

**GK-2A Medium-scale Data Utilization for
weather forecast data (MDUS)
Operator Manual**

2019. 07. 15.

Contents

1. OUTLINE.....	1
1.1 PURPOSE	1
1.2 DEFINITION OF KEY TERMS.....	1
1.3 ABBREVIATION	1
2. RECEIVER S/W.....	2
2.1 RUNNING RECEIVER PROGRAM & INITIAL CONFIGURATION	2
2.1.1 IP Configuration	3
2.1.2 Login & Creating account	4
2.1.3 Account level	5
2.1.4 Changing account information.....	6
2.2 FOLDER STRUCTURE	7
2.3 PROCUCT SETTINGS	8
2.3.1 How to add a local image.....	8
2.3.2 How to add new ADD file data processing.	9
2.3.3 How to change the product file name.....	11
2.3.4 How to set the date of storage of the product	11
2.4 SETTING FILE	12
2.4.1 AOI setting.....	12
2.4.2 Setting encryption key file	15
2.4.3 Joblist file setting.....	16
2.5 WINDOW OF RECEIVER PROGRAM.....	17
2.5.1 Receiver program executable window.....	17
2.5.2 Toolbar menu	17
2.5.3 Status Display	18
2.5.4 QuickLook window	19
2.5.5 Recv History.....	20
2.5.6 Image Search window	21
2.5.7 Statistics window	21
2.5.8 Log window	22
2.5.9 Setting window	23
2.5.10 Users window.....	25
2.6 MANUALLY PROCESSING S/W	26
2.6.1 Login	26
2.6.2 XRIT Upload.....	27

2.6.3 Reprocess.....	28
2.6.4 Log.....	29
3. OPERATION REQUIRED WHEN SWITCHING TO GK2A.....	30
3.1 CHANGE A SCHECULE FILE.....	30
3.2 MODIFY ENCRYPTION KEY	31
3.3 MODIFY THE TARGET SATELLITE & THE SATELLITE IMAGE.....	32
3.4 CHANGE THE PRODUCT FILE NAME.....	32

List of Figure

[FIGURE 2-1] RECEIVER PROGRAM LOGIN GUI	2
[FIGURE 2-2] GK2ARECEIVERCONFIG.INI SETTING CONTENTS	3
[FIGURE 2-3] DATABASECON.INI SETTING CONTENTS	3
[FIGURE 2-4] MDUS.CONNECT SETTING CONTENT	4
[FIGURE 2-5] CREATING ACCOUNT IN RECEIVER PROGRAM	4
[FIGURE 2-6] TOP MENU OF RECEIVER MANAGEMENT S/W MAIN WINDOW.....	5
[FIGURE 2-7] CHANGING ACCOUNT INFORMATION IN THE RECEIVER PROGRAM.....	6
[FIGURE 2-8] FOLDER STRUCTURE	7
[FIGURE 2-9] REGULAR_JOB.JOBLIST	8
[FIGURE 2-10] THE EXAMPLE OF AOI FILE SETTING.....	8
[FIGURE 2-11] THE EXAMPLE OF SCRIPT FILE (IR1.JS)	9
[FIGURE 2-12] THE EXAMPLE OF SETTING FOR NEW ADD FILE DATA.....	9
[FIGURE 2-13] THE EXAMPLE OF SETTING FOR NEW ADD SCRIPT (JOBLIST)	10
[FIGURE 2-14] MODIFYING OF AOI FILE PATH.....	10
[FIGURE 2-15] MODIFYING OF OUTPUT FILE NAME	11
[FIGURE 2-16] SETTING OF THE DATE OF STORAGE OF THE PRODUCT (SETTING WINDOW).....	11
[FIGURE 2-17] SETTING OF JOBLIST FOR THE ADDED AREA.....	12
[FIGURE 2-18] SETTING OF AOI FOR THE ADDED AREA (GEO_ENH_4KM.INI)	13
[FIGURE 2-19] MODIFYING OF THE SCRIPT FOR ADDED AREA	14
[FIGURE 2-20] RESOURCE PATH.....	15
[FIGURE 2-21] GK2ARECEIVERCONFIG.INI FILE.....	15
[FIGURE 2-22] THE EXAMPLE OF JOBLIST	16
[FIGURE 2-23] REGULAR_JOB.JOBLIST FILE CONTENTS	16
[FIGURE 2-24] MAIN WINDOW OF RECEIVER PROGRAM.....	17
[FIGURE 2-25] THE TOP TOOLBAR MENU AT THE RECEIVER PROGRAM	17
[FIGURE 2-26] RECEIVING STATUS WINDOW IN THE RECEIVER PROGRAM.....	18
[FIGURE 2-27] MAIN WINDOW OF THE RECEIVER PROGRAM.....	19
[FIGURE 2-28] RECV HISTORY WINDOW	20
[FIGURE 2-29] IMAGE SEARCH WINDOW	21
[FIGURE 2-30] STATISTICS DISPLAY.....	21
[FIGURE 2-31] LOG WINDOW	22
[FIGURE 2-32] SETTING WINDOW	23
[FIGURE 2-33] DISPLAY APPLYING RECEIVING SCHEDULE PALETTE.....	24
[FIGURE 2-34] SCHEDULE PALETTE EDITOR	24
[FIGURE 2-35] USER REGISTRATION/MANAGEMENT MENU	25

[FIGURE 2-36] REGISTERED USER MANAGEMENT WINDOW	25
[FIGURE 2-37] MANUALLY PROCESSING – LOGIN WINDOW	26
[FIGURE 2-38] XRIT UPLOAD WINDOW	27
[FIGURE 2-39] MANUALLY PROCESSING – REPROCESSING WINDOW.....	28
[FIGURE 3-1] SCHEDULE FILE PATH.....	30
[FIGURE 3-2] DEFAULT_SCHEDULE.SCH	30
[FIGURE 3-3] RESOURCE FILE CHANGE	31
[FIGURE 3-4] MODIFY XRITDECRYPTIONTABLEFILE ATTRIBUTES	31
[FIGURE 3-5] MODIFY SYSTEMINFO ATTRIBUTES.....	32
[FIGURE 3-6] MODIFY JOBLIST FILE DESCRIPTION.....	32

List of Table

[TABLE 2-1] FOLDER DESCRIPTION	7
[TABLE 2-2] JOBLIST FILE ATTRIBUTES	12
[TABLE 2-3] AOI SETTING FILE ATTRIBUTES.....	13
[TABLE 2-4] SCRIPT FILE ATTRIBUTES.....	14
[TABLE 2-5] JOBLISTE FILE DESCRIPTION.....	16
[TABLE 2-6] TOOLBAR MENU ATTRIBUTES	17
[TABLE 2-7] MAIN WINDOW ATTRIBUTES OF THE RECEIVER PROGRAM	18
[TABLE 2-8] MAIN WINDOW ATTRIBUTES OF THE RECEIVER PROGRAM	19
[TABLE 2-9] RECV HISTORY ATTRIBUTES	20
[TABLE 2-10] STATISTICS ATTRIBUTE.....	22
[TABLE 2-11] LOG DESCRIPTION	22
[TABLE 2-12] DESCRIPTION OF SETTING WINDOW MENU	23
[TABLE 2-13] PALETTE MENU DESCRIPTION	24
[TABLE 2-14] MANUALLY PROCESSING S/W ROLE DESCRIPTION	26
[TABLE 2-15] XRIT UPLOAD MENU	27
[TABLE 2-16] MANUALLY PROCESSING – REPROCESSING WINDOW ATTRIBUTES	28
[TABLE 3-1] COMS & GK-2A GENERATION FILE NAME COMPARISON.....	33

1. OUTLINE

This document is the operator manual of MDUS software for providing MDUS compatibility.

1.1 Purpose

Here is the description of the setup procedure and operation of the MDUS receiving system.

1.2 Definition of key terms

Receiving	Save received hrit files in storage
Product	The basic image generated by processing the received data
MDUS	Medium-scale Data Utilization Station
Segment	File in .hrit format
nc	NetCDF file format
Signal Level	Power of Radio Frequency
FD	Full-Disk observation mode

1.3 Abbreviation

MDUS	Medium-scale Data Utilization Station
HRIT	High Resolution Information Transmission
S/W	Software
FD	Full Disk

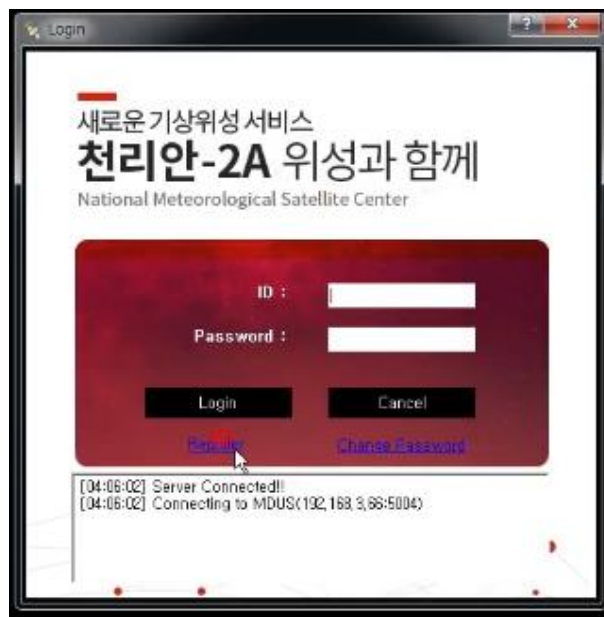
2. RECEIVER S/W

2.1 Running receiver program & initial configuration

Receiver management S/W provide user interface of status monitoring/managing. User can click



the icon to run the S/W in the screen and run GK2AReceiverManagement executable file located in the installation path. If it executes normally, it will appear as [Figure 2-1].



