software. With the 1-Minute Screen on the OID, the observer (OBS) can execute designated ASOS functions in performing the ASOS data processing procedures.

3.1 **Starting With the 1-Minute Screen.** The 1-Minute Screen is the starting point when performing all procedures defined in this section. Figure 3-1 shows the 1-Minute Screen with the observer menu keypad located in the lower right corner of the display. The menu keypad, which correlates to the auxiliary keypad of the OID keyboard, identifies the eight functions available.

11:01:00 05/15/98 1601Z ANYTOWN AIRPORT

```
SKY            = OVC010

VISIBILITY     = 3/4SM                  TEMP/DEWPT    = 23.9 /20.6  C 75 /69  F
RVR            = R09/2600FT             WIND DIR/SPD  = 180/10
PRESENT WX     = -RA                    ALTIMETER     = 29.90

REMARKS        = RMK AO2 P0002


METAR KANY 151556Z AUTO 18010KT 3/4SM R09/2600FT -RA OVC010 24/21 A2990 RMK
AO2 SLP080 P0010 TO2390206
```

PRINT		
REVUE		
SIGN		AUX

USER LEVEL: UNSIGNED USER

PRINT	GENOB	CMD
REVUE	TWR	
SIGN	EDIT	AUX

USER LEVEL: OBSERVER

Figure 3-1. 1-Minute Screen

3.2 **Sign-On and Sign-Off Procedures (OBS, ATC, TEC, SYS, and UNS).** Signing onto ASOS allows privileged users to access the data processing procedures required for weather data manipulation as defined in this section. Signing off of the system terminates the capability of the observer (OBS) to manipulate weather data; however, weather data can be reviewed at any time without signing onto the system. Sign-On and Sign-Off procedures are listed in table 3-1. Any of the displays can be accessed by pressing the respective key on the auxiliary keypad.

Table 3-1. Sign-On and Sign-Off Procedures (OBS, ATC, TEC, SYS, and UNS)

Procedure	Step	Description
SIGN-ON	1	Ensure that the 1-Minute Screen is displayed. If not, press the EXIT key.
	2	Press the SIGN key.
	3	Enter your initials (two or three alphabetic characters) and press RETURN.
	4	Enter your password and press RETURN. If sign-on is successful, the system displays all other users currently on the system; otherwise, the system displays an error message and sounds an alarm.
SIGN-OFF	1	Ensure that the 1-Minute Screen is displayed. If not, press the EXIT key.
	2	Press the SIGN key.
	3	Enter your initials and press RETURN. The OID displays the password prompt. (Do not enter a password.)
	4	Press the RETURN key.

3.3 **Exiting a Display.** The EXIT key on the keypad is pressed to exit a display. After a display is exited, the 1-Minute Screen is displayed on the OID. The ABORT key, if available, may also be used to exit a display. Note that any changes made will not be saved if the ABORT key is used.

3.4 **Printing a Display (OBS, TEC, SYS, and UNS).** The PRINT key on the keypad is pressed to print a display. The menu keypad of the screen display is not printed. The PRINT key on the keypad should not be confused with the Print Screen (shift) key on the keyboard. The Print Screen key is not used during ASOS operations.

3.5 **Reviewing Current Users (OBS, ATC, TEC, SYS, and UNS).** The current users include a list of all users currently signed onto the system. The users display identifies which OIDs are in use. The system displays the initials of the user, his/her password level, and the OID they are using. Users can be observers (OBS), air traffic control specialists (ATC), system managers (SYS), electronics technician (TEC), or < UNSIGNED> . To display the current system users on the 1-Minute Screen, perform the following steps listed in table 3-2. The list of users will remain on the screen until manually turned off, or when an OBS or ATC is signed on the system, it may be replaced by a data availability message concerning the availability of automated present weather data.

Table 3-2. Reviewing Current Users (OBS, ATC, TEC, SYS, and UNS)

Procedure	Step	Description
REVIEWING CURRENT USERS	1	Ensure that the 1-Minute Screen is displayed. If not, press the EXIT key.
	2	Press the AUX key. The OID displays the AUX keypad.
	3	Press the USERS key. The OID displays the status of all OIDs.
	4	To return to the 1-Minute Screen and leave the user parameters displayed, press the EXIT key. To remove the user parameters from the screen and return to the 1-Minute Screen, press the OFF key, then the EXIT key.

3.6 **Reviewing Auxiliary Weather Parameters (OBS, ATC, TEC, SYS, and UNS).** The auxiliary weather parameters include magnetic wind direction/speed, relative humidity, sea level pressure, pressure altitude, station pressure, and density altitude. A user can review auxiliary weather parameters without signing onto the system. When requested, auxiliary weather parameters remain on the screen unless they are manually removed, or when an OBS or ATC is signed on the system, they may be replaced by a message concerning the availability of automated present weather data. In the later case, a data availability message will automatically replace the weather parameters. If the auxiliary weather parameters remain on the screen they will be updated during the next 1-Minute Screen update. The procedure for reviewing auxiliary weather parameters is listed in table 3-3.

Table 3-3. Reviewing Auxiliary Weather Parameters (OBS, ATC, TEC, SYS, and UNS)

Procedure	Step	Description
REVIEWING AUXILIARY WEATHER PARAMETERS	1	Ensure that the 1-Minute Screen is displayed. If not, press the EXIT key.
	2	Press the AUX key. The OID displays the AUX keypad.
	3	Press the WX key. The OID displays auxiliary weather parameters.
	4	To return to the 1-Minute Screen and leave the auxiliary weather parameters displayed, press the EXIT key. To remove the auxiliary weather parameters from the screen and return to the 1-Minute Screen, press the OFF key, then the EXIT key.

3.7 **Reviewing Daily/Monthly Summary Products (OBS, TEC, SYS, and UNS).** The system archives daily summary products for 31 days plus the data compiled for the current day. The system archives monthly summary products for the last calendar month plus the data compiled for the current calendar month. Only observers can change daily/monthly summary data. The daily summary product is composed of three display screens: (1) temperature, wind, and miscellaneous data; (2) precipitation data; and (3) pressure data. The monthly summary data are displayed on three screens: (1) temperature data; (2) precipitation data; and (3) miscellaneous data. The current daily and monthly summary products cannot be edited. To review the daily or monthly summary product, perform the steps listed in table 3-4.

NOTE

The monthly keypad displays either the previous month or the current month. When the name of a month is displayed, pressing that key provides access to that month's summary data, which can be changed by an observer. The current month's data cannot be edited or augmented until the end of the month.

The previous day's daily summary product can be changed for a 96-hour period. A monthly summary product can be changed for a 96-hour period following completion of the monthly summary.

Table 3-4. Reviewing Daily/Monthly Summary Products (OBS, TEC, SYS, and UNS)

Procedure	Step	Description
REVIEWING DAILY/ MONTHLY SUMMARY PRODUCTS	1	Ensure that the 1-Minute Screen is displayed. If not, press the EXIT key.
	2	Press the REVUE key. The OID displays the REVIEW keypad.
	3	Press either the DAILY or MONTH key to display the summary product.
	4	To move between the summary's pages, press the PAGE key. Pressing the PAGE key causes the system to sequence through three summary pages.
	5	To access a specific date within the archived daily summaries, press the DATE key. The OID displays the ENTER DATE:MM/DD/YY prompt. Enter the desired date and press RETURN.
	6	Only an observer can change summary data. Press the CHANG key. Using the arrow keys, place the cursor on the desired field and enter the desired change. Press EXIT or BACK to save changes. EXIT will return the user to the 1-Minute Screen. Press ABORT to cancel all changes and return to the 1-Minute Screen.

3.8 **Reviewing Daily/Monthly Summary Messages (OBS, TEC, SYS, and UNS).** The generation of the Daily and Monthly Summary Messages (DSM/MSM) is a programmable option available to the system manager. Both the DSM and MSM are encoded directly from the daily and monthly summary products, respectively. It is not possible to change the DSM or MSM on the DSM or MSM screen. If a change is made to the daily or monthly summary product, the change will be automatically encoded in the corresponding message.

The DSM for the current day is updated every hour. ASOS has the capability of encoding and transmitting up to three intermediate DSMs for the current day. These intermediate DSMs are not archived in the system after midnight. Only the final DSM for the day will be archived in the system for 10 days. Since the daily summary product may be edited for a period of 96 hours (i.e., 4 days), any changes to the product will be reflected in a corrected DSM. If a corrected DSM is generated, it will be archived for 10 days.

Like the monthly summary product, MSMs are archived for the previous month and so far the current month. The MSM is updated each day at midnight LST. Since the monthly summary product may be edited for a period of 96 hours (i.e., 4 days), any changes to the product will be reflected in a corrected MSM.

To review any available DSMs and MSMs, perform the steps listed in table 3-5.

Table 3-5. Reviewing Daily/Monthly Summary Messages (OBS, TEC, SYS, and UNS)

Procedure	Step	Description
REVIEWING DAILY/ MONTHLY SUMMARY MESSAGES	1	Ensure that the 1-Minute Screen is displayed. If not, press the EXIT key.
	2	Press the REVUE key. The OID displays the REVIEW keypad.
	3	Press the RPT key. The OID displays the REVIEW OBSERVATION keypad.
	4	Press either the DSM (Daily Summary Message) or MSM (Monthly Summary Message) key to display the appropriate message(s).
	5	Use the PREV/NEXT keys to view additional messages, as necessary.
	6	Press EXIT to return to the 1-Minute Screen. Press BACK to return to the REVIEW OBSERVATION keypad.

3.9 **Reviewing System Maintenance Log Data (OBS, TEC, SYS, and UNS).** The System Maintenance Log contains both automatically generated and manually entered maintenance notes for the previous 31 days and the current day. It also contains entries specifying all log on/off activity of electronics technician and system manager-level users. Only system managers and electronics technicians can make system log entries. To review the System Maintenance Log, perform the following steps listed in table 3-6.

Table 3-6. Reviewing System Maintenance Log Data (OBS, TEC, SYS, and UNS)

Procedure	Step	Description
REVIEWING SYSTEM MAINT LOG DATA	1	Ensure that the 1-Minute Screen is displayed. If not, press the EXIT key.
	2	Press the REVUE key. The OID displays the REVIEW keypad.
	3	Press the SYSLG key. The OID displays the MAINTENANCE LOG page.
	4	To page through the data, use the PREV/NEXT keys.
	5	To access a specific date within the log, press the DATE key. The OID displays the ENTER DATE:MM/DD/YY prompt. Enter the desired date and press RETURN.
	6	Press EXIT to return to the 1-Minute Screen. Press BACK to return to the REVIEW keypad.

3.10 **Reviewing Communications Log Data (OBS, TEC, SYS, and UNS).** The Communications Log contains automatically generated error messages for the AWOS Data Acquisition System (ADAS) and the RVR interface. The log can accommodate as many as 200 entries (approximately 31 days worth of messages). To review the Communications Log, perform the following steps listed in table 3-7.

