AWIPS

Aviation

Workstation

by

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(June 2001)

AWIPS Aviation Workstation Program Documentation (Version 3.2):

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Programmed in Tcl/Tk 8.0 scripting language or higher.

Purpose:

The AWIPS Aviation Workstation was developed to give
the aviation forecaster a complete AWIPS workstation to
monitor, create, TAF Check, and transmit both TAFs and
TWBs. The visual interface of the monitoring section
is user friendly and similar to the PC RAVE program
developed by Tom Spriggs, WFO Saint Louis MO and
concepts and methodology by Monique Eme, WFO
Gaylord MI.
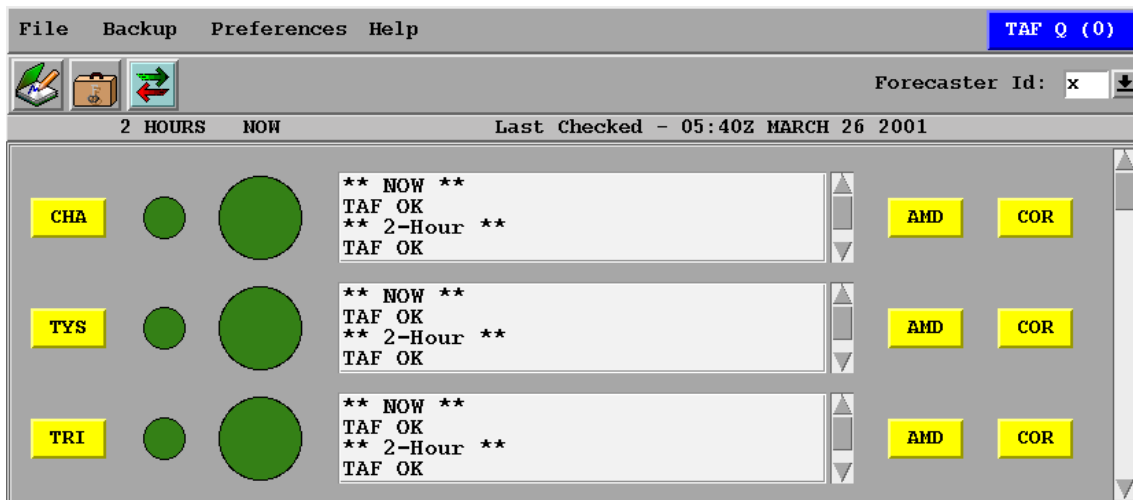
Program Execution:

TAF Monitor and Aviation Workstation Interface:

