

9.9 IRIS Output Devices Setups

9.9.1 Output Device General Specifications

<i>Output Device Specifications</i>		<i>Help</i>
Number of output devices	<input type="text" value="7"/>	

- *Number of output devices* — Enter the number of output devices for your system setup. The maximum number supported is 16.

<i>Output Device #1</i>		<i>Help</i>
Device type	<input type="text" value="Printer"/>	
Unit number	<input type="text" value="1"/>	
Menu alias	<input type="text" value="HP Laser"/>	
Min time between output	<input type="text" value="10 sec"/>	

Although the amount of questions vary depending on the device type, the following three questions always appear.

- *Device Type* — Enter the device type of “Archive,” “Link,” “Network,” “Printer,” “Window,” or “UNUSED”.
- *Unit number* — Set this parameter to 1, unless there is more than one device of that type on the system. In that case, set it to 1, 2, 3, 4, etc. Each device of a particular type should have a unique unit number. It is recommended that unit numbers be in increasing order for increasing output device number.
- *Menu alias* — This allows you to select a text alias which is displayed in the pull down menus where you are selecting an output device. The purpose of the alias is to allow easy identification of output devices. For example, you may have window outputs on several different workstations, and you could place the node name here.
- *Min time between output* — For slow network outputs, you may wish to pace the outputs such that some of the outputs are skipped. Select the pacing time here. To turn this feature on you must also tag the product header lines with the “Time Filter” bit in the Product Output Menu.

9.9.2 Printer Specific Parameters

Output Device #1		Help
Device type	Printer <input type="checkbox"/>	
Unit number	<input type="text" value="1"/>	
Menu alias	<input type="text" value="HP Laser"/>	
Min time between output	<input type="text" value="10 sec"/>	
Paper Size	8.5x11 <input type="checkbox"/>	
Queue name	<input type="text" value="hplaser"/>	
Width of image	<input type="checkbox" value="i"/>	<input type="text" value="880 pixels"/>
Height of image	<input type="checkbox" value="i"/>	<input type="text" value="720 pixels"/>



Note: This setup is for printer output devices selectable from the Product Output Menu. Screen dump style printing is configured from the printer/setup menu. Only Postscript printers are supported.

- *Paper Size* — Select the size of paper in your printer. Choices are 8.5x11, 8.5x14, 11x17, A4 and A3. If the paper size is wrong, the printer will not print.
- *Queue Name* — Enter the name of your printer queue. You can see a list of all the choices by typing “lpstat -a” at the UNIX shell.
- *Width and Height of image* — Enter the dimensions of the print image to be generated and sent to the printer. Note that Postscript printers will rescale to fit the screen.

9.9.3 Window Specific Parameters

<i>Output Device #2</i>		<i>Help</i>
Device type	Window <input type="checkbox"/>	
Unit number	1	
Menu alias	USER	
Min time between output	0 sec	
Device movie length	10 frames	
Initial width of image	i	480 pixels
Initial height of image	i	480 pixels
Initial horizontal offset	20 pixels	
Initial vertical offset	20 pixels	
Slide Show	Disable on startup <input type="checkbox"/>	
Display Name	gewitter:0.0	

- Minimum time between output — This can add a “skip” for products sent to a particular destination. For more information on using this feature see,
- *Device movie length* — Enter the number of frames in the Quick Look movie for that device, usually 20.
- *Width/Height of image* — Specify the width and height you want for the target image. This is the initial size and the size can be changed by the mouse. The space reserved for Quick Look movies is based on the the movie length and default image size. If you change the image size during operation, the maximum movie length changes
- *Horizontal/Vertical offset* — Specify the initial position of the window on the screen. This is the upper left corner. On SGI systems an offset of 0, 0 will place the window such that the window manager’s border is not visible.
- *Slide Show* — Specify if the window should power up in slide show mode or not.
- *Display Name* — Specify the workstation display and screen number on which the window is to appear.