Table 3-7. Reviewing Communications Log Data (OBS, TEC, SYS, and UNS)

Procedure	Step	Description
REVIEWING SYSTEM COMMS LOG DATA	1	Ensure that the 1-Minute Screen is displayed. If not, press the EXIT key.
	2	Press the REVUE key. The OID displays the REVIEW keypad.
	3	Press the COMLG key. The OID displays the COMMUNICATIONS LOG page.
	4	To page through the data, use the PREV/NEXT keys.
	5	To access a specific date within the log, press the DATE key. The OID displays the ENTER DATE:MM/DD/YY prompt. Enter the desired date and press RETURN.
	6	Press EXIT to return to the 1-Minute Screen. Press BACK to return to the REVIEW keypad.

3.11 **Reviewing Edit Log Data (OBS, ATC, TEC, and SYS).** The Edit Log contains a wealth of information for investigating software trouble reports, answering questions concerning observer and air traffic control specialist data entries, developing training materials, and providing information concerning data quality control issues. The log records all edit actions performed on the data displayed on the 1-Minute Screen, the corresponding ASOS automated value which had been edited, entry and removal of tower visibility values, manually generated SPECI reports, and all SPECIs that are automatically canceled by ASOS. No write capability is available and the unsigned user does not have access to the log. Log entries are archived for a period of at least 10 days. To review the Edit Log, perform the following steps listed in table 3-8.

Table 3-8. Reviewing Edit Log Data (OBS, ATC, TEC, and SYS)

Procedure	Step	Description
REVIEWING SYSTEM EDIT LOG DATA	1	Ensure that the 1-Minute Screen is displayed. If not, press the EXIT key.
	2	Press the REVUE key. The OID displays the REVIEW keypad.
	3	Press the EDTLG key. The OID displays the EDIT LOG keypad.
	4	To page through the log, use the PREV/NEXT keys.
	5	To access a specific date within the log, press the DATE key. The OID displays the ENTER DATE:MM/DD/YY prompt. Enter the desired date and press RETURN.
	6	Press EXIT to return to the 1-Minute Screen. Press BACK to return to the REVIEW keypad.

3.12 **Reviewing Site Data (OBS, TEC, SYS, and UNS).** Site data includes weather station data and hardware data that identify all the characteristics of the site. Access to the site's characteristics data is provided through six pages: physical site data; site normals; site configuration; criteria for special, local, and SHEF alerts; software versions and AOMC versions; and pressure reduction ratios.

3.12.1 **Reviewing Weather-Specific Data (OBS, TEC, SYS, and UNS).** To review site weather-specific data, perform the following steps listed in table 3-9.

Table 3-9. Reviewing Weather-Specific Data (OBS, TEC, SYS, and UNS)

Procedure	Step	Description
REVIEWING WEATHER-SPECIFIC DATA	1	Ensure that the 1-Minute Screen is displayed at the OID. If not, press the EXIT key.
	2	Press the REVUE key. The OID displays the REVIEW keypad.
	3	Press the SITE key. The OID displays the SITE keypad.
	4	Press VERSN, PHYS, NORML, CRIT, or PRESS key. The OID displays the desired site data. If either the site criteria (CRIT) or pressure (PRESS) function is selected, press the PAGE key to display additional data.
	5	Press EXIT to return to the 1-Minute Screen. Or, press BACK to return to the SITE keypad.

3.12.2 **Reviewing Hardware-Specific Data (OBS, TEC, SYS, and UNS).** To review site hardware-specific data, perform the following steps listed in table 3-10. The site's hardware configuration characteristics data are displayed on five screens: define configuration; hardware characteristics; external communications; sensor configuration and algorithms; and ACU serial communications. The observer does not have access to the external communications page. Access to the hardware configuration pages is via the review configuration keypad.

Table 3-10. Reviewing Hardware-Specific Data (OBS, TEC, SYS, and UNS)

Procedure	Step	Description
REVIEWING HARDWARE-SPECIFIC DATA	1	Ensure that the 1-Minute Screen is displayed at the OID. If not, press the EXIT key.
	2	Press the REVUE key. The OID displays the REVIEW keypad.
	3	Press the SITE key. The OID displays the SITE keypad.
	4	Press the CONFG key. The OID displays the CONFIG keypad.
	5	Press HDWE, DEFIN, SENSR, or COMMS key. The OID displays the desired hardware-related site data.
	6	Press EXIT to return to the 1-Minute Screen. Or, press BACK to return to the CONFIG keypad.

3.12.3 **Reviewing Sensor Algorithm Characteristics (OBS, TEC, SYS, and UNS).** The sensor algorithm characteristics screen displays SKY and VISIBILITY algorithm type being used at the site. The sky sensor includes algorithm type, elevation data, and location. The visibility sensor data includes algorithm type and location. The sensor data quality algorithm checks are provided in Appendix I. To review sensor algorithm characteristics, perform the following steps listed in table 3-11.

Table 3-11. Reviewing Sensor Algorithm Characteristics (OBS, TEC, SYS, and UNS)

Procedure	Step	Description
REVIEWING SENSOR ALGORITHM CHARACTERISTICS	1	Ensure that the 1-Minute Screen is displayed at the OID. If not, press the EXIT key.
	2	Press the REVUE key. The OID displays the REVIEW keypad.
	3	Press the SITE key. The OID displays the SITE keypad.
	4	Press the CONFG key. The OID displays the CONFIG keypad.
	5	Press the SENSR key. The OID displays the configuration characteristics screen with the CONFIGURATION keypad.
	6	Press the ALGOR key. The OID displays the sensor algorithm characteristics screen with the ALGORITHM keypad.
	7	Press EXIT to return to the 1-Minute Screen. Or, press BACK to return to the CONFIGURATION keypad.

3.13 **Reviewing Sensor Reporting Status (OBS, TEC, SYS, ATC, and UNS).** The sensor reporting status identifies those sensors that have been placed in a manual reporting mode. Sensors are placed in the manual reporting mode when either the OBS or ATC edits the sensor's associated field on the 1-Minute Screen. Data fields on the 1-Minute Screen that are currently in a manual report mode are indicated by an asterisk (*). The manual command displays the sensors associated with these fields. To display the auxiliary sensor status screen, perform the following steps listed in table 3-12. This information will remain on the screen until it is manually removed, or when an OBS or ATC is signed on the system, it may be automatically replaced by a message concerning the availability of automated present weather data.

Table 3-12. Reviewing Sensor Reporting Status (OBS, TEC, SYS, ATC, and UNS)

Procedure	Step	Description
REVIEWING SENSOR REPORTING STATUS	1	Ensure that the 1-Minute Screen is displayed at the OID. If not, press the EXIT key.
	2	Press the AUX key. The OID displays the AUX keypad.
	3	Press the MAN key. The system displays which sensors are in manual mode.
	4	To return to the 1-Minute Screen and leave which sensors are in manual mode displayed, press the EXIT key. To remove this information from the screen and return to the 1-Minute Screen, press the OFF key, then the EXIT key.

3.14 **Changing Sensor Report Processing Status (OBS, ATC, TEC, and SYS).** Sensor report processing controls the output of the processing algorithm for the currently selected sensor on the status page. If the report processing (RPT PROC) status of a sensor is set to ON, the sensor processing algorithm is receiving data from that sensor. If the report processing status is set to OFF, the 1-Minute Screen displays an "M" to denote missing algorithm output for that parameter. Report processing can only be turned ON manually at the sensor status page by selecting the desired sensor report processing field. It is now possible to control the report processing of the dewpoint temperature independently of the ambient temperature. The OBS and ATC have complete control over report processing for all sensors except the pressure sensors.

When the altimeter (pressure sensors) field is edited, it automatically turns OFF the report processing of the pressure sensors. When report processing for the pressure sensors is OFF, all pressure-related parameters go to "M", which denotes missing. The report processing of the pressure sensors can be turned back ON only by an electronics technician. To change a sensor's report processing status, perform the following steps listed in table 3-13.

NOTE

If more than one ceilometer, visibility sensor, or pressure sensor is configured, turning the report processing OFF for one sensor will turn off all ceilometer, visibility, or pressure sensors simultaneously. If one pressure sensor is manually failed by an operator, the system sets all pressure sensors to manual reporting status. If the system detects a single out-of-tolerance pressure sensor in a three-pressure sensor configuration in cases where two good pressure sensors remain, the sensors are permitted to continue reporting in the automatic mode.

Table 3-13. Changing Sensor Report Processing Status (OBS, ATC, TEC, and SYS)

Procedure	Step	Description
CHANGING SENSOR REPORT PROCESSING STATUS	1	Ensure that the 1-Minute Screen is displayed at the OID. If not, press the EXIT key.
	2	At the 1-Minute Screen, press the REVUE key. The OID displays the REVIEW keypad.
	3	Press the SENSR key. The OID displays the SENSOR keypad.
	4	Press the STAT key. The OID displays the STATUS keypad
	5	Using the PREV/NEXT keys, select the desired sensor.
	6	Press the PROC key, then enter your initials and press RETURN. The sensor's RPT PROC field toggles from OFF to ON or from ON to OFF. If the sensor is turned off, an "M" is displayed in the sensor's data field, or a sensor status indicator remark will be entered in the REMARKS field on the 1-Minute Screen, as appropriate. **ONLY A TECHNICIAN (TEC) CAN TURN PRESSURE SENSORS' REPORT PROCESSING BACK ON.**
	7	Press EXIT to return to the 1-Minute Screen. Or press BACK to return to the SENSOR keypad.

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3.15 **Generating a Manual SPECI (OBS and ATC).** Generating a manual SPECI causes the system to use the current weather data displayed on the 1-Minute Screen to create a SPECI report. The procedure for generating a manual SPECI is listed in table 3-14.

Table 3-14. Generating a Manual SPECI (OBS and ATC)

Procedure	Step	Description
GENERATING A MANUAL SPECI	1	Ensure that the 1-Minute Screen is displayed at the OID. If not, press the EXIT key.
	2	At the 1-Minute Screen, press the GENOB key. The GENERATE OBS keypad is displayed.
	3	Press the SPEC key to initiate the SPECI. "SPECI GENERATION" is displayed on the left-center area of the screen.
	4	To transmit the SPECI, press the XMIT key. The system transmits the manually generated report and returns to the 1-Minute Screen. To exit the GENOB function without transmitting the SPECI, press the ABORT key.

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3.16 **Beginning and Ending Tornadic SPECIs (OBS and ATC)**. There are three types of tornadic SPECIs: funnel clouds; tornados; and waterspouts. Sighting these weather conditions require the OBS or ATC to generate a tornadic SPECI. Tornadic SPECIs must be generated in pairs (i.e., one tornadic SPECI marks the beginning of an event and another tornadic SPECI marks the end of the event). While any of the three possible tornadic events is in progress, no other type can be selected. If a SPECI for the beginning of a funnel cloud has been transmitted and then a tornado has also been sighted, it is necessary to end the funnel cloud event before issuing the SPECI for the tornado. To begin and end a tornadic SPECI, perform the following steps listed in tables 3-15 and 3-16, respectively.