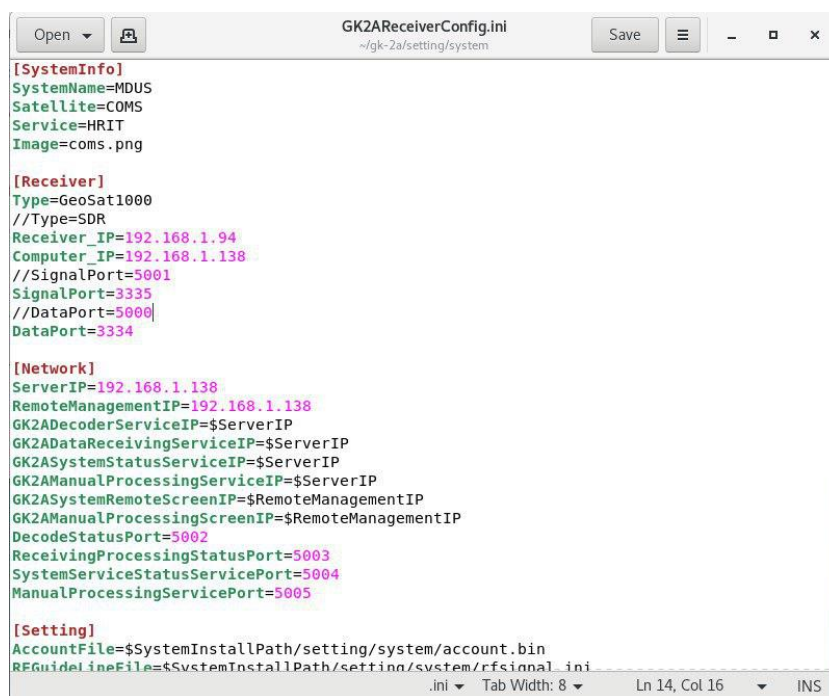
[Figure 2-1] Receiver program login GUI

2.1.1 IP Configuration

2.1.1.1 Modifying PC & Receiver IP

In GK2AReciverConfig.ini, set ReceiverIP, ComputerIP, ServerIP and RemoteManagementIP.

Change a value of *ReceiverIP* in the code below for the hardware receiver IP update. Modify ComputerIP, ServerIP and RemoteManagementIP to user's PC IP.



```
[SystemInfo]
SystemName=MDUS
Satellite=COMS
Service=HRIT
Image=coms.png

[Receiver]
Type=GeoSat1000
//Type=SDR
Receiver_IP=192.168.1.94
Computer_IP=192.168.1.138
//SignalPort=5001
SignalPort=3335
//DataPort=5000
DataPort=3334

[Network]
ServerIP=192.168.1.138
RemoteManagementIP=192.168.1.138
GK2ADecoderServiceIP=$ServerIP
GK2ADataReceivingServiceIP=$ServerIP
GK2ASystemStatusServiceIP=$ServerIP
GK2AManualProcessingServiceIP=$ServerIP
GK2ASystemRemoteScreenIP=$RemoteManagementIP
GK2AManualProcessingScreenIP=$RemoteManagementIP
DecodeStatusPort=5002
ReceivingProcessingStatusPort=5003
SystemServiceStatusServicePort=5004
ManualProcessingServicePort=5005

[Setting]
AccountFile=$SystemInstallPath/setting/system/account.bin
REGuideLineFile=$SystemInstallPath/setting/system/rfsignal.ini
```

[Figure 2-2] GK2AReciverConfig.ini setting contents

2.1.1.2 Modifying Database IP

In databasecon.ini, change the IP of the PC where the database is set.

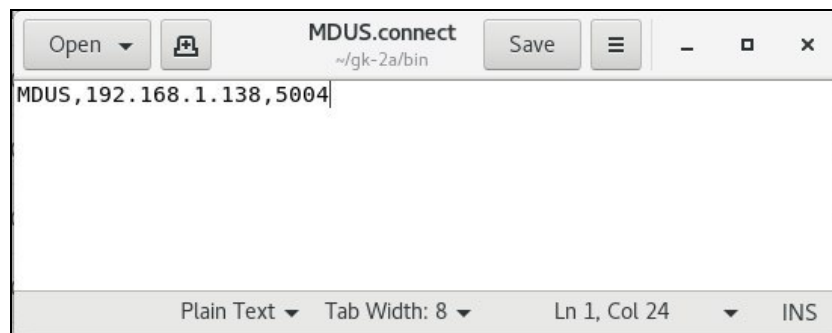


```
database_type= QMYSQL
connectionName= GK2ASystemStatusService
database_name= gk2a_receiver_db
database_ip=192.168.1.138
username=root
connectionport=3306
password=7608607976fa0de335
```

[Figure 2-3] Databasecon.ini setting contents

2.1.1.3 Modifying MDUS.Connect

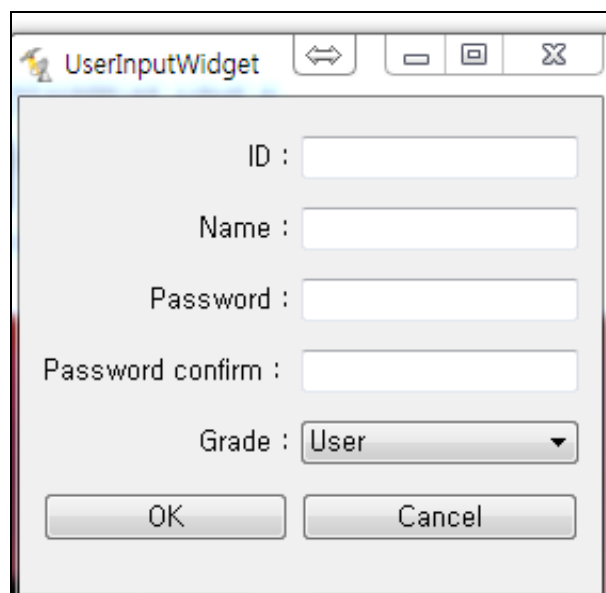
Change the IP in the MDUS. Connect file to the IP of the PC with an installed MDUS receiving program.



[Figure 2-4] MDUS.Connect setting content

2.1.2 Login & Creating account

Run the receiver management S/W to connect to the receiver. If the connection is not successful, check the connection IP & port, network firewall, and server operation status. If it is connected normally, login window pops up.

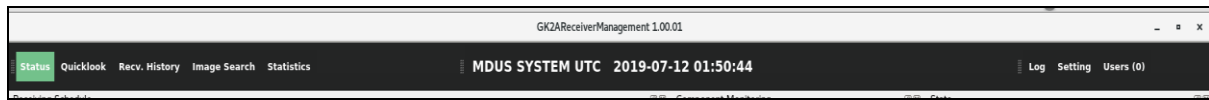


[Figure 2-5] Creating account in receiver program

An administrator account (admin/qwer!2345) is provided by default. You can add a user account by clicking the register button on the login window. After the administrator approves creating an account, you can login through the account.

2.1.3 Account level

The Admin and user distinguish the class of account. If it is admin level, user's item will be displayed on top menu of receiver management S/W main window. Also, user registration / deletion / change and system configuration changes are allowed.



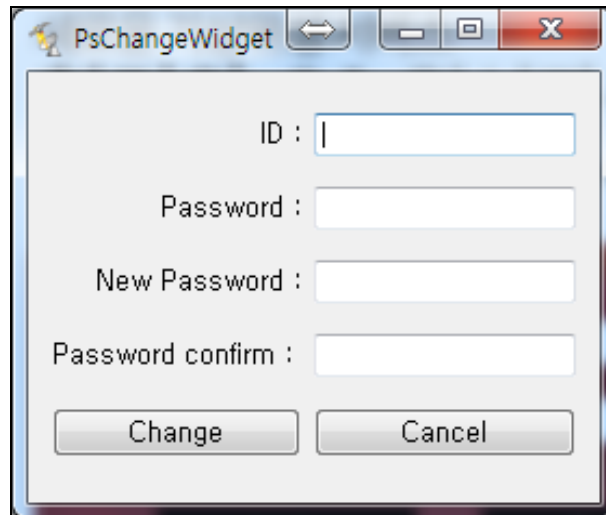
[Figure 2-6] Top menu of receiver management S/W main window

The user level is only provided with the current situation / status information of the receiver and is not allowed to be changed.

2.1.4 Changing account information

On the login window, change the password through the change password function. The password should satisfy following conditions.

- Essential inclusion of English and numbers
- 9 digits or more

A screenshot of a Windows-style dialog box titled "PsChangeWidget". The dialog box has a standard title bar with minimize, maximize, and close buttons. Inside the dialog, there are four text input fields arranged vertically. The first field is labeled "ID :". The second field is labeled "Password :". The third field is labeled "New Password :". The fourth field is labeled "Password confirm :". At the bottom of the dialog, there are two buttons: "Change" and "Cancel".

[Figure 2-7] Changing account information in the receiver program

2.2 Folder Structure

MDUS receiving S/W has the following folder structure.

The parent folder path is `"/home/mdus"`.