The main Aviation Workstation interface allows the forecaster to
monitor the individual TAFs in a scrollable canvas. The program
will allow up to 8 TAFs to display by default. In addition, a
scrollable   bar on
the right   side of
the   display
will allow   you to
view up to   30.
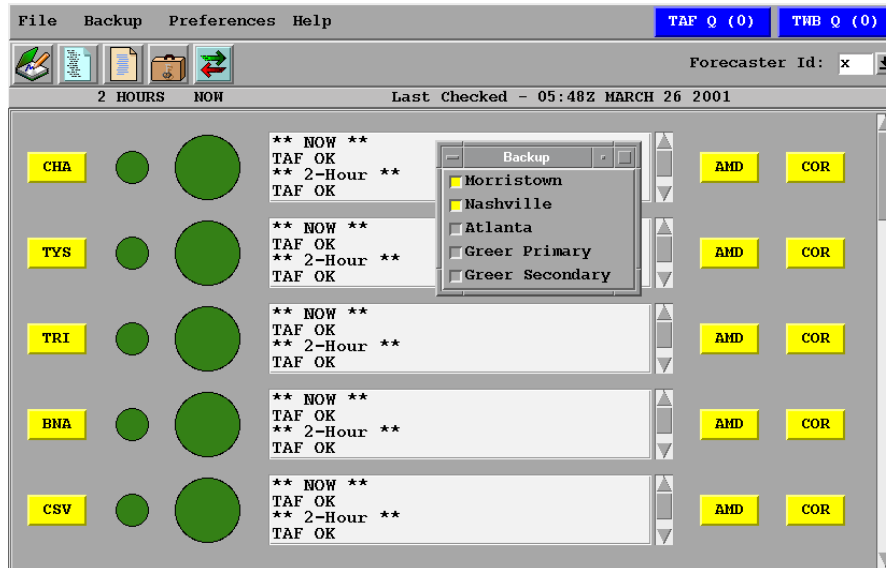
The two color circles represent the status of the TAF vs MTR
comparison and alerts the forecaster if a amendment is needed to
different color schemes. For example, the light green color
represents a good TAF forecast. You can get documentation on the
color scheme by clicking on either the small or large circles.
Please refer to the Color Scheme Documentation (Table 1). The
program will display two monitoring circles, a large one for the
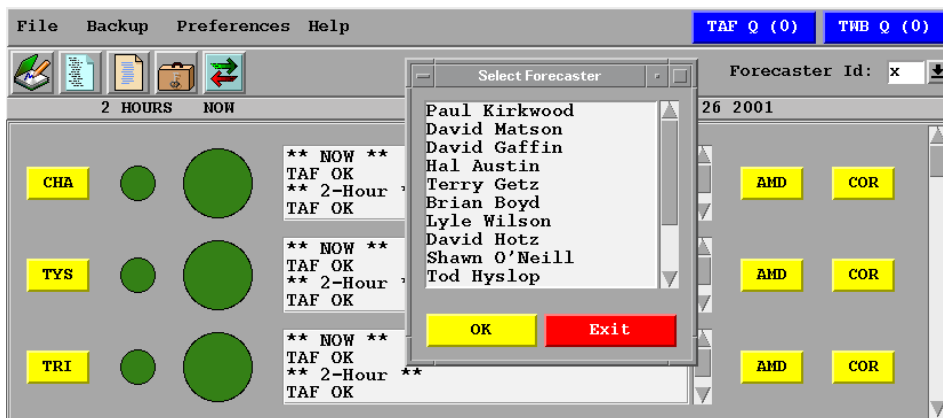current status, and a smaller one for 2 hours from now.

Beside each color circle will be a text box that contains the
list of any differences between the TAFs and MTRs, such as "Check
VSBY" or "Check Ceiling". If the TAF forecast is on track then
"TAF OK" will be displayed.

On the top menu bar, the forecaster has the following options:
"File", "Backup Offices", "Preferences", "Help" and buttons to

toggle TAF and TWB queue off and on. The "File" button allows the forecaster to start TafGen, TwbGen, review current Taf and Twb queues, and "EXIT" option. The "Backup Offices" menu button

contains a list of potential backup offices. The forecaster can select to monitor one or all of the backup offices, and the appropriate TAFs (supplies during setup) will appear on the canvas.