Table 3-15. Beginning Tornadic SPECIs (OBS and ATC)

Procedure	Step	Description
BEGINNING TORNADIC SPECI REPORTS	1	Ensure that the 1-Minute Screen is displayed at the OID. If not, press the EXIT key.
	2	At the 1-Minute Screen, press the GENOB key. The GENERATE OBS function keypad is displayed.
	3	Select the desired type of tornadic SPECI report by pressing the respective key, i.e., TRNDO, WTRSP, or FUNNL. When TRNDO, WTRSP, or FUNNL is pressed, SPECI GENERATION is displayed along with the TORNADIC REMARK field. ASOS automatically provides a begin time remark.
	4	When the TORNADIC REMARK field is displayed, enter the desired remarks (if any).
	5	To exit the GENOB function without transmitting a tornadic SPECI report, press the ABORT key.
	6	To transmit tornadic SPECI, press the XMIT key. The OID displays the message DO YOU WANT TO TRANSMIT (Y OR N)? To transmit, type Y, then press RETURN. The system transmits the SPECI report and returns to the 1-Minute Screen. To return to 1-Minute Screen without transmitting, type N, then press RETURN.

Table 3-16. Ending Tornadic SPECIs (OBS and ATC)

Procedure	Step	Description
ENDING TORNADIC SPECI REPORTS	1	Ensure that the 1-Minute Screen is displayed at the OID. If not, press the EXIT key.
	2	At the 1-Minute Screen, press the GENOB key. The GENERATE OBS keypad is displayed.
	3	Select the current type of tornadic SPECI which is in progress by pressing the respective key. The system generates the automatic end remark and displays the TORNADIC REMARK field. Enter any necessary remarks.
	4	To exit the GENOB function without ending the tornadic SPECI, press the ABORT key.
	5	To transmit the tornadic SPECI to end the occurrence, press the XMIT key. The OID displays the message DO YOU WANT TO TRANSMIT (Y OR N)? To transmit, type Y, then press RETURN. The system transmits the tornadic SPECI ending the occurrence and returns to the 1-Minute Screen. To return to 1-Minute Screen without transmitting, type N, then press RETURN.

3.17 **Canceling/Transmitting Automatically Generated SPECIs (OBS).** Canceling system-generated SPECIs or transmitting them early enables observers to cancel SPECIs before they are transmitted or to transmit pending SPECIs immediately. Transmitting considerations for SPECIs are identified below in table 3-17.

Table 3-17. Considerations For Canceling/Transmitting Automatically Generated SPECIs (OBS)

Pending	Observer Entry	Results
METAR	GENOB SPECI	This condition is not allowed and an error message is displayed. The hourly METAR is transmitted as scheduled at the end of the edit time.
METAR	GENOB TORNADIC SPECI	The tornadic SPECI is transmitted immediately; and the hourly METAR is transmitted as scheduled at the end of the edit time. The hourly METAR contains the tornadic SPECI information in the present weather and remarks fields.
SPECI	GENOB SPECI	This condition is not allowed and an error message is displayed. The original SPECI is transmitted as scheduled at the end of the edit time.
SPECI	GENOB TORNADIC SPECI	Replace the pending SPECI with the tornadic SPECI, archive the pending SPECI with "FIBI" appended, and transmits the tornadic SPECI immediately. The pending SPECI does not contain the tornadic SPECI information in the present weather and remark fields.

System-generated SPECIs can be canceled or transmitted immediately only by observers. To cancel or transmit a system-generated SPECI, perform the steps listed in table 3-18.

Table 3-18. Canceling/Transmitting Automatically Generated SPECIs (OBS)

Procedure	Step	Description
CANCELING/ TRANSMITTING AUTO - GENERATED SPECI REPORTS	1	Ensure that the 1-Minute Screen is displayed at the OID. If not, press the EXIT key.
	2	Press the CMD key. The OID displays the COMMANDS keypad.
	3	Press the OBS key. The OID displays the COMMANDS-OBS keypad.
	4	To transmit the SPECI, press the XMIT key. The OID displays the message DO YOU WANT TO TRANSMIT (Y OR N)? To transmit, type Y, then press RETURN. Press EXIT to return to the 1-Minute Screen.
	5	To cancel the SPECI, press the CNCL key. The OID displays the message DO YOU WANT TO CANCEL (Y OR N)? To cancel, type Y, then press RETURN.* Press EXIT to return to the 1-Minute Screen.

NOTE

*If the parameter causing the SPECI to be generated is not changed, ASOS will re-generate the SPECI report.

3.18 **Correcting a Transmitted METAR/SPECI Report (OBS).** ** Before using this available function, check your Agency's operating procedures for alternative methods or instructions for generating a corrected METAR/SPECI report.**

ASOS provides a function for generating a corrected METAR/SPECI report. This correction feature is a free-text editor and any corrected data entered are not used by ASOS to update any products, messages, archived data, or fields on the 1-Minute Screen. Using this feature will also change the ground-to-air radio broadcast to voice the phrase "TEMPORARILY INOPERATIVE" until the next uncorrected METAR/SPECI report is transmitted. The procedure for generating a corrected METAR/SPECI report, by using ASOS's COR function, is listed in table 3-19.

Table 3-19. Correcting a Transmitted METAR/SPECI Report (OBS)

Procedure	Step	Description
GENERATING A CORRECTED METAR/SPECI REPORT	1	Ensure that the 1-Minute Screen is displayed at the OID. If not, press the EXIT key.
	2	At the 1-Minute Screen, press the CMD key. The COMMANDS keypad is displayed.
	3	Press the OBS key. The COMMANDS-OBS keypad is displayed. .
	4	Press the COR key. The last transmitted METAR/SPECI report will be displayed in reverse video and is now available for correcting. Make the necessary changes.
	5	To leave the correction feature without transmitting the correction, press ABORT. To transmit the corrected report, press XMIT.

3.19 **Reviewing Archived Observations (OBS, ATC, TEC, SYS, and UNS).** The review observations functions enable the user to review METARs (i.e., both METAR and SPECI reports), 5-minute observations, and Standard Hydrometeorological Exchange Format (SHEF) messages.

The first function, REVUE-RPT-OBS, provides access to archive files containing all METARs and SPECIs generated by the system, either automatically or manually (GENOB function), for the past 31 days plus so far today. It also contains entries of all sign on/off actions by observer and air traffic control specialist level users for the past 31 days plus so far today. Each report entry in this archive file is preceded with the month, day, year and Local Standard Time (LST) of transmission (or storage) of the report. The initials of the observer signed on to the system at the time of the report, if any, are placed in parenthesis at the end of the report. Reports that have been generated, but canceled by the observer, are stored with the characters CNCL placed at the end of the report. There are presently three types of SPECIs which are prioritized as follows: New/Different, Continuation of the current SPECI, and Reversal of the current SPECI. When the ASOS system receives multiple SPECIs, it responds as follows:

1. When a tornadic SPECI occurs, any previously pending SPECI is FIBIed (Filed, But Impractical to Transmit) and the new tornadic SPECI is transmitted immediately.

2. When a New/Different or Continuation of trend SPECI occurs, the current SPECI is transmitted immediately.

3. When a reversal trend occurs, the original SPECI is canceled and archived in the EDIT LOG.

The second function records 5-minute observations in METAR format for the past 12 hours. In addition, the user can archive up to three 2-hour snapshots of the 5-minute observations. These files remain stored in the system until overwritten. The system maintains the last three 2-hour archived files. When a new 2-hour archive file is specified and the system already has three 2-hour archive files stored, the oldest 2-hour archive file is automatically deleted, i.e., file number 3 is deleted and file 2 becomes 3, file 1 becomes 2, and the new file is file 1. The unsigned user cannot archive these snapshot files. The 5-minute observation data are displayed on the REVIEW 5 MINUTE screen. The REVIEW 2 HOUR screen displays the archived 2-hour data files.

The third function records the SHEF messages that may have been generated and transmitted for the past 3 days plus the current day's data.

Any ASOS user can review and print the METAR/SPECI reports, SHEF messages, and 5-minute observations without being signed onto the system. Users signed on as the air traffic control specialist (ATC) have access only to the METARs and 5-minute observations.

3.19.1 **Reviewing METAR Reports (OBS, ATC, TEC, SYS and UNS).** To review the METAR reports. i.e., METAR and SPECI reports generated, perform the following steps listed in table 3-20.

Table 3-20. Reviewing METAR Reports (OBS, ATC, TEC, SYS and UNS)

Procedure	Step	Description
REVIEWING METAR REPORTS	1	Ensure that the 1-Minute Screen is displayed at the OID. If not, press the EXIT key.
	2	Press the REVUE key. The OID displays the REVIEW keypad.
	3	Press the RPT key. The OID displays the REVIEW OBSERVATION keypad.
	4	Press the OBS key. The system displays the REVIEW OBSERVATION keypad.
	5	Use the PREV/NEXT keys to move through the archived data.
	6	The DATE function prompts the user to input a month, date, and year. Press RETURN.
	7	Press EXIT to return to the 1-Minute Screen. Press BACK to return to the REVIEW OBSERVATION keypad.

3.19.2 **Reviewing 5-Minute Observations and 2-Hour Archive Files (OBS, ATC, TEC, SYS, and UNS).** To review 5-minute observations and 2-hour archive files, perform the steps listed in table 3-21.

Table 3-21. Reviewing 5-Minute Observations and 2-Hour Archive Files (OBS, ATC, TEC, SYS, and UNS)

Procedure	Step	Description
REVIEWING 5-MINUTE OBSERVATIONS AND 2-HOUR ARCHIVE FILES	1	Ensure that the 1-Minute Screen is displayed at the OID. If not, press the EXIT key.
	2	Press the REVUE key. The OID displays the REVIEW keypad.
	3	Press the RPT key. The OID displays the REVIEW OBSERVATION keypad.
	4	Press the 5MIN key. The OID displays the REVIEW 5 MINUTE screen. Use the PREV/NEXT keys to move through the observations. Or, use the TIME key and enter the time of the observation you want to see. The TIME entry is based on a 24-hour clock, e.g., 1PM = 1300 and 1AM = 0100.
	5	To review the 2-hour archived files, press the REV2H key. The OID displays the REVIEW 2 HOUR screen. The starting date and time for the three 2-hour archive files (if present) are given at the bottom center of the screen. Select the desired file by pressing the ONE, TWO, or THREE key.
	6	Press EXIT to return to the 1-Minute Screen. Or, press BACK to return to the previous menu keypad.

3.19.3 **Creating 2-Hour Archive Files (OBS, ATC, TEC, and SYS).** To create a 2-hour archive file of 5-minute observations, perform the steps listed in table 3-22.

Table 3-22. Creating 2-Hour Archive Files (OBS, ATC, TEC, and SYS)

Procedure	Step	Description
SPECIFYING A 2-HOUR ARCHIVE FILE	1	Ensure that the 1-Minute Screen is displayed at the OID. If not, press the EXIT key.
	2	Press the REVUE key. The OID displays the REVIEW keypad.
	3	Press the RPT key. The OID displays the REVIEW OBSERVATION keypad.
	4	Press the 5MIN key. The OID displays the REVIEW 5 MINUTE screen.
	5	Press ARC2H key. The OID displays the ENTER TIME(LST):HHMM prompt.*
	6	Enter the starting time for the 2-hour archive and press RETURN.
	7	Press EXIT to return to the 1-Minute Screen. Press BACK to return to the REVIEW OBSERVATION keypad.