[Figure 2-8] Folder structure

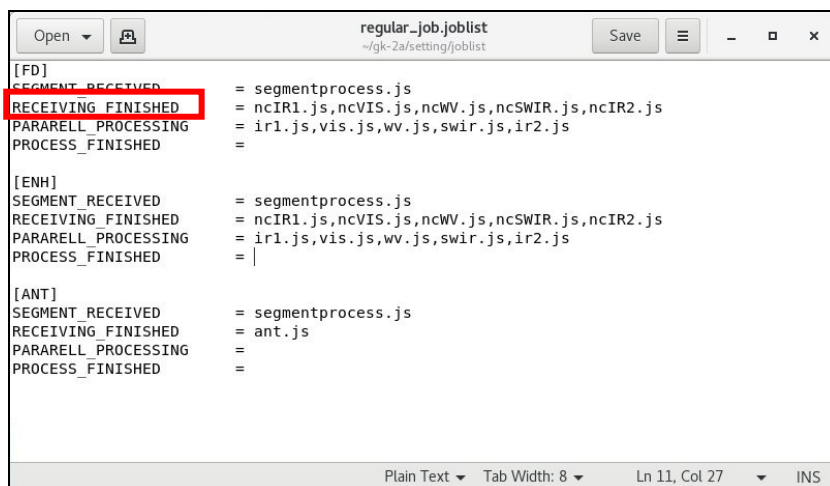
[Table 2-1] Folder description

item	description
bin	Folder for saving executable file
data	Folder for saving received segment and product
demod_gui	Demodulator related folder (GUI)
demod_serivce	Demodulator related folder (Service)
install	Folder for saving install files
lib	Library folder
log	Folder for saving log files
resource	Folder for saving password & map files
schedule	Folder for saving schedule files
setting	Folder for saving AOI (area of interest), component, script and system configuration files

2.3 Product Settings

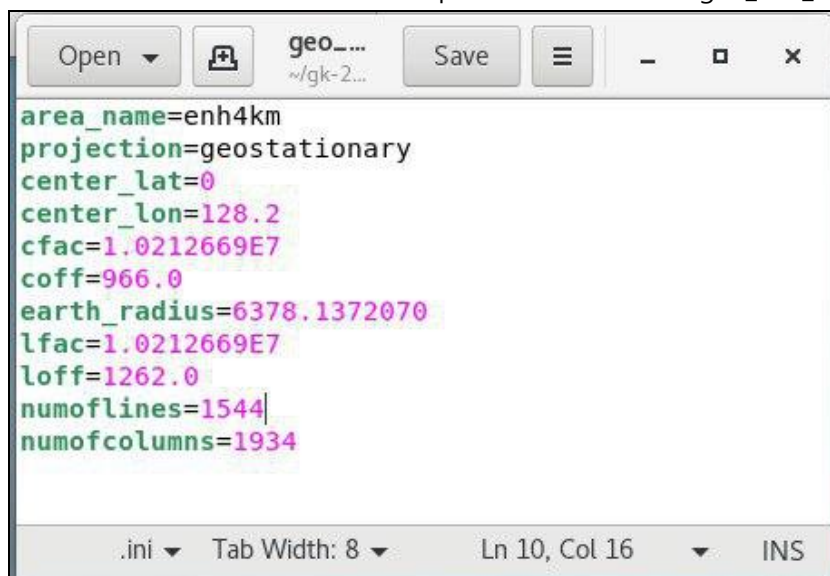
2.3.1 How to add a local image

Adding a new region image requires modification of the joblist, aoj, script. First, user need to modify "PARARELL_PROCESSING" in the regular_job.joblist.



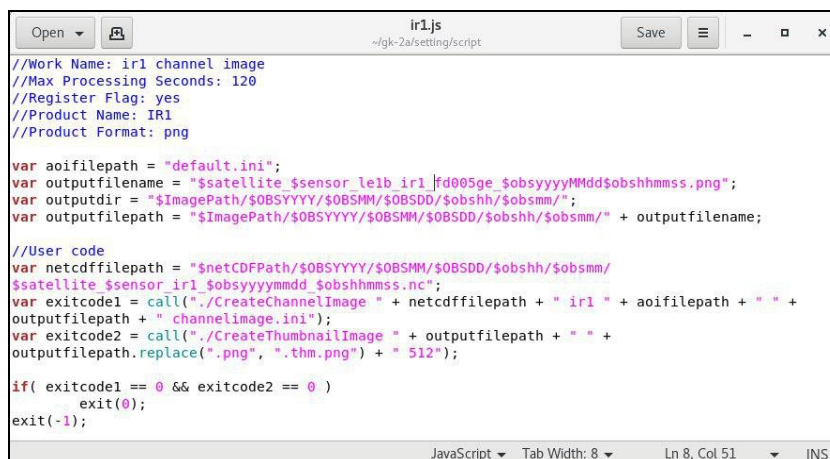
[Figure 2-9] regular_job.joblist

Next, you need to add files to the folder. An example is the same as in geo_enh_4km.ini file.



[Figure 2-10] The example of AOI file setting

Next, you need to add the script file.



```
//Work Name: ir1 channel image
//Max Processing Seconds: 120
//Register Flag: yes
//Product Name: IR1
//Product Format: png

var aoifilepath = "default.ini";
var outputfilename = "$satellite_$sensor_le1b_ir1_fd005ge_$(date +%Y%m%d%H%M%S).png";
var outputdir = "$ImagePath/$OBSSYYY/$OBSSMM/$OBSSDD/$obshh/$obsmm/";
var outputfilepath = "$ImagePath/$OBSSYYY/$OBSSMM/$OBSSDD/$obshh/$obsmm/" + outputfilename;

//User code
var netcdffilepath = "$netCDFPath/$OBSSYYY/$OBSSMM/$OBSSDD/$obshh/$obsmm/";
var exitcode1 = call("./CreateChannelImage " + netcdffilepath + " ir1 " + aoifilepath + " " +
outputfilepath + " channelimage.ini");
var exitcode2 = call("./CreateThumbnailImage " + outputfilepath + " " +
outputfilepath.replace(".png", ".thm.png") + " 512");

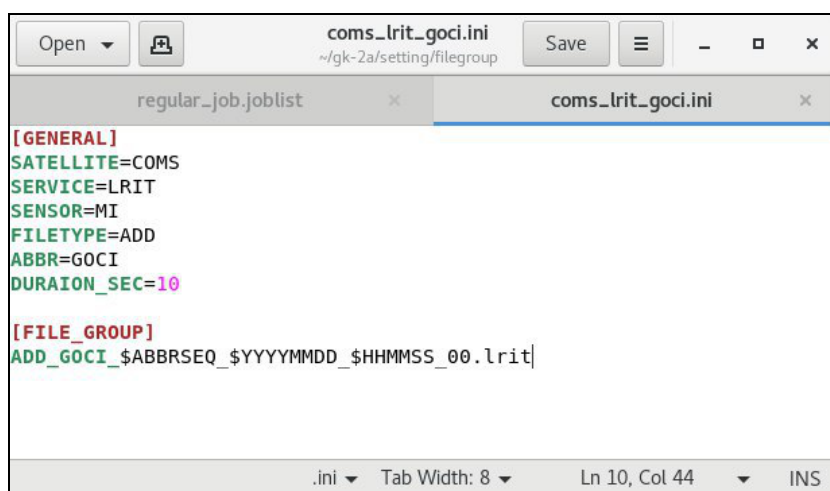
if( exitcode1 == 0 && exitcode2 == 0 )
    exit(0);
exit(-1);
```

[Figure 2-11] The example of script file (ir1.js)

2.3.2 How to add new ADD file data processing.

First, user need to add a new ADD-related .ini file inside filegroup. For example, GOCI (the existing COMS ADD file) is as follows:

For GK2A ADD file, modify SATELLITE to GK2A and ABBR to ADD data name.



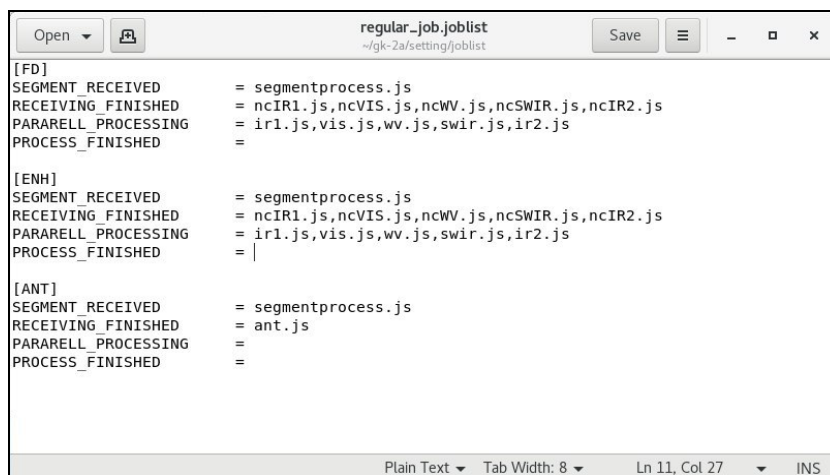
```
[GENERAL]
SATELLITE=COMS
SERVICE=LRIT
SENSOR=MI
FILETYPE=ADD
ABBR=GOCI
DURATION_SEC=10

[FILE_GROUP]
ADD_GOCI_$ABBRSEQ_$(date +%Y%m%d%H%M%S)_00.lrit
```