9.9.4 Network Specific Parameters

File format	IRIS (Def) <input type="checkbox"/>
Filename format	Default <input type="checkbox"/>
Compression scheme	None <input type="checkbox"/>
Notification scheme	TCP/IP <input type="checkbox"/>
Target directory	/dry:/usr/iris_data/product/
Copy scheme	RCP <input type="checkbox"/>
User name	operator
Notification port number	i 30725
Recipient host name	dry

- File format* — Enter the format of the file transferred. The recommended format for IRIS-to-IRIS transfers is “IRIS”. Choices are:

IRIS : File copied without conversion.
NORDRAD : File converted to NORDRAD format
BMP: X bitmap
GIF: Gif
TIFF : TIFF format with user selectable TIFF Packbits compression
JPEG: JPEG
Postscript: Postscript
LINK : File converted to HKO link format
NONE: File is not copied, just notification sent
Pipe: User specified pipe program
HEADER: File header only is copied
- Pipe program name* — If you select pipe above, then this question appears, and you can specify the name of a user supplied pipe program used to format the output file. The program must be placed in the \${IRIS_PIPES} directory. Table 9–2 shows the output pipes supplied with IRIS. For more details see Chapter 2 of the *IRIS Programmer's Manual*.

Table 9–2: Output Pipes Supplied with IRIS

Name	Syntax	Purpose
AddLabels611	Pipe	Changes the IRIS product header to add the label information removed after version 6.11.
IrisToAdids	Pipe	Converts IRIS product to ADIDS format.
IrisToArchive2	Pipe	Converts IRIS RAW product to NEXRAD Archive2 format.
IrisToAsterix	Pipe	Converts IRIS product to Eurocontrol ASTERIX format.
IrisToBufr	Pipe	Converts IRIS Cartesian product to WMO BUFR format using OPERA guidelines.
IrisToGrib1	Pipe	Converts IRIS Cartesian product to WMO GRIB version 1 format.
IrisToHDF5	Pathname	Converts IRIS product to HDF5 format using NORDRAD2 guidelines.
IrisToUf	Pipe	Converts IRIS RAW product to UF format.
IrisToUKMO	Pipe	Converts IRIS RAW product to UKMO format.
Picture700	Pipe	Converts an IRIS product to the IRIS 4-bit picture format dropped after version 7.00.
VilToVir	Pathnames	Converts an IRIS VIL product to average Z.

- *Command line syntax* — Also only asked if you select pipe file format. There are two choices for how IRIS will run the pipe program shown below. In addition, the output process will always send the color seam values and number of colors.

1) Pipe:

pipe-pathname input-filename <input-pathname >output-pathname

2) Pathnames:

pipe-pathname ip:input-pathname if:input-filename op:output-pathname

Note that in addition to these arguments, the pipe program is supplied with the following arguments:

- seams:1:2:3:4 Specifies the seams between colors
- colors:12 Specifies the number of colors
- device:0 Specifies the output device number, origin 0.

- *Filename format* — Enter the format of the file name produced. The six choices are “Default”, “Native”, “8.3”, “METPS”, “Original”, and “IIA”. Native is the same format used in the IRIS internal inventories (with a new random suffix), while original means the exact same name as is used internally. The purpose of

the original format is to allow a program to reference the original data files later. The recommended format for IRIS-to-IRIS transfers is “Default”. The formats are summarized below.

“Default” is nodeYYMMDDHHMMSS.PPPNNNN
“Native” and “Original” is SSSYYMMDDHHMMSS.PPPXXXX
“8.3” is node.NNN.
“METPS” is ATYMDHMS
“IIA” is PPP_D_PSI_RNG_YYYYMMDDHHMMSS

Where:

SSS	= 3-letter site code
YYYY	= 4-digit Year
YY	= 2-digit Year (modulo 100)
MM	= 2-digit Month
DD	= 2-digit Day
HH	= 2-digit Hour
MM	= 2-digit Minute
SS	= 2-digit Second
PPP	= 3-letter Product type
XXXX	= 4-letter Random characters
node	= Source system’s node name, limited to 8 chars in 8.3 format
NNNN	= 4-digit base 10 number incrementing for each file
AT	= Letters “AT”
YMDHMS	= Year–1990, month, day, hour, minute, second, all base 62.
D	= 1 or 2-letter data type
PSI	= 3-digit product specific information
RNG	= 3-digit maximum range in km

- *Compression scheme* — Select either “None” or “Compress”, “Gzip”, or “TIFF PackBits”. NORDRAD files are always compressed with the NORDRAD scheme. For IRIS-to-IRIS transfers we recommend compressed if it is bandwidth limited, otherwise normal. The filename will get a “.Z” suffix for compress, and a “.gz” suffix for gzip. The “TIFF PackBits” compression is only applicable to outputs in TIFF format.
- *Notification scheme* — IRIS supports five kinds of network output Notification: “None,” “NORDRAD,” “TCP/IP” (a socket message is sent to the receiver, using address format INET), “RENAME” (the file is renamed after the copy is complete, thus a polling program will find a complete file), and “UNIX” (a socket message is sent to the receiver, using address format UNIX). The recommended notification for IRIS-to-IRIS transfers is “TCP/IP”.