* The time specified is the time of the first observation to begin the file. The time entry is based on a 24-hour clock, e.g., 1PM= 1300, 8PM= 2000, 1AM= 0100.

3.19.4 **Reviewing Sensor Data (OBS, TEC, SYS and UNS).** The REVUE-SENSR (sensor) function provides access to the current sensor data used by sensor processing algorithms (via the DATA subfunction) and access to sensor data for the last 12 hours (via the 12-HR subfunction).

3.19.4.1 ***Reviewing Current Sensor Data*** **(OBS, TEC, SYS, and UNS).** To review current sensor data, perform the following steps, as indicated, in table 3-23.

Table 3-23. Reviewing Current Sensor Data (OBS, TEC, SYS, and UNS)

Procedure	Step	Description
REVIEWING CURRENT SENSOR DATA	1	Ensure that the 1-Minute Screen is displayed at the OID. If not, press the EXIT key.
	2	Press the REVUE key. The OID displays the REVIEW keypad.
	3	Press the SENSR key. The system displays the SENSOR keypad.
	4	Press the DATA key. The OID displays the 1-MINUTE CURRENT SENSOR DATA screen.
	5	Press the PAGE key to view different CURRENT SENSOR DATA screens. Use the UPDAT key to refresh the displays with the latest sensor data.
	6	Press EXIT to return to the 1-Minute Screen. Press BACK to return to the SENSOR keypad.

3.19.4.2 ***Reviewing 12-Hour Sensor Data (OBS, TEC, SYS, and UNS).*** To review the 12-hour archive of 1-minute sensor data, perform the steps listed in table 3-24.

Table 3-24. Reviewing 12-Hour Sensor Data (OBS, TEC, SYS, and UNS)

Procedure	Step	Description
REVIEWING 12-HOUR SENSOR DATA	1	Ensure that the 1-Minute Screen is displayed at the OID. If not, press the EXIT key.
	2	Press the REVUE key. The OID displays the REVIEW keypad.
	3	Press the SENSR key. The system displays the SENSOR keypad.
	4	Press the 12-HR key. The system displays a 12HR ARCHIVE sensor data screen.
	5	Press the PAGE key to view different pages of 12-hour archived sensor data. Use the PREV/NEXT keys to move through the archived data on a specific page. Use the TIME key to select data recorded at a specific time in the archive. The time entry is based on a 24-hour clock, e.g., 1PM= 1300 and 1AM= 0100.
	6	Press EXIT to return to the 1-Minute Screen. Press BACK to return to the SENSOR keypad.

3.19.5 **Reviewing SHEF Messages (OBS, TEC, SYS, and UNS).** To review SHEF messages, perform the following steps listed in table 3-25.

Table 3-25. Reviewing SHEF Messages (OBS, TEC, SYS, and UNS)

Procedure	Step	Description
REVIEWING SHEF MESSAGES	1	Ensure that the 1-Minute Screen is displayed at the OID. If not, press the EXIT key.
	2	Press the REVUE key. The OID displays the REVIEW keypad.
	3	Press the RPT key. The OID displays the REVIEW OBSERVATION keypad.
	4	Press the SHEF key. The OID displays the REVIEW SHEF screen.
	5	Use the PREV/NEXT keys to move through the archived messages. Use the DATE key to select data recorded at a specific date in the archive.
	6	Press EXIT to return to the 1-Minute Screen. Or, press BACK to return to the REVIEW OBSERVATION keypad.

3.20 **Editing the 1-Minute Screen (OBS and ATC).** The EDIT function enables the observer to edit any of the 1-minute observation data fields on the 1-Minute Screen (i.e., SKY, VISIBILITY, RVR, PRESENT WX, REMARKS, TEMP/DEWPT, WIND DIR/SPD, and ALTIMETER). The air traffic control specialist can edit only the PRESENT WX and REMARKS fields. When invoking the EDIT function prior to the transmission of a pending report, the EDIT display screen indicates the amount of edit time remaining at the top of the screen. Figure 3-2 shows a typical EDIT display screen. The EDIT-REM function is used to edit the remarks field.

Editing the 1-minute observation overrides the output of the corresponding sensor processing algorithm. Whenever a 1-minute observation field is edited (i.e., backed-up), an asterisk (*) is placed next to the edited field. This indicates that the data represents an observer's/air traffic control specialist's input that has placed a sensor(s) in the manual mode of operation. The RESET key is pressed to enable the system's processing algorithm output to be displayed in the selected field. **Except for the Present Weather and RVR fields, the 1-minute data fields revert to automatic mode after the next hourly METAR is transmitted.** The Present Weather and RVR fields remain in manual mode until the RESET key, which toggles between automatic input and manual input, is pressed. After the hourly METAR report is transmitted, all pressure fields revert to automatic mode, which will indicate missing since the editing of the ALTIMETER field automatically turns off the sensors' report processing. The report processing for pressure, once edited, cannot be restored without action from the electronics technician. To edit the 1-Minute Screen, perform the steps listed in table 3-26.

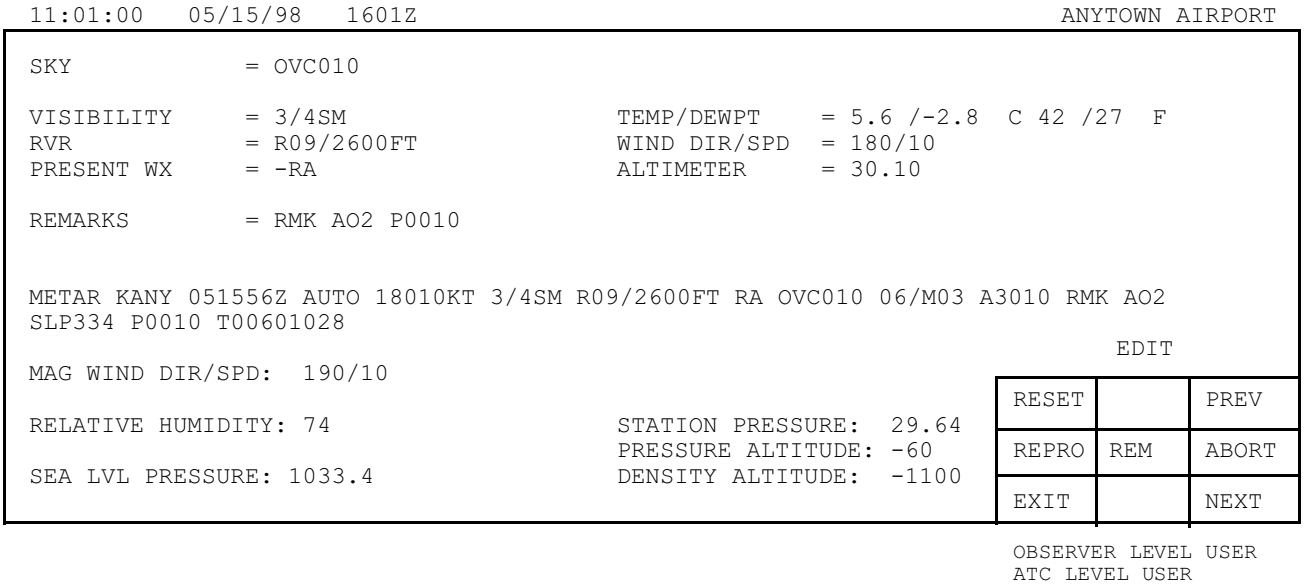

Figure 3-2. EDIT Screen

The following keys, located on the auxiliary and editing keypads, can be used with the EDIT function.

Key	Description
ARROW KEYS	
↑, ↓	Moves the cursor to the selected fields of the 1-Minute Screen
←, →	Moves the cursor within the selected field
INSERT HERE	Inserts data where the cursor is located (e.g., in the middle of a line between existing characters)
RE-MOVE	Deletes the character under the cursor
BACK ARROW	Deletes the character to the left of the cursor

In addition to editing (i.e., backing up) the 1-Minute Screen, the operator can augment the 1-Minute Screen. Augmenting the 1-Minute Screen enables the operator to identify various weather parameter characteristics that are not detectable by ASOS. As a result of augmenting the 1-Minute Screen, the sensor associated with the weather parameter remains in automatic mode and no asterisk (*) precedes the weather parameter characteristic on the 1-Minute Screen. While using the EDIT function, after the RETURN, PREV, NEXT, or EXIT key is pressed, the system evaluates the changed value to determine if it meets data quality rules for acceptable data. If the change is not valid, an audible tone sounds and an error message is displayed. If the REPRO (Reprocess) key is pressed, the effects of the manually entered data is previewed over the 1-minute data. The system displays any new values (including auxiliary parameters) whose values will change because of the edit. If the edit will result in a SPECI being generated, this condition is also displayed on the OID. These preview indications are removed from the display on the next keystroke.

Table 3-26. Editing 1-Minute Screen (OBS and ATC)

Procedure	Step	Description
EDITING 1-MINUTE SCREEN	1	Ensure that the 1-Minute Screen is displayed at the OID. If not, press the EXIT key.
	2	Press the EDIT key. The OID displays the EDIT keypad.
	3	Using the PREV/NEXT keys, position the cursor on the desired field.
	4	Enter the desired change.
	5	To preview the effects of modifications made to the 1-Minute Screen, press the REPRO key.
	6	To save the changes, press the EXIT key.
	7	To cancel the changes, press the ABORT key.

3.20.1 **Editing Remarks Field (OBS and ATC).** The user has access to the REMARKS EDIT screen via the REM key located in the center of the EDIT keypad. The REM key allows the user to edit the REMARKS field on the 1-Minute Screen. The REMARKS EDIT screen displays the OBS, TORNADIC, MANUAL, and AUTO remarks fields. The auto remarks can only be turned ON or OFF. When an auto remark field is turned OFF, remarks from that field are not included in any subsequent reports until after the next hourly METAR is transmitted. The OBS or ATC can enter a parenthetical remark (e.g., (ACFT MSHP)). The parenthetical remark is not transmitted as part of the report, but it is printed and archived.

3.20.1.1 ***Tornadic Remarks (OBS or ATC).*** Selecting this function allows the user to edit the remark field for tornadic activity and will generate an unscheduled report, i.e., SPECI. This function is only active if a tornadic event is being reported. The procedure for editing the remarks field is listed in table 3-27.

3.20.1.2 ***Manual Remarks (OBS or ATC).*** Allows the user to edit manual remarks. Manual remarks is a free-text editor and provides no quality control checks. The observer is responsible for data format and content in this field. The procedure for editing the remarks field is listed in table 3-27.