[Figure 2-12] The example of setting for new ADD file data

Next, user need to add a new ADD-related content to the bottom of the joblist file. For example, if the new ADD is the GOCI, add the following:

```
[GOCI]
SEGMENT_RECEIVED = segmnetprocess.js
RECEIVING_FINISHED = GK2A nc script
PARARELL_PROCESSING = new ADD data script
```



```

[FD]
SEGMENT_RECEIVED      = segmentprocess.js
RECEIVING_FINISHED    = ncIR1.js,ncVIS.js,ncWV.js,ncSWIR.js,ncIR2.js
PARARELL_PROCESSING    = ir1.js,vis.js,wv.js,swir.js,ir2.js
PROCESS_FINISHED      =

[ENH]
SEGMENT_RECEIVED      = segmentprocess.js
RECEIVING_FINISHED    = ncIR1.js,ncVIS.js,ncWV.js,ncSWIR.js,ncIR2.js
PARARELL_PROCESSING    = ir1.js,vis.js,wv.js,swir.js,ir2.js
PROCESS_FINISHED      = |

[ANT]
SEGMENT_RECEIVED      = segmentprocess.js
RECEIVING_FINISHED    = ant.js
PARARELL_PROCESSING    =
PROCESS_FINISHED      =

```

[Figure 2-13] The example of setting for new ADD script (joblist)

Next, add the script file. If the ADD data to be newly added is the GOCI, change IR1 to the GOCI in the following figure. Also, modify the Product format with the extension. Next, insert .ini file of newly added ADD file in the aoifilepath.



```

//Work Name: ir1 channel image
//Max Processing Seconds: 120
//Register Flag: yes
//Product Name: IR1
//Product Format: png

var aoifilepath = "default.ini";
var outputfilename = "$satellite $sensor le1b ir1 fd005ge $obsyyyyMMdd$bshhmmss.png";
var outputdir = "$ImagePath/$OBSYYYY/$OBSMM/$OBSDD/$bshh/$obsmm/";
var outputfilepath = "$ImagePath/$OBSYYYY/$OBSMM/$OBSDD/$bshh/$obsmm/" + outputfilename;

//User code
var netcdffilepath = "$netCDFPath/$OBSYYYY/$OBSMM/$OBSDD/$bshh/$obsmm/$satellite $sensor ir1 $obsyyyyMMdd $bshhmmss.nc";
var exitcode1 = call("./CreateChannelImage " + netcdffilepath + " ir1 " + aoifilepath + " " + outputfilepath + " channelImage.ini");
var exitcode2 = call("./CreateThumbnailImage " + outputfilepath + " " + outputfilepath.replace(".png", ".thm.png") + " 512");


if( exitcode1 == 0 && exitcode2 == 0 )
    exit(0);
exit(-1);

```

[Figure 2-14] Modifying of AOI File Path

2.3.3 How to change the product file name

If you want to change the filename of the product, modify the outputfilename in the figure.



```
//Work Name: ir1 channel image
//Max Processing Seconds: 120
//Register Flag: yes
//Product Name: IR1
//Product Format: png

var aoifilepath = "default.ini";
var outputfilename = "$satellite $sensor le1b ir1 fd005ge $obsyyyyMMdd$obshhmmss.png";
var outputdir = "$ImagePath/$OBSYYYY/$OBSMM/$OBSDD/$obshh/$obsmm/";
var outputfilepath = "$ImagePath/$OBSYYYY/$OBSMM/$OBSDD/$obshh/$obsmm/" + outputfilename;

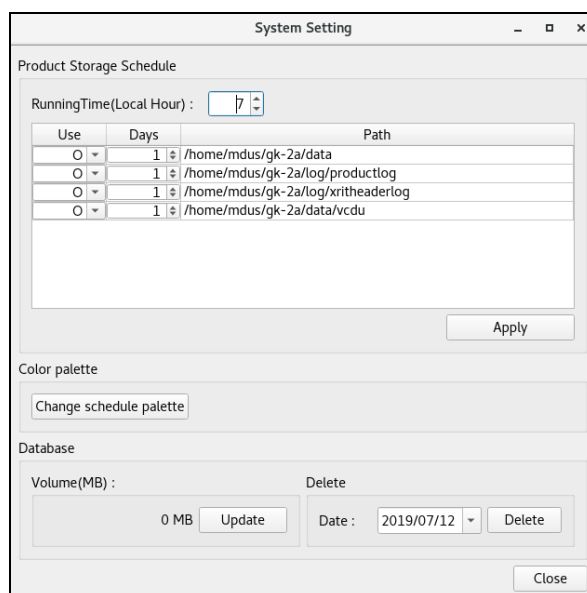
//User code
var netcdffilepath = "$netCDFPath/$OBSYYYY/$OBSMM/$OBSDD/$obshh/$obsmm/$satellite $sensor ir1 $obsyyyymmdd $obshhmmss.nc";
var exitcode1 = call("./CreateChannelImage " + netcdffilepath + " ir1 " + aoifilepath + " " + outputfilepath + " channelImage.ini");
var exitcode2 = call("./CreateThumbnailImage " + outputfilepath + " " + outputfilepath.replace(".png", ".thm.png") + " 512");

if( exitcode1 == 0 && exitcode2 == 0 )
    exit(0);
exit(-1);
```

[Figure 2-15] Modifying of Output File Name

2.3.4 How to set the date of storage of the product

After executing the receiving program, click the setting button on the upper right side and the following window will appear. If the Days property is changed, all the remaining time periods are deleted.



Use	Days	Path
O	1	/home/mdus/gk-2a/data
O	1	/home/mdus/gk-2a/log/productlog
O	1	/home/mdus/gk-2a/log/xrithheaderlog
O	1	/home/mdus/gk-2a/data/vcdu

[Figure 2-16] Setting of the date of storage of the product (Setting window)

2.4 Setting File

2.4.1 AOI setting

You need to modify Joblist, aoj, script file to add new AOI. First, add AOI in the Regular_job.joblist. For example, if AOI is the GOCI, add as follows.

```
[GOCI]
SEGMENT_RECEIVED = segmnetprocess.js
RECEIVING_FINISHED = GK2A nc script
```



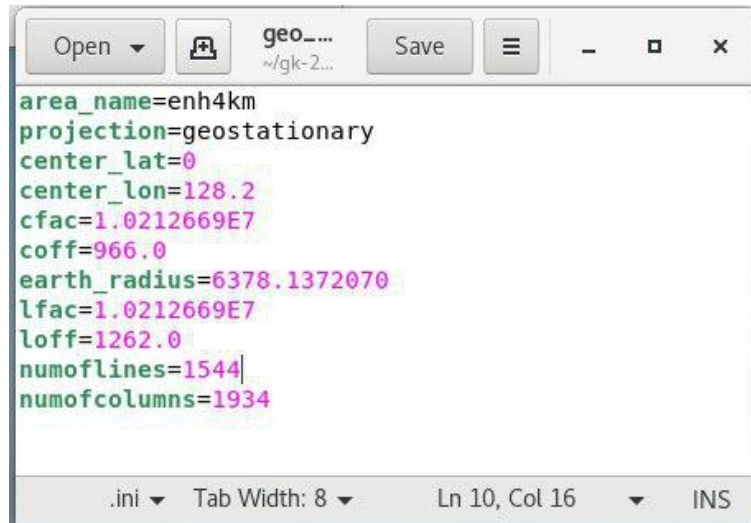
[Figure 2-17] setting of joblist for the added area

The description of regular.job.joblist is as follows:

[Table 2-2] joblist file attributes

Item	Description
SEGEENT_RECEIVED	Receiving script file
RECEIVING_FINISHED	Script file that has been terminated
PARARELL_PROCESSING	Receiving script file

Next, add .ini of AOI in the aoj folder. The example is as follows.



[Figure 2-18] Setting of AOI for the added area (geo_enh_4km.ini)

[Table 2-3] AOI setting file attributes

Item	Description
area_name	Area name
projection	Map projection type
center_lat	Center latitude
center_lon	Center longitude
cfac	Colume Scale Factor
coff	Colume Offset
earth_redius	Radius of Earth
lfac	Line Scale Factor
loff	Line Offset
numoflines	Height
numocolumns	Width

Next, user need to set the AOI you want to set in the script file. You need to change "aoifilepath" in the contents of the ir1.js file to the name of the AOI file.



```
//Work Name: ir1 channel image
//Max Processing Seconds: 120
//Register Flag: yes
//Product Name: IR1
//Product Format: png

var aoifilepath = "default.ini";
var outputfilename = "$satellite_$sensor_le1b_ir1_fd005ge_$obsyyyyMMdd$sobshhmmss.png";
var outputdir = "$ImagePath/$OBSYYYY/$OBSMM/$OBSDD/$sobshh/$obsmm/";
var outputfilepath = "$ImagePath/$OBSYYYY/$OBSMM/$OBSDD/$sobshh/$obsmm/" + outputfilename;

//User code
var netcdffilepath = "$netCDFPath/$OBSYYYY/$OBSMM/$OBSDD/$sobshh/$obsmm/
$satellite_$sensor_ir1_$obsyyyymmdd_$sobshhmmss.nc";
var exitcode1 = call("./CreateChannelImage " + netcdffilepath + " ir1 " + aoifilepath + " " +
outputfilepath + " channelimage.ini");
var exitcode2 = call("./CreateThumbnailImage " + outputfilepath + " " +
outputfilepath.replace(".png", ".thm.png") + " 512");

if( exitcode1 == 0 && exitcode2 == 0 )
    exit(0);
exit(-1);
```