The Preference menu button allows the forecaster to select and saved text and Font foreground and background colors of editors.


```
File    Backup    Preferences  Help                    TAF Q (0)   TWB Q (0)
                                                 Forecaster Id:  x
        2 HOURS    NOW              26 2001

                        Select Forecaster
          Paul Kirkwood
CHA       David Matson                              AMD     COR
          David Gaffin
          Hal Austin
          Terry Getz
          Brian Boyd
TYS       Lyle Wilson                               AMD     COR
          David Hotz
          Shawn O'Neill
          Tod Hyslop

              OK            Exit
TRI                                                 AMD     COR

        ** NOW **
        TAF OK
        ** 2-Hour **
        TAF OK
```
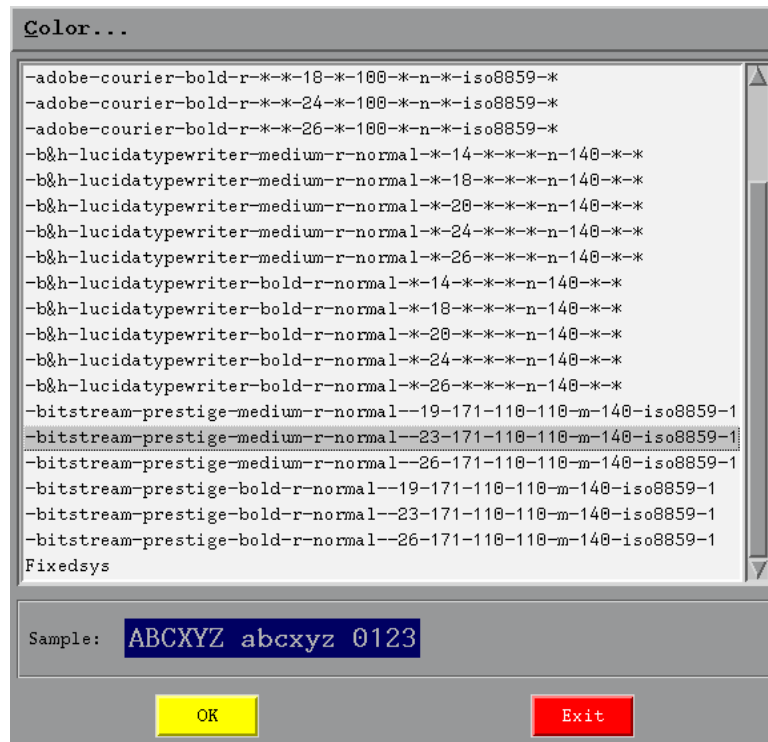
After pressing the "Preferences" button then "User Settings" will appear. Click on this menu selection and the following will appear:

Now, select your forecaster name, then press the "OK" button or you can press the "Exit" button to return to the main workstation. If you press the "OK" button, then the following

will appear.

Within the text Font and color selection menu, the forecaster can determine which Font type and foreground/background color

combination you prefer
while editing.
You can save your
settings
by pressing the "OK"
button or "Exit"
button to return to
main
workstation.

The "Preferenc
es" menu button
allows has a check box
to turn off
and on the
If the Taf Taf alarm.
is red (ON), Alarm box
program will then the
forecaster alarm the
Tafs are due that the
20 minutes around
hour after the
(example:

Color...

```
-adobe-courier-bold-r-*-*-18-*-100-*-n-*-iso8859-*
-adobe-courier-bold-r-*-*-24-*-100-*-n-*-iso8859-*
-adobe-courier-bold-r-*-*-26-*-100-*-n-*-iso8859-*
-b&h-lucidatypewriter-medium-r-normal-*-14-*-*-*-n-140-*-*
-b&h-lucidatypewriter-medium-r-normal-*-18-*-*-*-n-140-*-*
-b&h-lucidatypewriter-medium-r-normal-*-20-*-*-*-n-140-*-*
-b&h-lucidatypewriter-medium-r-normal-*-24-*-*-*-n-140-*-*
-b&h-lucidatypewriter-medium-r-normal-*-26-*-*-*-n-140-*-*
-b&h-lucidatypewriter-bold-r-normal-*-14-*-*-*-n-140-*-*
-b&h-lucidatypewriter-bold-r-normal-*-18-*-*-*-n-140-*-*
-b&h-lucidatypewriter-bold-r-normal-*-20-*-*-*-n-140-*-*
-b&h-lucidatypewriter-bold-r-normal-*-24-*-*-*-n-140-*-*
-b&h-lucidatypewriter-bold-r-normal-*-26-*-*-*-n-140-*-*
-bitstream-prestige-medium-r-normal--19-171-110-110-m-140-iso8859-1
-bitstream-prestige-medium-r-normal--23-171-110-110-m-140-iso8859-1
-bitstream-prestige-medium-r-normal--26-171-110-110-m-140-iso8859-1
-bitstream-prestige-bold-r-normal--19-171-110-110-m-140-iso8859-1
-bitstream-prestige-bold-r-normal--23-171-110-110-m-140-iso8859-1
-bitstream-prestige-bold-r-normal--26-171-110-110-m-140-iso8859-1
Fixedsys
```

Sample: ABCXYZ abcxyz 0123

OK    Exit

520).  Both an audio and
graphic alarm will be sent.