Table 3-27. Editing Remarks Field (OBS and ATC)

Procedure	Step	Description
EDITING REMARKS FIELD	1	Ensure that the 1-Minute Screen is displayed at the OID. If not, press the EXIT key.
	2	Press the EDIT key. The OID displays the EDIT keypad.
	3	Press the REM key. The OID displays the REMARKS EDIT keypad.
	4	Press the TORN* or MAN key. Press the TORN key to edit a tornadic remark and generate an unscheduled report, i.e., SPECI. Use the MAN key to edit a manual remark.
	5	Enter the desired remarks in the field.
	6	To save the changes, press the EXIT key.
	7	To cancel the changes, press the ABORT key.

*The TORN key is only active when a tornadic event is encoded in the PRESENT WX field.

3.20.2 **Controlling Auto Remarks (OBS or ATC).** The system generates various types of automated remarks. Table 4-5 lists the type of remarks and the order in which they appear. To control auto remarks on the 1-Minute Screen, perform the following steps listed in table 3-28.

Table 3-28. Controlling Auto Remarks (OBS or ATC)

Procedure	Step	Description
CONTROLLING AUTO REMARKS	1	Ensure that the 1-Minute Screen is displayed at the OID. If not, press the EXIT key.
	2	Press the EDIT key. The OID displays the EDIT keypad.
	3	Press the REM key. The OID displays the REMARKS EDIT keypad.
	4	Use the PREV/NEXT keys to position the cursor at the desired remark.
	5	Press the SEQN key to toggle the remark ON or OFF.
	6	To save the changes and return to the 1-Minute Screen, press the EXIT key. To cancel the changes, press the ABORT key.

3.21 **Entering Tower Visibility Data (OBS and ATC).** Input of the tower visibility (TWR VIS) is in Statute Miles (SM). All valid TWR VIS reportable values are provided in Section 4. To enter tower visibility data at the OID, perform the steps listed in table 3-29. Tower visibility is not automatically removed after the hourly METAR is transmitted.

Table 3-29. Entering Tower Visibility Data (OBS and ATC)

Procedure	Step	Description
ENTERING TOWER VISIBILITY DATA	1	Ensure that the 1-Minute Screen is displayed at the OID. If not, press the EXIT key.
	2	Press the TWR key. The OID displays the TWR field.
	3	Enter the appropriate visibility reportable value (e.g., 1/16 or 1/16SM) and press RETURN or EXIT to save the entry.
	4	To cancel the changes, press the ABORT key.

3.22 **Removing Tower Visibility Field From the OID (OBS and ATC).** To remove the tower visibility entry from the OID's TWR field, perform the steps as listed in table 3-30. Tower visibility is not automatically removed after the hourly METAR is transmitted.

Table 3-30. Removing Tower Visibility Field From the OID (OBS and ATC)

Procedure	Step	Description
REMOVING TOWER VISIBILITY ENTRY	1	Ensure that the 1-Minute Screen is displayed at the OID. If not, press the EXIT key.
	2	Press the TWR key. The OID displays the TWR field.
	3	Using the RE-MOVE key, delete the characters in the field, then press RETURN or EXIT key to save the changes and return to the 1-Minute Screen.
	4	To cancel the changes, press the ABORT key.

3.23 **Communicating With Other Users (OBS, ATC, TEC, and SYS).** The PHONE subfunction, listed in table 3-31, allows each signed-on OID user to initiate or receive phone messages from the OIDs. Selecting the PHONE subfunction displays the following keys located on the menu keypad.

Table 3-31. Communicating With Other Users (OBS, ATC, TEC, and SYS)

Key	Definition
PRINT	Prints the current screen on the ASOS printer
HANG	Enables the user to end a call
ANSWR	Enables a user to respond to a call
EXIT	Returns the user to the 1-Minute Screen
BACK	Returns the user to the previous screen and keypad
CALL	Allows the user to initiate contact with any of the other signed-on OID users by displaying a menu keypad that has a key designated for each OID (e.g., OID-1, OID-2, …, OID-8)

3.23.1 **Calling Another OID (OBS, ATC, TEC, and SYS).** To call another OID, perform the following steps listed in table 3-32.

Table 3-32. Calling Another OID (OBS, ATC, TEC, and SYS)

Procedure	Step	Description
CALLING ANOTHER OID	1	Ensure that the 1-Minute Screen is displayed at the OID. If not, press the EXIT key.
	2	Press the CMD key. The OID displays the COMMANDS keypad.
	3	Press the PHONE key. The system displays the phone screen.
	4	Press the CALL key. The OID displays the call screen listing each OID and the user level signed on at the OID.
	5	Press the desired OID key. The system displays RINGING on the STATUS line. When the other OID answers, the STATUS field displays TALKING. Enter your message on the OID keyboard.
	6	To hang up, press the EXIT, BACK, or ABORT key.

3.23.2 **Answering a Call From Another OID (OBS, ATC, TEC, and SYS).** To answer a call from another OID, perform the following steps, listed in table 3-33.

Table 3-33. Answering a Call From Another OID (OBS, ATC, TEC, and SYS)

Procedure	Step	Description
ANSWERING A CALL FROM ANOTHER OID	1	Ensure that the 1-Minute Screen is displayed at the OID. If not, press the EXIT key.
	2	Press the CMD key. The OID displays the COMMANDS keypad.
	3	Press the PHONE key. The system displays the phone screen.
	4	Press the ANSWR key. The STATUS field displays TALKING.
	5	Enter your message on the OID keyboard.
	6	To hang up, press the EXIT, BACK, or ABORT key.

4 AUTOMATED SURFACE OBSERVING SYSTEM (ASOS) 1-MINUTE SCREEN WEATHER PARAMETERS

Figure 4-1 shows the weather parameters identified on the 1-Minute Screen. Selected sites will have a Runway Visual Range (RVR) field displayed, as required.

When the observer is signed on the system messages will appear in the lower left-hand corner of the 1-Minute Screen concerning the availability of precipitation identification, freezing rain, and thunderstorm data. When a change in the data availability occurs, the appropriate message will update to indicate the change and then flash for a period of about 1 minute.

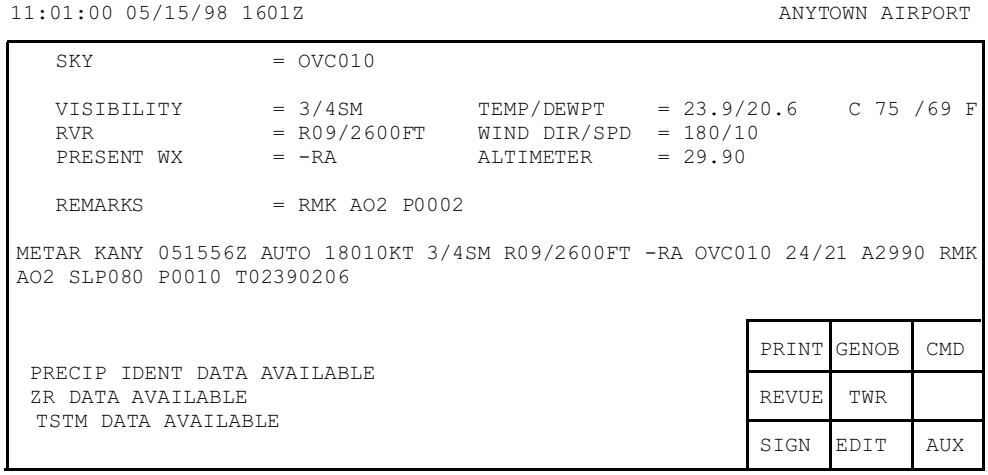

Figure 4-1. 1-Minute Screen

4.1 **Sky.** The SKY parameter field contains a maximum of 47 characters including spaces. The ASOS system automatically generates a maximum of 3 cloud layers at or below the upper range of the ceilometer, which is 12,000 feet. Additional characters are available to the observer for augmenting up to 3 layers above 12,000 feet.

a. A cross-check of augmented versus automated cloud layers is performed each minute so that the augmented/automated amount is reasonable. The ASOS system allows combinations of automated versus manually augmented cloud layers as follows:

If automated is:	Augmented layer can be:
CLR	Any
FEW	SCT, BKN, OVC
SCT	SCT, BKN, OVC
BKN	BKN or OVC
OVC	None allowed

b. Any edit of layers below the upper limit of 12,000 feet places the ceilometer in manual mode. Table 4-1 defines all applicable sky code designators.

c. Augmentation of a cloud layer(s) above the upper limit will not put the ceilometer in manual mode. Augmented layers remain until immediately after the transmission of the hourly METAR unless the cross-check of cloud amounts is not satisfied. Augmented layers are deleted after the hourly METAR has been processed and transmitted. Table 4-1 lists the sky code designators accepted by ASOS system.

4.1.1 **Sky Codes Designators**. Table 4-1 lists the sky code designators accepted by ASOS.

Table 4-1. Sky Code Designators

Designator	Definition
CLR	Clear 0/8
FEW	Few 1/8 - 2/8
SCT	Scattered 3/8 - 4/8
BKN	Broken 5/8 - 7/8
OVC	Overcast 8/8
VVaaa	This defines an indefinite ceiling where “aaa” is the value reported in hundreds of feet from 1 to 20 (e.g., 100 feet is encoded as VV001 and 700 feet is encoded as VV007). “VV000” can be manually entered.

4.1.2 **Sky Codes Examples**. Examples of valid sky entries are listed below.

SCT020 BKN050 VV020
FEW020 FEW005 SCT010 OVC030

4.2 **Visibility**. The VISIBILITY parameter field contains a maximum of seven characters including spaces.

> **NOTE**
>
> Tower visibility can only be deleted/changed by the OBS or ATC. Tower visibility is not automatically removed after the hourly METAR is transmitted.

The OBS or ATC can enter a tower visibility value by pressing the TWR key. The OID accepts the OBS's or ATC's entry if it is a valid reportable value. If the surface visibility reported by ASOS is less than 4 miles and the tower visibility is greater than the surface visibility, the remark "TWR VIS xxxxx" (where xxxxx is the visibility reportable value) is encoded in the REMARKS of the METAR/SPECI report. If the entered tower visibility is less than 4 miles and is less than the surface visibility value reported by ASOS, the tower visibility value is placed in the body of the report and the surface visibility is placed in the REMARKS as "SFC VIS xxxxx".

4.2.1 **Visibility Codes**. Table 4-2 lists automated reportable values for visibility. The values of 0SM*, 1/16SM, and 1/8SM can be entered manually.

Table 4-2. Automated Reportable Values for Visibility

Report	Visibility Range	Report	Visibility Range	Report	Visibility Range
M1/4SM*	Vis≤< 0.2SM	1 1/2SM	1.375< Vis ≤ 1.625SM	5SM	4.5< Vis ≤ 5.5SM
1/4SM	0.2 < Vis ≤ 0.375SM	1 3/4SM	1.625< Vis ≤ 1.875SM	6SM	5.5< Vis ≤ 6.5SM
1/2SM	0.375< Vis ≤ 0.625SM	2SM	1.875< Vis ≤ 2.25SM	7SM	6.5< Vis ≤ 7.5SM
3/4SM	0.625< Vis ≤ 0.875SM	2 1/2SM	2.25< Vis ≤ 2.75SM	8SM	7.5< Vis ≤ 8.5SM
1SM	0.875< Vis ≤ 1.125SM	3SM	2.75< Vis < 3.5SM	9SM	8.5< Vis ≤ 9.5SM
1 1/4SM	1.125< Vis ≤ 1.375SM	4SM	3.5< Vis ≤ 4.5SM	10SM	Vis > 9.5SM

*Units are expressed in statute miles.