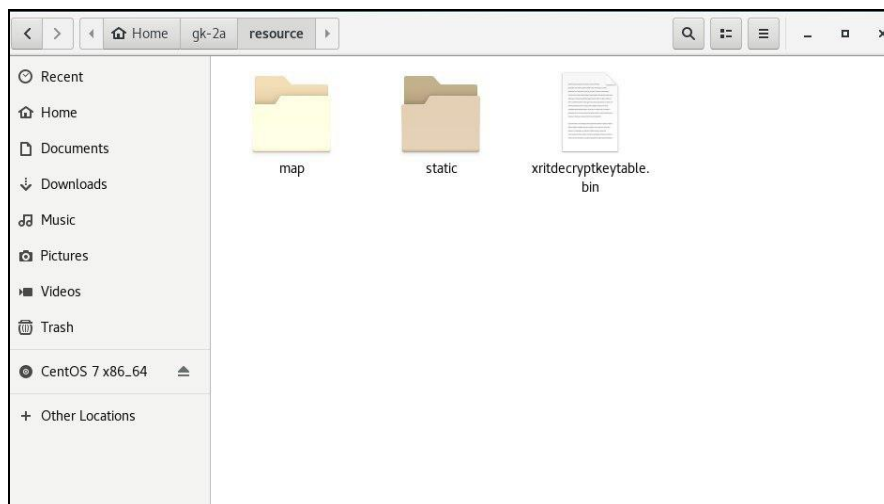
[Figure 2-19] Modifying of the script for added area

[Table 2-4] Script file attributes

Item	Description
Work Name	Channel name
max Processing Seconds	Processing time
register Flag	Whether to store databse
product Name	Product name
product Format	Product extension
aoifilepath	AOI path
outputfilename	Product path
outputdir	Segment path
outputfilepath	Ouput file path
netcdffilepath	netcdf file path
exit	Terminate code

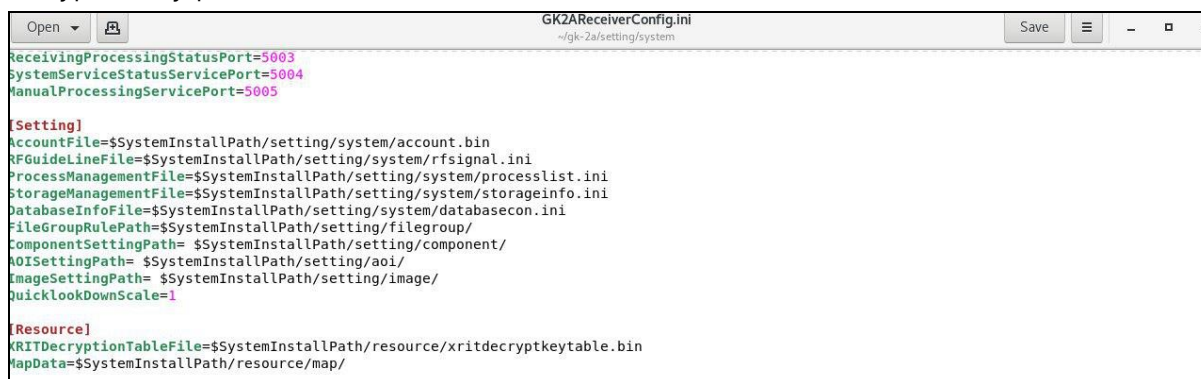
2.4.2 Setting encryption key file

To change from the old encryption key to the new encryption key, user need to make two changes. First, add new encryption key in the resource folder as follows [Figure 2-20].



[Figure 2-20] Resource path

Next, modify from the existing path of XritDecryptionTableFile in [Figure 2-20] to added encryption key path.

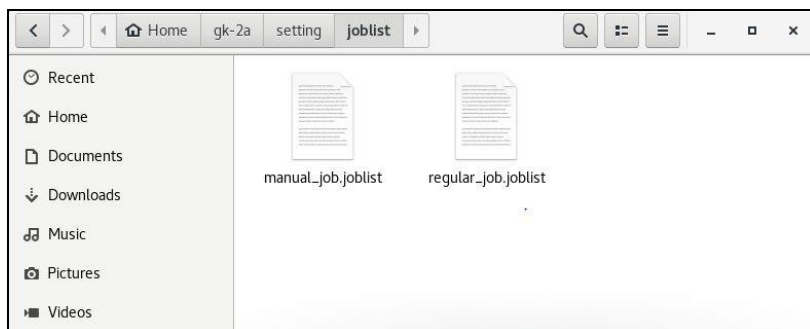


[Figure 2-21] GK2AReceiverConfig.ini file

2.4.3 Joblist file setting

When entering the JobList path, there are two kinds of files: manual_job.joblist and regular_job.joblist.

The contents of the two files are the same.



[Figure 2-22] The example of joblist

```
[FD]
SEGMENT_RECEIVED      = manual_segmentprocess.js
RECEIVING_FINISHED    = ncIR1.js,ncVIS.js,ncWV.js,ncSWIR.js,ncIR2.js
PARARELL_PROCESSING    = ir1.js,vis.js,wv.js,swir.js,ir2.js,ir1_color.js,composite.js,vis_asia.js,vis_korea.js
PROCESS_FINISHED      =

[ENH]
SEGMENT_RECEIVED      = manual_segmentprocess.js
RECEIVING_FINISHED    = ncIR1.js,ncVIS.js,ncWV.js,ncSWIR.js,ncIR2.js
PARARELL_PROCESSING    = ir1.js,vis.js,wv.js,swir.js,ir2.js,ir1_color.js,composite.js,vis_asia.js,vis_korea.js
PROCESS_FINISHED      =

[ANT]
SEGMENT_RECEIVED      = manual_segmentprocess.js
RECEIVING_FINISHED    = ant.js
PARARELL_PROCESSING    =
PROCESS_FINISHED      =
```

[Figure 2-23] regular_job.joblist file contents

The purpose of the two files are as follows:

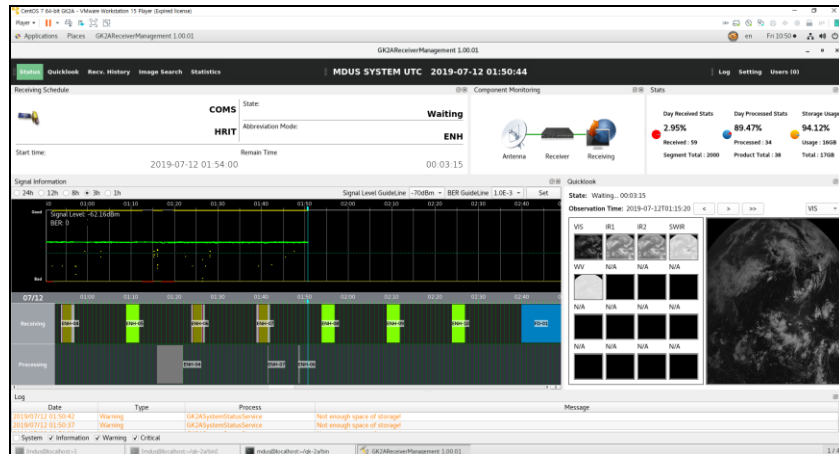
[Table 2-5] Jobliste file description

Item	Description
Manual_job.joblist	Manually process receiving of satellie data
Regular_job.jonlist	Automatically process receiving of satellie data

2.5 Window of receiver program

2.5.1 Receiver program executable window

When you log in through [Figure 1], the following window appears.



[Figure 2-24] Main window of receiver program

2.5.2 Toolbar menu

The top toolbar menu at receiver program is shown in [Figure 9], and each attribute is shown in [Table 2-6].



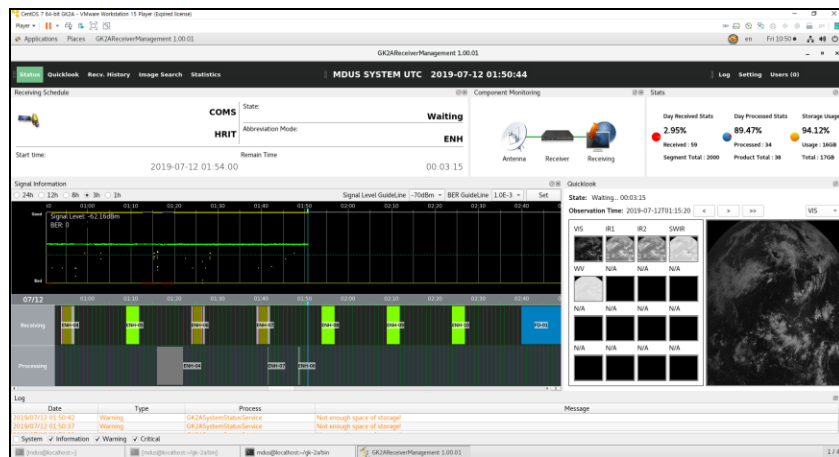
[Figure 2-25] The top toolbar menu at the receiver program

[Table 2-6] Toolbar menu attributes

항목	설명
status	Provide current situation & status of receiver
quicklook	Displays the received image in realtime
Image Search	Provides image search function
statistic	Provide receiving & processing statistics information
MDUS SYSTEM UTC ...	Display the system name & current UTC time
log	Menu for log search
setting	Environment configuration
users	Menu for inquiry/deletion/approval of account

2.5.3 Status Display

[Table 2-7] displays attributes of information for each divided window in the receiver program.