The Help menu button contains the "program documentation" and
"About" buttons.  Also, on the far right are the "TAF Queue" and
"TWB Queue" buttons.  These buttons are used to inform the
forecaster if any TAFs or TWBs are in queue to be transmitted.
The color of the button will change to red and display the number
in queue when TAFs or TWBs are set to be transmitted
automatically.  The forecaster can toggle the Queue off by
clicking on the buttons.  The button colors will then change to
yellow and display "Queue Off".

Just below the top menu buttons are the TafGen, TwbGen and
TwbAmdGen icons, which allow the forecaster to initiate the Taf
and Twb editors, respectively.  We will discuss these buttons in
more detail later.  The next line is the time of the latest TAFs
-vs- MTRs comparison is displayed.

Each TAF will have the name of the station on the left side.  The
forecaster can click on the station to get a display of the
latest TAF along with the latest 5 MTR observations.

The buttons on the far right of each TAF are AMD and COR.  These
buttons will allow the forecaster to issue an amendment or
correction using the latest TAF from that station.  The following
is an example of the AMD editor screen:
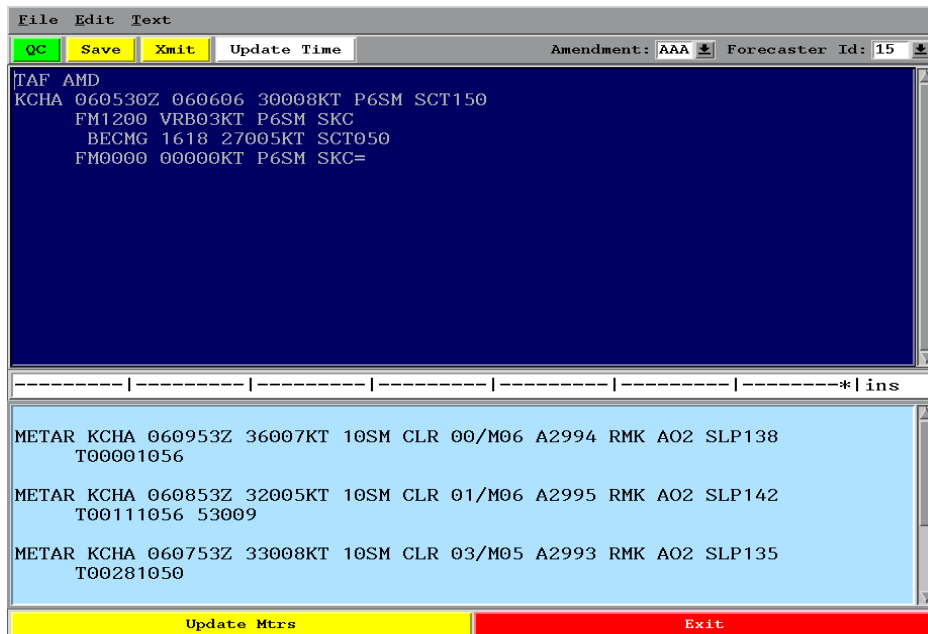
The top screen is the AMD editor and the bottom screen is the
display of the latest 5 MTRs.  The forecaster can copy and paste
data from each screen by clicking the right mouse button.

The QC button on the AMD or COR editor will allow the forecaster
to quality control his/her TAF.  Once the QC button is clicked,
another text box will appear below the AMD or COR editor
displaying a list of any errors or warnings detected within the
TAF.  Also, the number of errors and/or warnings will be
indicated.  If a QC problem exist, then the editor will also
highlight the problem within the editor.