4.2.2 **Visibility Example**. If the automated visibility is less than 3 miles and is increasing and decreasing by 1/2 statute mile or more, a variable visibility condition results in a remark being generated (e.g., VIS xxxxVyyyy)

4.3 **Runway Visual Range** Runway Visual Range (RVR) from the FAA's New Generation RVR system can be interfaced directly to the ASOS system. Automated RVR will be available from required sites only. Sites reporting RVR will have an RVR field displayed on the OID 1-Minute Screen, and this field will be available for editing via the EDIT function. At this time, only the RVR from the primary instrument runway will be reported. ASOS will automatically encode the RVR in the METAR/SPECI report anytime the surface visibility is 1SM or less, or if the RVR value is 6000FT or less. A SPECI will be automatically generated by ASOS if the highest value from the RVR decreases to less than, or if below, increases to equal or exceed 2400 feet during the preceding 10 minutes. RVR SPECI criterion is displayed on the CRITERIA page which can be accessed by entering the following keys from the 1-Minute Screen: REVUE-SITE-CRIT. If edited, the RVR field on the 1-Minute Screen is not reset to automated mode after the hourly METAR is transmitted. The RVR field may only be restored to automated mode by using the RESET key available through the EDIT screen.

4.4 **Present Weather**. The PRESENT WX parameter field, as displayed on the OID 1-Minute Screen, contains a maximum of 21 characters consisting of alphabetic characters that may be used in conjunction with a plus sign (+) and/or a minus sign (-).

4.4.1 **Present Weather Codes Designators**. Table 4-3 defines the acceptable Present Weather parameter designators.

Table 4-3. Present Weather Parameter Code Designators

Designator	Definition	Designator	Definition
-DZ*	Drizzle, light	-PE/-PL*	Ice Pellets, light
DZ*	Drizzle, moderate	PE/PL*	Ice Pellets, moderate
+ DZ*	Drizzle, heavy	+ PE/+ PL*	Ice Pellets, heavy
*Observer entered designator, not generated by ASOS. Ice Pellets reported as "PL" after a designated date.			

Table 4-3. Present Weather Parameter Code Designators - (Cont)

Designator	Definition	Designator	Definition
-FZDZ*	Freezing Drizzle, light	BR	Mist
FZDZ*	Freezing Drizzle, moderate	FG	Fog
+FZDZ*	Freezing Drizzle, heavy	MIFG*	Fog, shallow
UP#	Unknown Precipitation	BCFG*	Fog, patchy
-RA	Rain, light	FZFG	Fog, freezing
RA	Rain, moderate	VCFG*	Fog, vicinity
+RA	Rain, heavy	FU*	Smoke
-FZRA&	Freezing Rain, light	BLSN	Snow, blowing
FZRA&	Freezing Rain, moderate	VCBLSN*	Snow, blowing vicinity

* - Observer entered Present Weather designator. This code is not generated by the ASOS system.

- Automated Present Weather designator. This code is not allowed for manual entry.

& - Available through automation if freezing rain sensor is installed.

Table 4-3. Present Weather Parameter Code Designators - (Cont)

Designator	Definition	Designator	Definition
+FZRA*	Freezing Rain, heavy	VA*	Volcanic Ash
-SN	Snow, light	HZ	Haze
SN	Snow, moderate	DU*	Dust
+SN	Snow, heavy	BLDU*	Dust, blowing
GR*	Hail, large	VCBLDU*	Dust, blowing vicinity
GS*	Hail, small	SA*	Sand
FC*	Funnel cloud	BLSA*	Sand, blowing
+FC*	Tornado or waterspout	VCBLSA*	Sand, blowing vicinity
TS%	Thunderstorm	SS*	Sandstorm

* - Observer entered Present Weather designator. This code is not generated by the ASOS system.

% - Available if a sensor is installed, or if lightning data are available through the AWOS Data Acquisition System (ADAS) interface.

Table 4-3. Present Weather Parameter Code Designators - (Cont)

Designator	Definition	Designator	Definition
VCTS#%	Thunderstorm, vicinity	+SS*	Sandstorm, heavy
SQ	Squall	VCSS*	Sandstorm, vicinity
DS*	Duststorm	+DS*	Duststorm, heavy
VCDS*	Duststorm, vicinity		

- Automated Present Weather designator only. This code is not allowed for manual entry.

% - Available if a sensor is installed, or if lightning data are available through the AWOS Data Acquisition System (ADAS) interface.

* - Observer entered Present Weather designator. This code is not generated by the ASOS system.

NOTE

ASOS system does not automatically reset the Present Weather parameter after the hourly METAR is transmitted.

a. Some code designators are categorized as obscurations. The obscuration code designators are not directly observed from a sensor. Editing an obscuration code designator does not affect the output of a sensor; instead, it invokes manual mode processing of obscurations.

Automated Obscurations	Manual Obscurations	
* FG - Fog	*MIFG - Fog, shallow	FU - Smoke
* HZ - Haze	*BCFG - Fog, patchy	VA - Volcanic ash
* BR - Mist	VCFG - Fog, vicinity	SA - Sand
* FZFG - Freezing fog	DU - Dust	BLSA - Sand, blowing
* BLSN - Blowing snow	BLDU - Dust, blowing	VCBLSA - Sand, blowing vicinity
	VCBLDU - Dust, blowing vicinity	VCBLSN - Snow, blowing vicinity
	SS - Sandstorm	DS - Duststorm
	+SS - Sandstorm, heavy	+DS - Duststorm, heavy
	VCSS - Sandstorm, vicinity	VCDS - Duststorm, vicinity

* - Manual entry of the obscuration code places the automated obscuration software in the manual mode of operation.

b. Editing the thunderstorm code designator (TS) invokes manual mode processing. The addition or deletion of this designator generates a SPECI with the begin or end remarks appropriately generated.

c. The following Present Weather code designators affect the automatic output from the sensor. The operator entry of the following codes places the sensors into manual mode.

-FZRA (light freezing rain), FZRA (moderate freezing rain), +FZRA (heavy freezing rain),
-FZDZ (light freezing drizzle), FZDZ (moderate freezing drizzle), +FZDZ (heavy freezing drizzle)
-DZ (light drizzle), DZ (moderate drizzle), +DZ (heavy drizzle)
-RA (light rain), RA (moderate rain), +RA (heavy rain),
-SN (light snow), SN (moderate snow), +SN (heavy snow)

4.4.2 **Present Weather Examples**. Examples of valid Present Weather inputs are listed below.

Note: Ice Pellets will be reported as "PL" after a designated date.

RASNGS	-FZDZPE	or	-FZDZPL	-SN BLSN
FC GS SQ	TS +FZDZPE	or	TS +FZDZPL	VA SQ
+TSRAGR	PE BLSN SQ	or	PL BLSN SQ	

4.5 **Temperature/Dewpoint**. The TEMP/DEWPT parameter field identifies the current ambient temperature and the current dewpoint temperature separated by a slant sign (/).

a. The ambient temperature parameter portion of the field contains a maximum of three numeric characters preceded by a minus sign (-) when the temperature value is negative. Ambient temperature is measured in degrees Fahrenheit and the limits are -80 to 130 degrees and in degrees Celsius with limits of -62.2 to 54.4 degrees.

b. The dewpoint temperature parameter portion of the field contains a maximum of three characters preceded by a minus sign (-) when the dewpoint value is negative. Dewpoint is measured in degrees Fahrenheit and the limits are -80 to 86 degrees and in degrees Celsius with limits of -62.2 to 30.0 degrees.

NOTE

ASOS will not report a dewpoint value greater than the ambient temperature and will fail the sensor if it reports a dewpoint value of more than 2 degrees greater than the ambient temperature. Dewpoint temperature will not be reported when the ambient temperature is less than or equal to -30F.

4.5.1 **Temperature/Dewpoint Examples**. Examples of valid ambient/dewpoint temperature inputs are listed below.

12.2 /7.8 C 54 /46 F
21.7/13.9C 71 /57 F

4.6 **Wind Direction/Wind Speed**. The WIND DIR/SPD parameter field contains a maximum of 20 characters. The wind speed field may be followed by a wind gust field or wind variability.

a. The WIND DIR parameter portion of the field contains three numeric characters on the OID screen. The limits are 001 to 360 degrees (000 reserved for calm conditions) with direction referenced to true North. Wind coming from true North is coded as 360 degrees.

b. The WIND SPD parameter portion of the field contains a maximum of seven alphanumeric characters. The first two characters indicate the wind speed (a third character is added when wind speed exceeds 100 knots.) The limits are 00 to 300 knots where 00 indicates calm conditions on the OID screen. (The observer may edit a wind speed as high as 300 knots. The ASOS wind speed sensor has an upper reporting limit of 125 knots.) The fourth character is an alphabetic character denoting a gust (G). The next two characters indicate the wind speed of the gust (a third character is added when wind speed exceeds 100 kts).

c. The wind variability data is displayed as "VRB/ss" (e.g., VRB/03, VRB/06) when the wind speed is between 3 knots and 6 knots, inclusive. The wind variability data is displayed as "ddd/ss dddVddd" when the direction change is 60 degrees or more and the wind speed is greater than 6 knots.

4.6.1 **Wind Direction/Wind Speed Codes Designators**. Table 4-4 lists the wind direction/wind speed code designators.

Table 4-4. Wind Direction/Wind Speed Codes Designators

Designator	Definition
G	Gust
VRB	Variable

4.6.2 **Wind Direction/Wind Speed Examples**. Examples of valid wind direction/wind speed inputs are listed below.

120/10 (as displayed on the OID screen)
120/10G25
VRB/05
VRB/05G25
120/10 180V360
120/10G25 180V360
120/100G250 180V360

4.7 **Altimeter.** The ALTIMETER parameter field contains a maximum of five characters including a decimal point on the OID screen. Two numeric characters to the left of the decimal point designate tens and units and two characters to the right of the decimal designate tenths and hundredths in specifying the altimeter setting. The limits of the altimeter setting are 26.00 to 31.00 inches of mercury. If the altimeter parameter is edited, report processing for the pressure sensors is automatically turned OFF and can only be reset by the electronics technician. The altimeter parameter field of the 1-Minute Screen reverts to missing (M) after the transmission of the hourly METAR report.

4.7.1 **Altimeter Examples**. Examples of valid altimeter input values are listed below.

28.31
29.45
30.04

4.8 **Remarks**. The REMARKS parameter field on the 1-Minute Screen consists of 3 lines with each line having a maximum of 50 characters. The observer can create manually generated remarks and delete automatically generated remarks, but cannot edit automatically generated remarks.