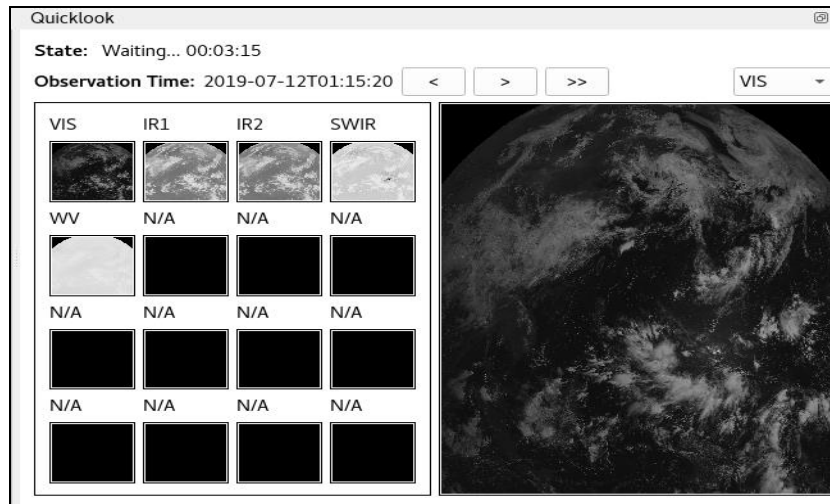
[Figure 2-26] Receiving status window in the receiver program

[Table 2-7] Main window attributes of the receiver program

항목	설명
receiving Schedule	Display data being received and the time emaining until the next reception
component Monitoring	Provides fault status information of the components constituting the receiver
stats	Display receiving/processing rate of 1 day only based on current time, and storage utilization rate
signal Information	Display signal level & quality, receiving schedule and processing result
quicklook	Displays received image in realtime
log	Displays log messages

2.5.4 QuickLook window

This window shows realtime received images.



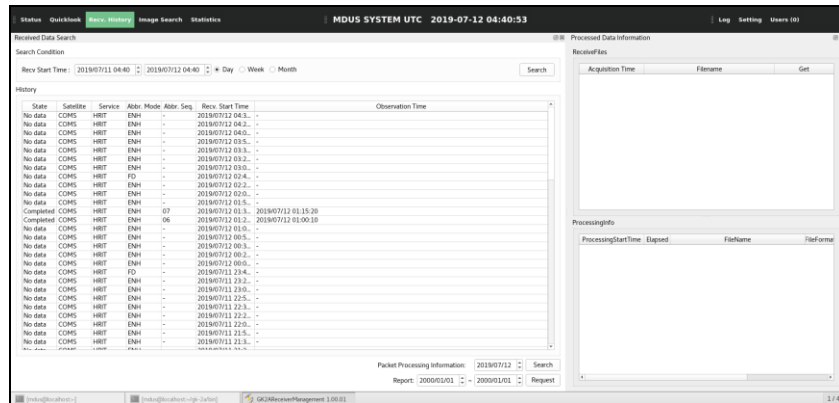
[Figure 2-27] Main window of the receiver program

[Table 2-8] Main window attributes of the receiver program

항목	내용
state	Current receiving status "In receiving" means received time "In waiting" means time remaining until next
observation Time	Observation start time
	Request previous video / next video / last video in order
	Selects a channel to display the large image
Small image on the left	Double clicks each image to display the large image

2.5.5 Recv History

This is a window for inquiring the receiving/processing history and the details during a certain period.



[Figure 2-28] Recv History window

Recv History window consists of the following sub-window.

[Table 2-9] Recv History Attributes

Sub-window name	description
search condition	Specify search conditions.
history	Display the receiving list for each pass.
packet processing information	Inquiry packet processing log.
receivefiles	Display the receiving segment information for each pass.
processingInfo	Display the product information for each pass.

2.5.6 Image Search window

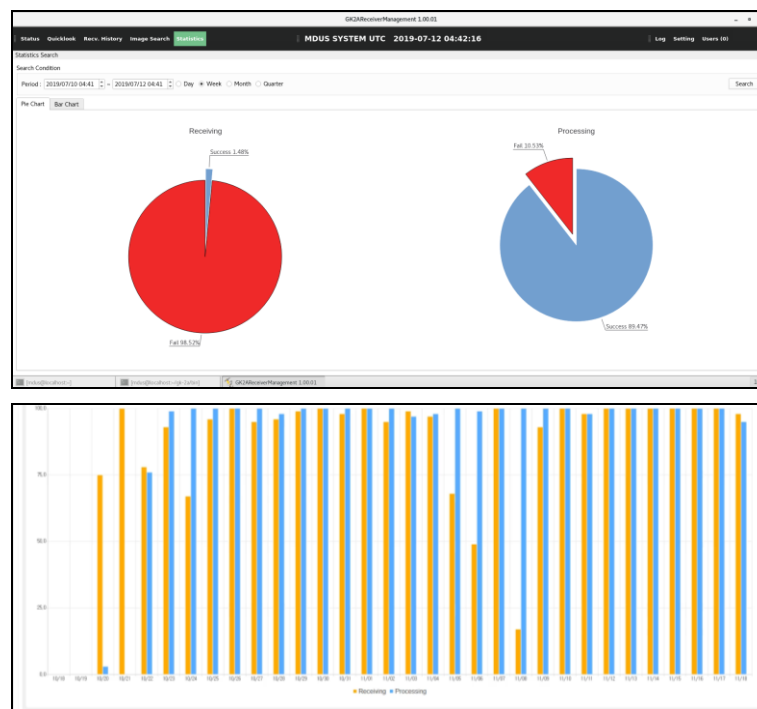
This is a window to inquire images. The searched image is displayed for the specified condition.



[Figure 2-29] Image Search window

2.5.7 Statistics window

This is a window to display graph for the receiving/statistics. The graph is represented by a pie chart and a bar graph depending on the search period. The color of the outline of the pie chart and the bar graph can be modified by clicking the right mouse button.



[Figure 2-30] Statistics display

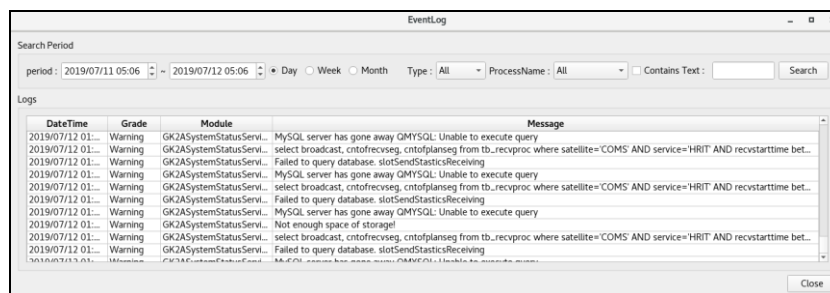
The procedure to use the search condition (period) is as follows:

[Table 2-10] Statistics attribute

Item	Description
period	Set inquiry period.
Day/Week/Month/Quarter	Set inquiry period constantly.
pie chart tab	Display data in a pie chart.
bar chart tab	Display data in a bar graph. Display Option: Hour: The units of the horizontal axis are time. Day: The unit of the horizontal axis is the date. Week: The unit of the horizontal axis is the week.

2.5.8 Log window

This is a window to inquire log.



[Figure 2-31] Log window

The log window parameters are described as below:

[Table 2-11] Log description

항목	설명
search Period	Set search period.
Day/Week/Month	Set search period constantly.
type	System/Information/Warning/Critical/All (search filter)
processName	All: All processes include logs generated.
contains Text	If it is checked, only logs containing the entered string are searched.
search	Ask to search. If it is so many result, only a part is displayed.

2.5.9 Setting window

This is a window to modify system setting. The access level should be administrator to change system setting.

The screenshot shows the 'System Setting' window. The 'Product Storage Schedule' section includes a 'RunningTime(Local Hour)' spinner set to 7. Below it is a table with columns 'Use', 'Days', and 'Path'. The table contains four rows, all with 'O' in the 'Use' column, '1' in the 'Days' column, and various paths in the 'Path' column. An 'Apply' button is located at the bottom right of this section. The 'Color palette' section has a 'Change schedule palette' button. The 'Database' section shows 'Volume(MB)' as 0 MB with an 'Update' button. It also has a 'Delete' section with a date dropdown set to 2019/07/12 and a 'Delete' button. A 'Close' button is at the bottom right of the window.

[Figure 2-32] Setting window

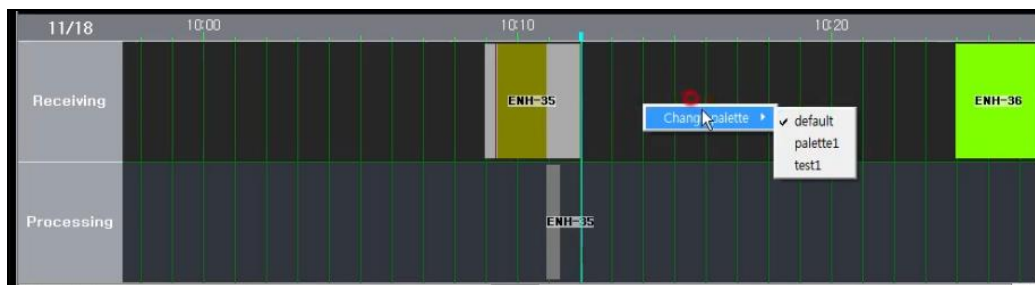
How to use Settings is as follows.