Note: The UNIX address format can only be used to communicate with a program on the same computer that IRIS is running on. Therefore it can be used only for communication with a UPI program, and not for communication to another IRIS. It will create a socket file with path name `${IRIS_KEYS}iris_portXXXXXX`, where XXXXX is the port number.

- *Target directory* — Specify the directory where the file is to be copied. If using RCP to copy, use the format of node:path. The directory should end in a “/”, and be a maximum of 56 characters long. The recommended directory for IRIS-to-IRIS transfers is the `${IRIS_PRODUCT}` directory on the receiving machine.
- *Copy Scheme* — Choices are “None”, “Copy”, “RCP”, “SCP” or “Script”. None means that the product file is not copied at all. Use this if you want to just notify another program about your product. Copy means that the file is copied using program I/O, with fopen, fread, and fwrite. The recommended copy scheme for IRIS-to-IRIS transfers is “RCP”. You would use “Copy” only in two cases: 1) You are copying to the source computer. 2) RCP doesn’t work, and you are using NFS. SCP means to use the scp secure copy shell command. Script means that a user specified copy script program is run to do the copying.
 - o *User name* — This question is only displayed for Script and RCP Copy Schemes. It is the user name supplied to the script, and used in the rcp command before the “@” sign. The recommended value is “operator”.
 - o *Password* — This question is only displayed for Script Copy Schemes. It is the password supplied to the script. The value is not displayed, and is encrypted in the configuration file.
 - o *Copy script name* — This question is only displayed for Script Copy Schemes. You can specify the name of a user supplied program used to copy the file to the target. The program must be placed in the `${IRIS_PIPES}` directory. The program is supplied with the following arguments:

SourcePath DestPath DestHost User Password [RenameName]

The Source path will be in a temporary directory. The destination path will be in the directory specified in above. Table 9–3 shows the copy scripts which are supplied with IRIS.

Table 9–3: Copy Scripts Supplied with IRIS

Name	Purpose
sig_ftp	Runs the ftp program to copy files
N2RelayOut	Uses N2 library to store products into NORDRAD2

- o *Notify port number* — This question is only displayed for TCP/IP and UNIX notification. For output to an IRIS on another computer please use port number 30725. For output to a UPI program on any computer, use port number 30726. This allows the UPI program to run on a computer node which is also running the IRIS network receiver.
- o *Node name* — This question is only displayed for TCP/IP notification. Enter the name of the machine to notify.

If you are outputting to a NORDRAD1 system, here is a summary of how you should configure the system:

File Format: NORDRAD, Filename format: Default, Compression Scheme: None (Nordrad packing is done automatically), Notification scheme: NORDRAD, Target directory: /usr/iris_data/nordrad (not very important), Copy scheme: Copy, Recipient host name: <blank>. Note that the NORDRAD hostname is configured in the NORDRAD_AREAS.DAT file.

9.9.5 Archive Specific Parameters

Output Device #5
Help

Device type	Archive <input type="checkbox"/>
Unit number	1
Menu alias	Imodisk
Min time between output	0 sec
Type of archive media	Magneto-Optical <input type="checkbox"/>
File system type	HFS <input type="checkbox"/>
Device file	/dev/dsk/clt2d0
MO Disk mount point	i /modisk
Raw Device file	/dev/rdsk/clt2d0

- *Type of archive media* — Select either “Tape”, “Magneto-Optical”, “Large Disk” or “DVD” (Linux only) to specify which type of archive device this is.

If you have chosen Tape, the following question appears:

- *Device file* — Set the name of the device file for the tape. Note that this often takes the form of a name like “/dev/rmt/c1t2d0”. This means SCSI controller card 1, SCSI address 2, device 0.