4.9 **Automated Remarks.** The ASOS system can generate various types of automated remarks. Table 4-5 lists the type of remarks and the order in which they appear.

Table 4-5. Frequency of Automated Remarks

Remark	Frequency of Output
Tornadic activity	Every minute
Type of automated station	Every minute
Peak wind	Every minute
Wind shift	Every minute
Tower or surface visibility	Every minute
Variable prevailing visibility	Every minute
Visibility at second location	Every minute

Table 4-5. Frequency of Automated Remarks - (Cont)

Remark	Frequency of Output
Beginning and ending of precipitation and thunderstorm	Every minute
Variable ceiling height	Every minute
Ceiling height at second location	Every minute
Pressure rising/falling rapidly	Every minute
Sea-level pressure	When hourly METAR report is pending
Hourly precipitation amount	Every hour
3- and 6-hour precipitation amount	Every 3 and 6 hours
24-hour precipitation amount	12 UTC only
Hourly temperature and dewpoint	Every hour
6-hour maximum temperature	Every 6 hour
6-hour minimum temperature	Every 6 hour
24-hour maximum and minimum temperature	00 LST only
Pressure change/tendency	Every 3 hours
Sensor status indicators	Every minute

4.10 **Aviation Routine Weather Report (METAR) Format.** All METAR/SPECI reports are automatically generated by ASOS based on current sensor data. The pending METAR/SPECI cannot be edited directly; however, the observer can change the METAR/SPECI by editing the 1-minute data displayed on the 1-Minute Screen. At sites that have a printer, the ASOS prints all METAR/SPECI reports for the previous day at 15 minutes after midnight.

In addition to the standard message types, the system also creates and transmits test reports. Only test reports are broadcast until the system is commissioned. Test reports are indicated by changing the message type code in the reports to a test type code. For example, a METAR is transmitted as TESTM, and a SPECI is transmitted as TESTS.

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5 RELATED PUBLICATIONS

The following publications provide additional information on the operation of ASOS.

a.	ASOS Software User's Manual	-	Provides detailed information on ASOS operations and all ASOS OID displays.
b.	ASOS Site Technical Manual	-	Provides detailed ASOS system descriptions and maintenance procedures.
c.	Link MC70 User's Guide	-	Provides vendor support information for the OID.
d.	Panasonic dot matrix printer's Model KX-P3123, Operation Instructions Manual	-	Provides vendor support information for the dot matrix printer.
e.	ASOS User's Guide	-	Provides detailed information about sensor operations, algorithms, examples of SHEF and METAR/SPECI reports, daily and monthly summary messages, and data display screens.

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6 MAINTENANCE ASSISTANCE

The ASOS continually monitors its own operation via an integrated self-test capability. When the system detects a failure, it prints a message on the printer, and enters the message in the system maintenance log or the communications log. The user can request maintenance assistance by calling the ASOS Operation and Monitoring Center (AOMC) at 1-800-242-8194 or 1-800-242-8895.

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7 GLOSSARY

Table 7-1 lists acronyms and table 7-2 defines terms associated with ASOS.

Table 7-1. List of Acronyms

ACRONYM	DEFINITION	ACRONYM	DEFINITION
ACFT	Aircraft	AWIPS	Advanced Weather Interactive Processing System
ACU	Acquisition Control Unit	CPU	Central Processing Unit
ADAS	Automated Weather Observing System Data Acquisition System	CSCI	Computer Software Configuration Item
AFOS	Automation of Field Operations and Services	DCP	Data Collection Package
AOMC	ASOS Operations and Monitoring Center	DoD	Department of Defense
ASOS	Automated Surface Observing System	DSM	Daily Summary Message
ATC or ATCS	Air Traffic Control Specialist	FAA	Federal Aviation Administration
AUX	Auxiliary	FIBI	Filed but impracticable to transmit

Table 7-1. List of Acronyms - (Cont)

ACRONYM	DEFINITION	ACRONYM	DEFINITION
FRU	Field Replaceable Unit	OND	Observer Notification Device
GENOB	Generate Observations	RH	Relative Humidity
LRU	Lowest/Line Replaceable Unit	RVR	Runway Visual Range
LST	Local Standard Time	SFC	Surface
METAR	Aviation Routine Weather Report	SHEF	Standard Hydrometerological Exchange Format
MPH	Miles Per Hour	SM	Statute Mile
MSHP	Mishap	SPECI	Aviation Selected Special Weather Report
MSM	Monthly Summary Message	SYS	System Manager
NOTAM	Notice to Airmen	TA	Ambient Temperature
OBS	Observer	TCCC	Tower Computer Control Complex
OID	Operator Interface Device	TD	Dewpoint Temperature

Table 7-1. List of Acronyms - (Cont)

ACRONYM	DEFINITION	ACRONYM	DEFINITION
TEC	Technician	UPS	Uninterruptible Power Supply
TESTM	Test METAR Report	UTC	Universal Coordinated Time
TESTS	Test SPECI Report	VDU	Video Display Unit
TWR	Tower	VIS	Visibility
UNS	Unsigned User	WX	Weather

Table 7-2. Definition of Terms

Term	Definition
Algorithm	Consists of a finite number of instructions arranged in a specific sequence to define a method for obtaining a given result.
Augment	To add weather data (e.g., sky, present weather, and remarks) that is not reported automatically by ASOS using the EDIT function. Changes of this nature do not place sensors/processing in manual mode (refer to definition below).
Automatic sensor processing	ASOS processing of sensor data through algorithms to provide each processing weather element for the 1-minute observation.
Edit	Used to change automatically generated weather data determined to be unacceptable by the observer or ATC. Editing the 1-Minute Screen data places sensor/processing in manual mode (refer to definition below).
Edit time	The time (not to exceed 5 minutes) an operator has to edit a METAR/SPECI report before it is automatically transmitted. This is a site-specific characteristic set at initialization and changeable by the system manager.
Hourly report time	The time set in the site physical characteristics for the preparation of an hourly METAR.
Manual mode	Process of overriding the automatic report processing by editing the value automatically provided by ASOS.

Table 7-2. Definition of Terms - (Cont)

Term	Definition
1-Minute Screen	Main weather report display page that displays weather elements, the last transmitted report, and the function keypad. Individual weather elements are updated each minute. The function keypad changes according to password user access level.
Report processing	Determines the automatic output of a particular sensor and whether the output is the current automatic report or M for missing.
Transmission time	Time that ASOS begins transmission of the METAR to the communication devices.

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APPENDIXES

APPENDIX I
SENSOR DATA QUALITY ALGORITHM CHECKS.

The following conditions, as listed in table I-1, indicate unacceptable parameters which cause data quality check failures. A failure would cause the erroneous 1-minute sensor data to be ignored in any future computations.

Table I-1. Sensor Data Quality Algorithm Checks

Sensor	Check
Wind direction	Must vary more than 1 degree during 5-minute period in which the 2-minute average wind speed exceeds 5 knots
	If more than six sensor readings have been marked missing within the past 2 minutes
Temperature/dewpoint	TA must vary by more than 0.1˚F over a 120-minute period
	TA must not change more than 10˚F over a 1-minute period
	TD must vary by more than 0.1˚F over a 60-minute period
	TD must not change by more than 10˚F over a 1-minute period
	TD cannot be more than 1.1˚C or 2˚F degrees greater than TA

Table I-1. Sensor Data Quality Algorithm Checks - (Cont)

Sensor	Check
Temperature/dewpoint (Cont)	No new value computed for temperature or dewpoint in the last 15 minutes. Respective sensor is marked missing. Sensor must provide at least four valid readings within 5 minutes for system to calculate new values
Visibility	Extinction coefficient must be between 0.05 and 186.411
	Must not drop from a reading of 7 miles or more to a reading of less than 2 miles in 1 minute with a wind speed of less than 7 knots
	If less than 8 of the current 10 readings are present
Day/night	Day/night indication must agree with time of day (checks made only at midnight and noon)
Present weather	If sensor indicates snow, TA must indicate a temperature of less than 38˚F
	If sensor indicates liquid precipitation, TA must be greater than or equal to 0˚F.
Liquid precipitation	Must receive pulses greater than 50 milliseconds long
	Must indicate precipitation accumulation if the Present Weather sensor has indicated 10 or more moderate or heavy occurrences of precipitation since the previous hourly observation.

Table I-1. Sensor Data Quality Algorithm Checks - (Cont)

Sensor	Check
Sky	Three consecutive bad readings or 5 bad readings within 30 minutes
Pressure sensors	If no two sensors agree within 0.04 in Hg
Freezing rain	If three or more readings have been marked missing in the last 15 minutes
Lightning	If three or more readings have been marked missing in the last 15 minutes

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APPENDIX II - EMERGENCY POWER DOWN PROCEDURE.

Emergency Power Down Procedure. The ASOS emergency power down procedures are different depending on whether or not the ASOS ACU contains an uninterruptible power supply (UPS). The UPS is designed to provide backup power to the system in case of a facility power outage. Therefore, in systems with a UPS, turning off facility power alone is not an adequate procedure for removing power from the system. It is important that you know whether or not your ASOS contains a UPS prior to performing emergency power down procedures. The following paragraphs describe the emergency power down procedures for systems without a UPS and systems with a UPS.

NOTE

Main power to ASOS should not be removed during normal system operation.

Systems Without a UPS. Most Class I systems do not have a UPS in the ACU cabinet. In the event of an emergency, an ASOS without a UPS is powered down by simply turning off the facility circuit breakers that supply power to the ACU and peripherals.

Systems With a UPS. All Class II systems and some Class I systems contain a UPS. There are two different types of UPSs. One type of UPS has the power switch located on the rear of the UPS (see figure II-1) and is accessible through the rear door of the ACU cabinet. The other type of UPS (see figure II-2) has the power switch on the front of the UPS and is accessible through the front door of the ACU cabinet. Table II-1 contains the emergency power down procedure for systems with a UPS.

⚠ *WARNING*	On systems with a UPS, power can only be removed by turning off the UPS prior to removal of facility power. If the UPS is not turned off, its batteries will continue to provide emergency power to the system for at least ten minutes.

Table II-1. Power Down Procedure for Systems With a UPS

Procedure	Step	Description
Power Down Procedure for Systems With a UPS	1	Refer to figures II-1 and II-2. Locate the power switch on the UPS (switch will be labeled either "UPS OUTPUT POWER" or "UPS ON/OFF", depending on the type of UPS).
	2	Set UPS OUTPUT POWER switch to the down position (position will be labeled either "O" or "OFF", depending on the type of UPS).
	3	Turn off the facility circuit breakers that supply power to the ASOS system and peripherals.