[Table 2-12] Description of Setting window menu

item	description
running Time (Local Hour)	Running Time(Local Hour): Time to start running (Local time)
use	Whether to use(O: use, X: not use)
days	Storage period
path	The specified path and sub-path is managed here. The settings should be changed on the server to add the path.
apply	Apply to change. (It is performed once at the time of request)
change schedule palette	Display Schedule Palette Editor window
update	Database usage query.
delete	The search speed of the receiver management S/W can be improved when the capacity is secured by deleting the past data from the database.

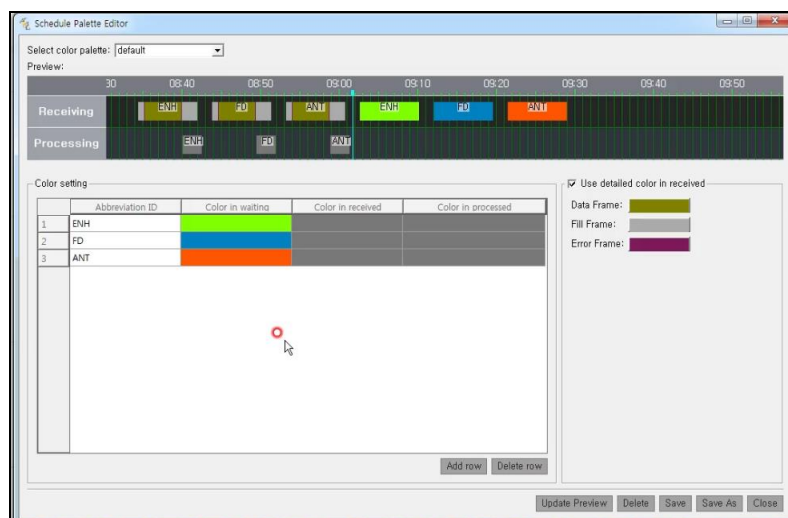
2.5.9.1 Change Schedule Palette

This is a tool to change color of the receiving schedule chart. If you click the change schedule palette button, Schedule Palette Editor is displayed. You can save, copy, and change color groups as files. The changed palette is able to use by right clicking the mouse in Signal Information – Receiving window of status menu of main window.



[Figure 2-33] Display applying receiving schedule palette

Following figure is Schedule Palette Editor:



[Figure 2-34] Schedule Palette Editor

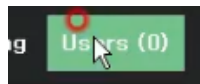
[Table 2-13] Palette menu description

Item	description
select color palette	Select palette name.
preview	Preview set to the specified color.
color setting	Rows can be added per observation mode. The rows can be color-coded according to the wait / receive / process state.

use detailed color in received	The specified path and sub-path are managed. The settings should be changed on the server to add the path.
update Preview	Draw by subdividing colors according to the frame of receiving data. It can be applied/unavailable depending on whether to check.
delete button	Delete the selected palette setting file.
Save button	Save work to the palette.
save As button	Save (Copy) the current palette to a different name.

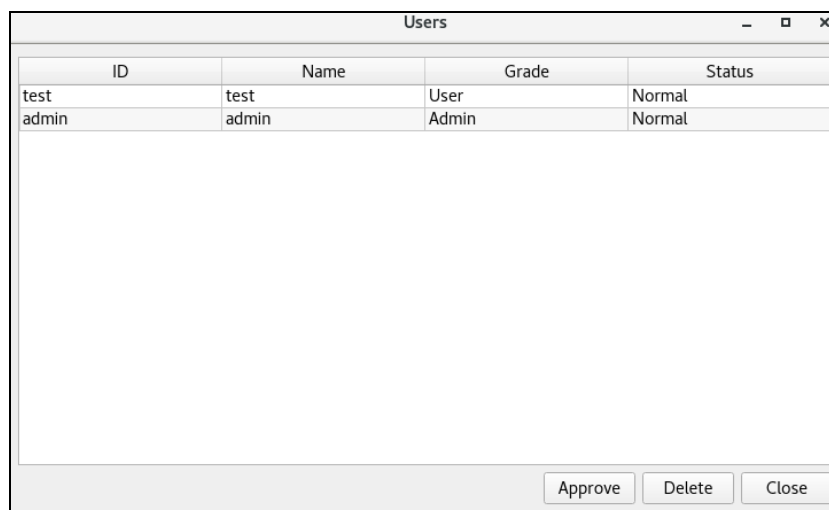
2.5.10 Users window

This is a window to manage the registered accounts. The numbers in parentheses indicate the number of user requests waiting for approval.



[Figure 2-35] User registration/management menu


When you click the Users button, the user account is displayed. After selecting the corresponding ID, click the Approve button for approval and the Delete button for deletion.



[Figure 2-36] Registered User management window

2.6 Manually Processing S/W

Manually processing S/W provides the XPIT upload and reprocessing function. The S/W can be

executed through double-clicking the icon  in the desktop or running GK2AManualProcessingScreen executable file in the install path.

※ **This program cannot be used by more than one person at the same time.**

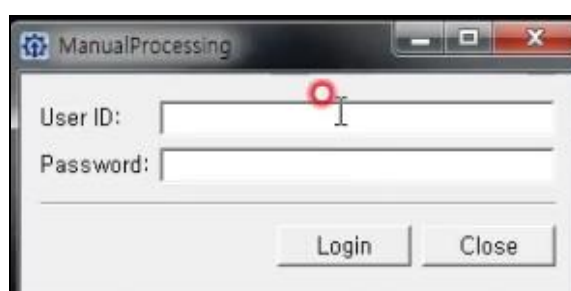
The role of manually processing S/W is in the following table:

[Table 2-14] Manually processing S/W role description

Item	Description
XRIT upload	If the system does not receive the products, XRIT file obtained from other systems can be entered directly into the system.
reprocessing	When the product is deleted from the system, the product can be reproduced (Source data should be stored). If production setting of the meteorological data is changed, the data can be reproduced in the modified form.

2.6.1 Login

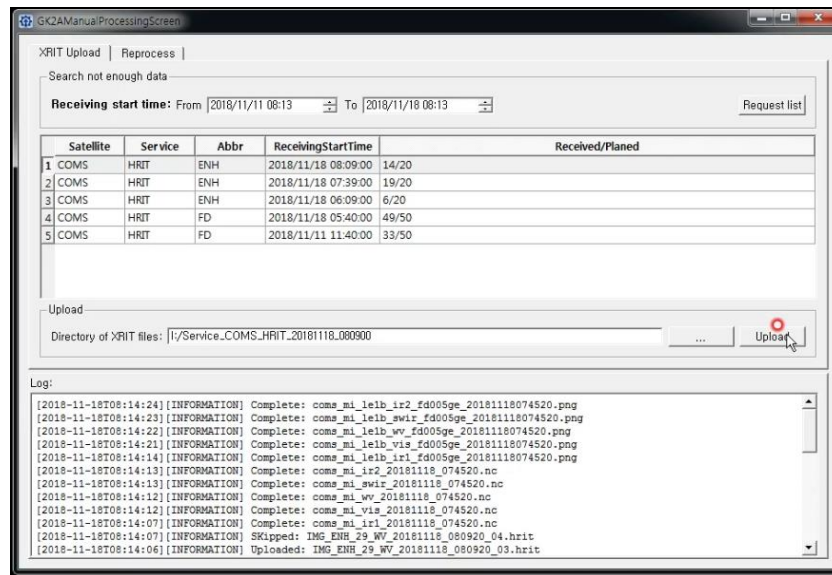
The login account is same account as GK2AReceiverManagement. You should login as administrator.



[Figure 2-37] Manually processing – Login window

2.6.2 XRIT Upload

The XRIT Upload tap is available at the top of the window. The XRIT Upload has functions to search poorly received data and upload data obtained from other systems.



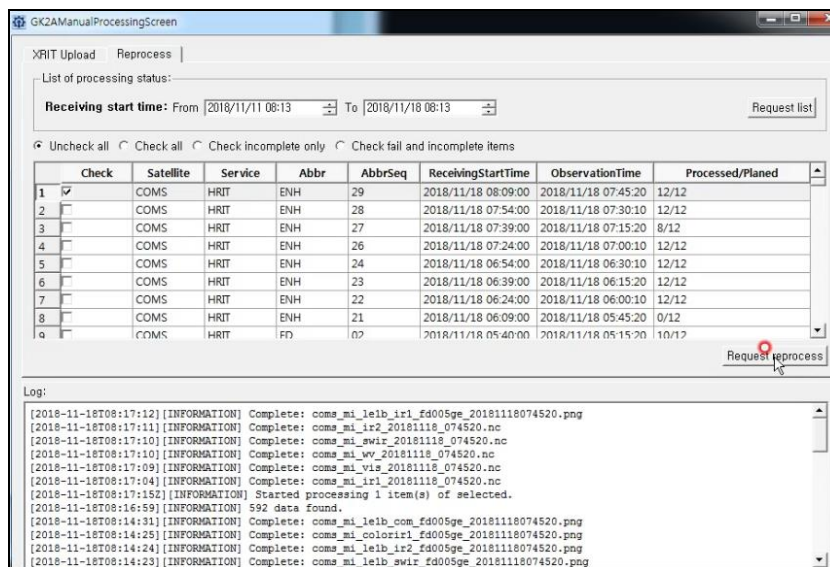
[Figure 2-38] XRIT Upload window

[Table 2-15] XRIT Upload menu

Item	Description
search not enough data	Inquiry poorly received data. Search the data by clicking Request list button after setting the receiving start time.
upload	Click the "." button to specify the path where the XRIT file is stored and click the Upload button. After searching the data of the sub-path, the file is uploaded only if it matches the XRIT format. During the upload process, files that already exist on the server are skipped instead of uploaded. After the upload, the data processing is performed in batch.