If you have chosen Magneto–Optical, the following questions appear:

- *File system type* — Applicable to HP systems only. Set to “HFS” or “VXFS” to match your systems root file system type.
- *Device file* — Set the name of the device file for the disk. Note that this often takes the form of a name like “/dev/dsk/c1t2d0”. This means SCSI controller card 1, SCSI address 2, device 0.
- *MO Disk mount point* — Specify the point for the MO disk. The recommended value is “/modisk”, but any value could be used.
- *Raw Device file* — Usually the same as the device file, but with a “rdsk” in the path.

If you have chosen Large Disk, the following question appears:

- *LDA directory* — Specify the LDA directory, typically something like “/usr/iris_data/lda1”.

If you have chosen DVD (Linux only) the following questions appear:

- *Device File* — Specify the device file used for the DVD drive. Typically it will look something like /dev/scd0 or /dev/scd1. You can determine this by typing as root “**cdrecord -scanbus**”. Identify the entry for your DVD. The middle number of the leading group of three numbers identifies your device, e.g., 3,0,0 corresponds to /dev/scd0 while 3,1,0 would be /dev/scd1.
- *DVD Disk mount point* — This is usually /mnt/dvd.
- *Buffer Size* — To make the DVD writing more efficient, files are written to a temporary buffer called /usr/iris_data/temp/DvdArchive1 (for DVD 1). When the buffer size specified here is exceeded, then the files are written as a block to the DVD. During the write, IRIS “locks–out” sending new files to the buffer. After the files are written, the contents of the buffer are all deleted and the process repeats automatically. Files queued for send to the DVD are not lost. Note that the buffer is flushed to the DVD if IRIS is stopped (by qiris). Typical buffer size is 200 MB. DVD’s can hold approximately 4 GB.

9.9.6 Link Specific Parameters

Output Device #5 Help

Device type Link

Unit number 1

Menu alias ToAMO

Width of image i 255 pixels

Height of image i 255 pixels

Format HKO

Device file /dev/tty0

The link data format allows conversion from data levels to color numbers. If you do not have any link output devices, you can skip this section.

- *Width/Height of image* — Specify the width and height you want for the target image. For link specifications, the image must be set to 255 pixels. For network devices this question is only applicable to TIFF format output.
- *Format* — Specify either “HKO” for Hong Kong Observatory, or “AWS” for Austrian Weather Service.
- *Device file* — Here is where you set the serial device file.

9.9.7 Link Device Parameters

LINK Device Parameters Help

Convert level #1 to i 1

Convert level #2 to i 2

Convert level #3 to i 3

This second section is only displayed if there is a link device defined. It allows control over the mapping of IRIS color levels to the file format.

- *Convert level #(1 – 16) to* — Enter the alternate color number for each level. Note that these are the unzoomed color levels. There are two data formats that you can use. AWS format defines data levels from 0 – 15; HKO format defines levels from 1 – 16. The defaults are set to the HKO format.
- *Convert background to* — Enter the number for the background color. This color is also used for drop shadows.
- *Convert overlay to* — Enter the number for the overlay color.
- *Convert underlay to* — Enter the number for the underlay color.
- *Convert fill to* — Enter the number for the fill color. This color is used for fill1, fill2 and also for the legend text.

The following example shows a link map for systems that use the HKO data format:

Convert level #1 to:	1	New value:
Convert level #2 to:	2	New value:
Convert level #3 to:	3	New value:
Convert level #4 to:	4	New value:
Convert level #5 to:	5	New value:
Convert level #6 to:	6	New value:
Convert level #7 to:	7	New value:
Convert level #8 to:	8	New value:
Convert level #9 to:	9	New value:
Convert level #10 to:	10	New value:
Convert level #11 to:	11	New value:
Convert level #12 to:	12	New value:
Convert level #13 to:	13	New value:
Convert level #14 to:	14	New value:
Convert level #15 to:	15	New value:
Convert level #16 to:	16	New value:
Convert background to:	14	New value:
Convert overlay to:	14	New value:
Convert underlay to:	15	New value:
Convert fill to:	16	New value:
AWS Site number:	0	New value:

When using HKO data format, you should also turn off legend, political overlay, and range rings in the Product Output menu.

- *AWS Site number* — Enter an arbitrary site identification number to be used in the AWS link data transmission format. Enter 0 if you do not want to use this format.