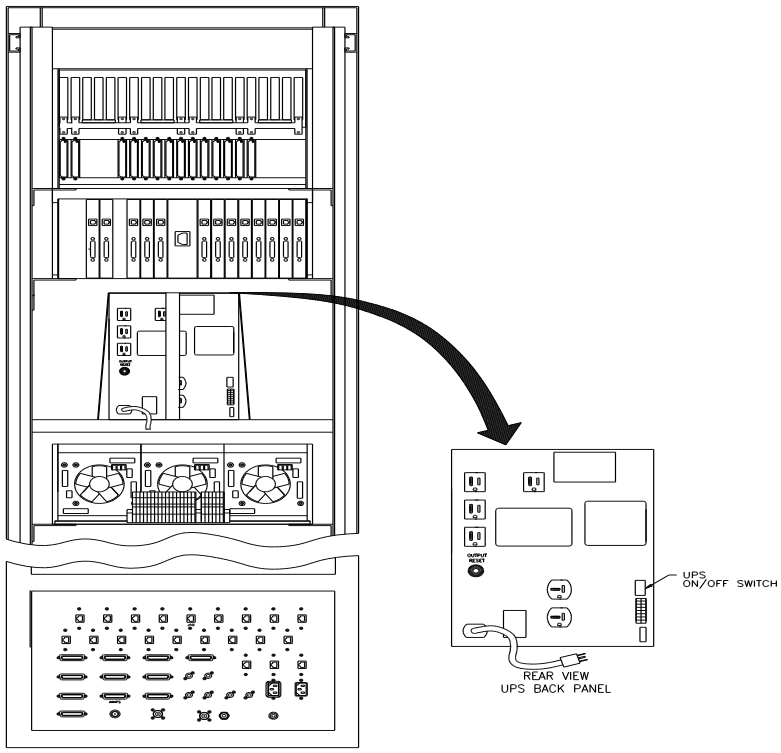

Figure II-1. UPS Configuration 1 (Viewed from Rear of ACU Cabinet)

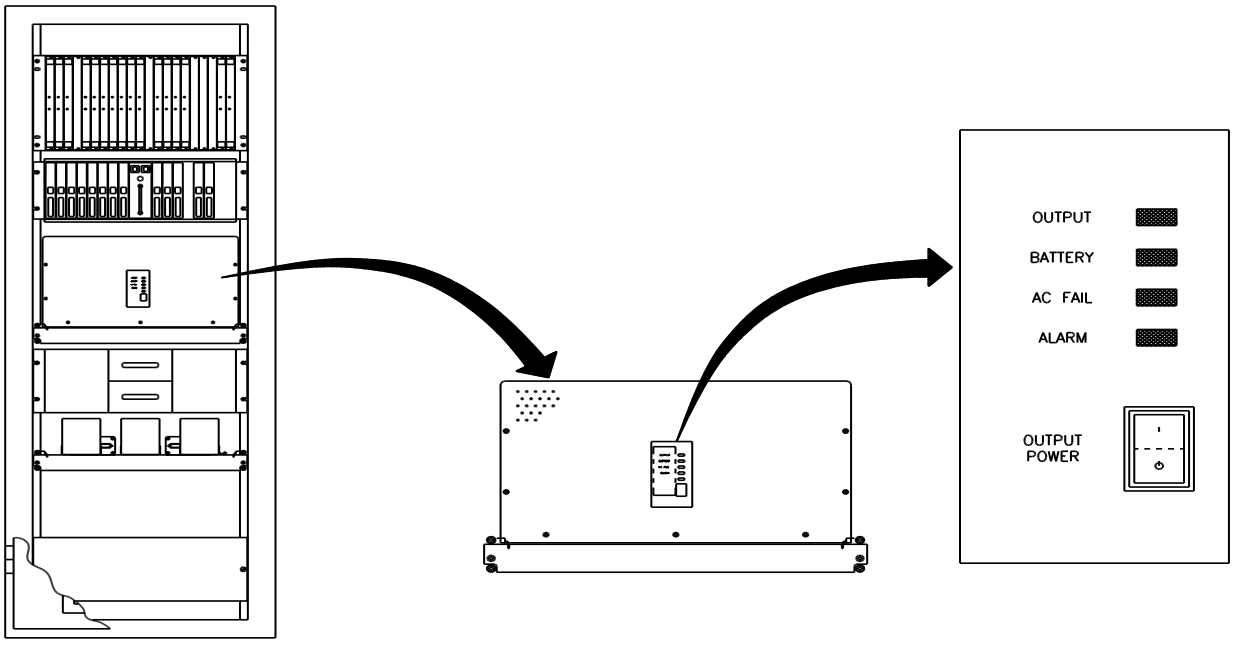

Figure II-2. UPS Configuration 2 (Viewed from Front of ACU Cabinet)

APPENDIX III - CONFIGURING THE OID TERMINAL

Configuring the OID Terminal. To configure the OID terminal, perform the following steps listed in table III-1.

Table III-1. Configuring the OID Terminal

Procedure	Step	Description
CONFIGURING THE OID TERMINAL	1	Apply power to the LINK MC70 OID
	2	Using the set-up function key and the cursor keys, move right to the SCREEN submenu

Table III-1. Configuring the OID Terminal - (Cont)

Procedure	Step	Description
	3	Verify that the functions below are displayed. WIDTH CHANGE CLEAR ON SCREEN COLUMN 80 SCREEN DATA LINES 25 PAGE COLUMNS 132 PAGE LINES 24/25 PAGE LINE MULTIPLIER 1 NUMBER OF PAGES 1 NUMBER OF SESSIONS 1 SESSION DISPLAY, SPLIT 1, FULL POWER-ON TAB STOPS OFF TAB STOPS
	4	Using the cursor keys and ENTER key, select and toggle each field that does not contain the correct information
	5	Using the cursor keys, move right to the MODES submenu

Table III-1. Configuring the OID Terminal - (Cont)

Procedure	Step	Description
	6	Verify that the functions below are displayed. FEATURE LOCK — OFF CONTROLS MODE — INTERRUPT RECEIVED CR — CR RECEIVED LF — LF TRANSMIT MODE — 8-BIT TRANSFER/PRINT/SEND ANSWERBACK MESSAGE BELL SETTINGS PERSONALITY
	7	Using the cursor keys and ENTER key, select and toggle each field that does not contain the correct information
	8	Using the cursor keys and ENTER key, select BELL SETTINGS
	9	BELL TONE AND BELL VOLUME are user preference and may be set accordingly. WARNING BELL should set to ON. Press SHIFT UP-ARROW to return to the MODES submenu
	10	Using the cursor keys and ENTER key, select PERSONALITY

Table III-1. Configuring the OID Terminal - (Cont)

Procedure	Step	Description
	11	Using the cursor keys and ENTER key, select VT320/VT220. If the entry is changed, an ARE YOU SURE?(Y/N)Y verification message appears. Press ENTER. The system returns to the MODES submenu.
	12	Using the cursor keys, move right to the DISPLAY submenu
	13	Verify that the functions below are displayed. SCREEN SAVER OFF SCREEN SAVER MODE BLANK REVERSE SCREEN OFF SCROLL SPEED JUMP TOP STATUS LINE BLANK HOST MESSAGE OFF SCREEN RESOLUTION 16x16 DISPLAY FUNCTIONS CURSOR DISPLAY
	14	Using the cursor keys and ENTER key, select and toggle each field that does not contain the correct information
	15	Using the cursor keys and ENTER key, select CURSOR DISPLAY

Table III-1. Configuring the OID Terminal - (Cont)

Procedure	Step	Description
	16	BLINK and CURSOR COLOR are user preference and may be set accordingly. Press SHIFT UP-ARROW to return to the DISPLAY submenu
	17	Using the cursor keys, move right to the ATTRIBUTES submenu
	18	Verify that the functions below are displayed. SETUP MENU COLOR — BLUE FOREGROUND COLOR — WHITE BACKGROUND COLOR NORMAL COLORS BOLD COLORS DIM COLORS BORDER COLOR NORMAL ATTRIBUTES BOLD ATTRIBUTES DIM ATTRIBUTES
	19	Using the cursor keys and ENTER key, select and toggle each field that does not contain the correct information
	20	Using the cursor keys, move right to the PORT submenu.

Table III-1. Configuring the OID Terminal - (Cont)

Procedure	Step	Description
	21	Verify that the functions below are displayed. COMMUNICATIONS MODE — FULL DPX ON-LINE/LOCAL — ON-LINE TRACE — BOTH PORT A SETTINGS PORT B SETTINGS COMMUNICATIONS CARTRIDGE SESSION RESOURCES
	22	Using the cursor keys and ENTER key, select and toggle each field that does not contain the correct information
	23	Using the cursor keys and ENTER key, select PORT A SETTING

Table III-1. Configuring the OID Terminal - (Cont)

Procedure	Step	Description
	24	Verify that the functions below are displayed. PORT A SETTINGS TRANSMIT BAUD RATE 9600 RECEIVE BAUD RATE RCV= XMIT DATA/STOP/PARITY BITS 8/1/NONE RECEIVE HANDSHAKE NONE TRANSMIT HANDSHAKE NONE TRANSMIT LIMIT NONE BREAK 250 MS INTERFACE RS-232C MODEM CONTROL ASCII DISCONNECT DELAY OFF
	25	Press SHIFT UP-ARROW to return to the PORT submenu.
	26	Using the cursor keys and ENTER key, select SESSION RESOURCES

Table III-1. Configuring the OID Terminal - (Cont)

Procedure	Step	Description
	27	Verify that the functions below are displayed. SESSION RESOURCES PRTA PRTB BUF1 BUF2 SESSION 1 HOST AxPr ACTV SESSION 2 ACTV
	28	Press SHIFT UP-ARROW to return to the PORT submenu.
	29	Using the cursor keys, move right to the KEYBOARD submenu
	30	Verify that the functions below are displayed. KEY AUTOREPEAT OFF KEYCLICK MEDIUM KEYBOARD LANGUAGE US NATIONAL MODE OFF CHARACTER SET MULTNATL CORNER KEY OFF KEY DEFINITIONS LOCK OFF KEY FUNCTIONS KEY MODES USER-DEFINED KEYS

Table III-1. Configuring the OID Terminal - (Cont)

Procedure	Step	Description
	31	Using the cursor keys and ENTER key, select and toggle each field that does not contain the correct information.
	32	Using the cursor keys, move right to the EXIT submenu
	33	Verify that the functions below are displayed. EXIT SETUP EXIT SETUP AND CANCEL CHANGES EXIT SETUP AND SAVE RESTORE LAST SAVED DEFAULT ALL DEFAULT USER-DEFINED KEYS
	34	Using the cursor keys and ENTER key, select EXIT SETUP AND SAVE. An ARE YOU SURE?(Y/N)Y verification message appears. Select ENTER. The OID exits the setup procedure.

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APPENDIX IV - RESETTING THE OID SCREEN

Resetting the OID Display Screen. At certain times, the OID display screen may appear incorrect because of missing or incorrect characters. To reset the OID display screen, performed the following steps listed in table IV-1.

Table IV-1. Resetting the OID Display Screen

Procedure	Step	Description
RESETTING THE OID DISPLAY SCREEN	1	Press the HELP key (or the 0 key on the auxiliary keypad) to display the help screen, then press HELP/0 key again to remove the help screen. The system should refresh the OID display screen to its proper configuration.
	2	If the screen does not return to the proper configuration, perform procedure in Appendix III to check OID setup.

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