2.6.3 Reprocess

The Reprocess tab is at the top of the window. You can request reprocessing after selecting the object to reprocess. The process message can be checked in the log. The message box appears as a pop-up when all processing is complete.



[Figure 2-39] Manually processing – reprocessing window

This function searches received data for a set period of time. After setting the receiving start time, user can search by clicking the button. You can select the items to be reprocessed directly or use the radio buttons to make batch changes.

Each attribute of [Figure 2-39] is as follows:

[Table 2-16] Manually processing – reprocessing window attributes

Item	Description
uncheck all	De-selects all items.
check all	Selects all items.
check incomplete only	Select only items that are incomplete.
check fail and incomplete items	Select only unsuccessful and incomplete data.
request List	Inquiry the list according to the condition.
request reprocess	Reprocess the selected item.

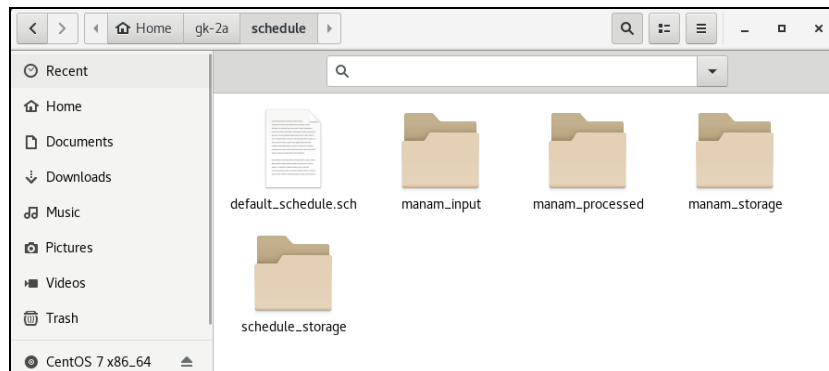
2.6.4 Log

This function prints log messages that occur during the operation.

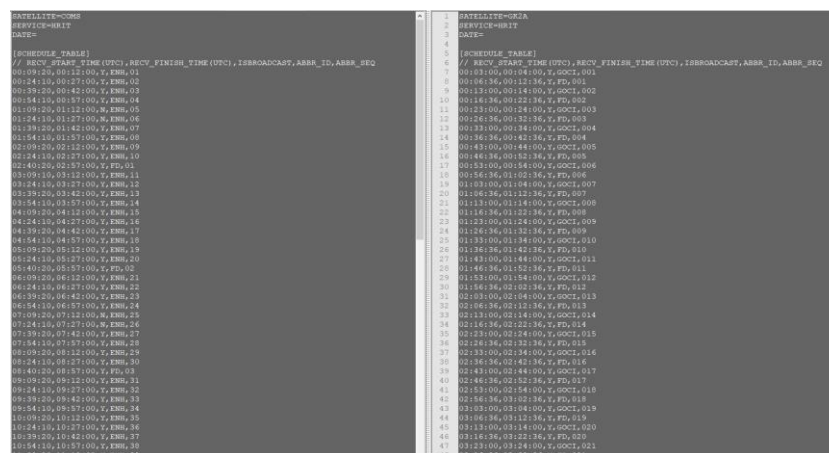
3. OPERATION REQUIRED WHEN SWITCHING TO GK2A

3.1 Change a schedule file

You need to change the "default_schedule.sch" schedule file stored in the installation path to the schedule for GK-2A as shown in [Figure 3-1].



[Figure 3-1] Schedule file path

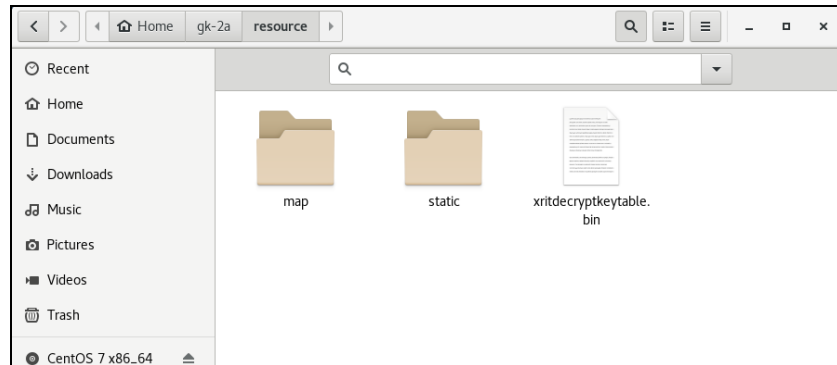


[Figure 3-2] default_schedule.sch

[left: COMS default_schedule.sch / right: GK2A default_schedule.sch]

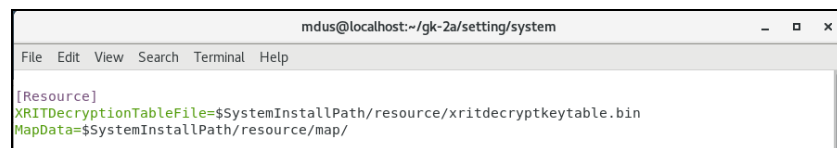
3.2 Modify encryption key

Change the encryption key "xritdecryptkeytable.bin" stored in the installation path to the encryption key for GK2A and save it with the same file name.



[Figure 3-3] Resource file change

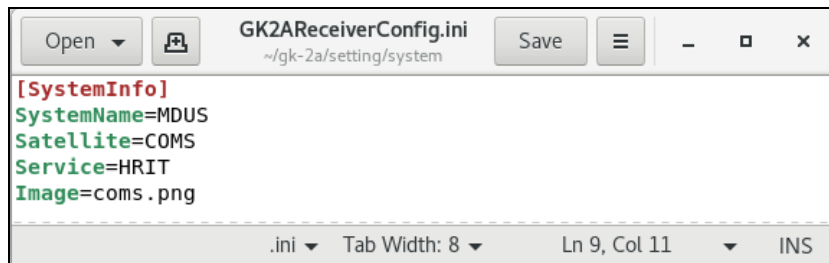
After modifying the file, check whether the file name of the [Resource] -XRITDecryptionTableFile attribute in the "GK2AReceiverConfig.ini" file is the same as the file name.



[Figure 3-4] Modify XRITDecryptionTableFile attributes

3.3 Modify the target satellite & the satellite image

Modify satellite information of "GK2AReceiveConfig.ini" file [SystemInfo] stored in install path.



[Figure 3-5] Modify SystemInfo attributes

3.4 Change the product file name

Change the script file name of the RECEIVING_FINISHED and PARARELL_PROCESSING attributes in the "regular_job.joblist" file to GK2A in the installation path.

```
[FD]
SEGMENT_RECEIVED = segmentprocess.js
RECEIVING_FINISHED = ncIR1.js,ncVIS.js,ncWV.js,ncSWIR.js,ncIR2.js
PARARELL_PROCESSING = ir1.js,vis.js,wv.js,swir.js,ir2.js,irl_color.js,composite.js,vis_kore
PROCESS_FINISHED =

[ENH]
SEGMENT_RECEIVED = segmentprocess.js
RECEIVING_FINISHED = ncIR1.js,ncVIS.js,ncWV.js,ncSWIR.js,ncIR2.js
PARARELL_PROCESSING = ir1.js,vis.js,wv.js,swir.js,ir2.js,irl_color.js,composite.js,vis_kore
PROCESS_FINISHED =

[ANT]
SEGMENT_RECEIVED = segmentprocess.js
RECEIVING_FINISHED = ant.js
PARARELL_PROCESSING =
PROCESS_FINISHED =
```



```
[FD]
SEGMENT_RECEIVED = segmentprocess.js
RECEIVING_FINISHED = ncIR105.js,ncVI006.js,ncWV069.js,ncSW038.js,ncIR123.js
PARARELL_PROCESSING = ir105.js,vi006.js,wv069.js,sw038.js,ir123.js
PROCESS_FINISHED =

[ENH]
SEGMENT_RECEIVED = segmentprocess.js
RECEIVING_FINISHED = ncIR105.js,ncVI006.js,ncWV069.js,ncSW038.js,ncIR123.js
PARARELL_PROCESSING = ir105.js,vi006.js,wv069.js,sw038.js,ir123.js
PROCESS_FINISHED =

[ANT]
SEGMENT_RECEIVED = segmentprocess.js
RECEIVING_FINISHED = ant.js
PARARELL_PROCESSING =
PROCESS_FINISHED =
```

[Figure 3-6] Modify joblist file description

Also, in the manual_job.joblist file of the joblist path, the script file name of the RECEIVING_FINISHED and PARARELL_PROCESSING attributes is changed for GK2A referring to the table below.

[Table 3-1] COMS & GK-2A generation file name comparison

COMS Product name	GK2A Product name
ir1	ir105
ir2	ir123
vis	vi006
wv	wv069
swir	sw038