Next to the QC button are the "Save" and "Xmit" buttons.  When
you decide to transmit the TAF, you will be prompted to update
the TAF time, then to make sure you have picked the correct TAF
before sending the forecast through AWIPS.

The TAF amendment and correction editors will also allow you to
easily update the TAF time by clicking on the "Update Time"

button.  The forecaster will be prompted with the display of the new time, and be given choices to Update or Cancel.

The editors will keep track of the number of amendments and corrections that have been made, and this information will be displayed on the middle of the menu bar.

The forecaster will be able to change the amendment count by clicking on the down arrow button, then selecting the desired three letter grouping.  If you need to perform a RTD, you can do so by entering the Correction editor, then press the correction list down arrow key.  An RTD option is available in the Correction editor.  To the right of the amendment list is the Forecaster Identification list.  The forecaster will need to click on his/her forecast number to transmit the TAF.  This will allow a printed copy to obtain the forecaster's name.
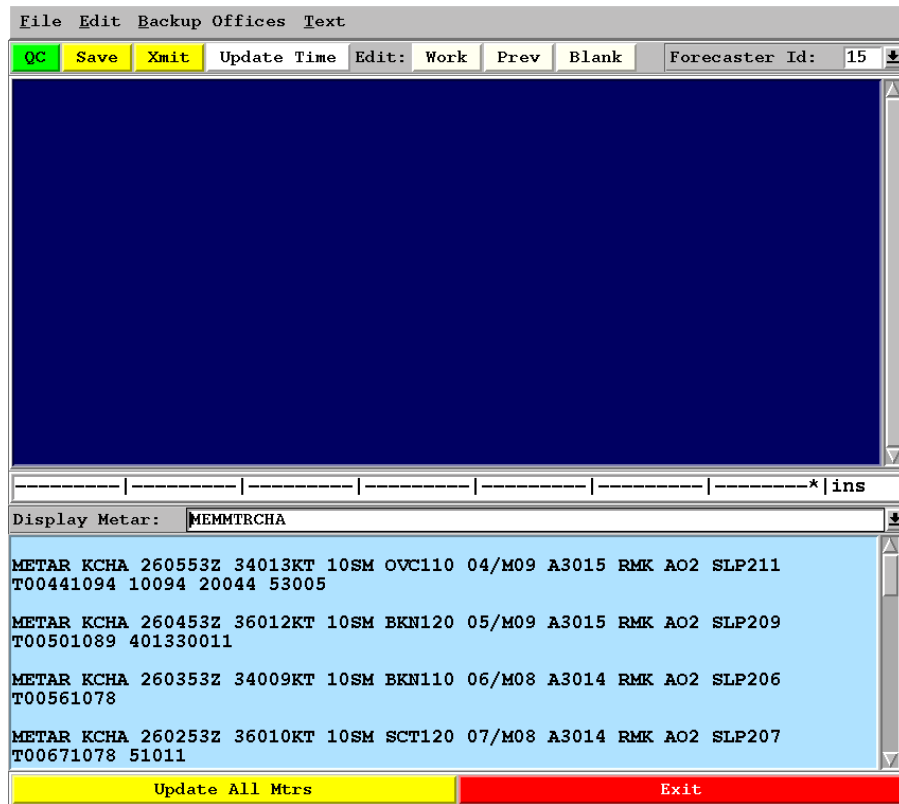

**TAF Generator (TAFGen) Program:**

On the top left of the Aviation Workstation are the TAFGen and TWBGen buttons.  When the forecaster clicks on the TAFGen button, the TAF Generator program will be launched.  This program was created to give the aviation forecaster a user-friendly and easy way of producing, quality controlling, and transmitting TAF(s).

The program will also check for formatting errors and automatically correct any format problems.  The TAFGen program also allows the forecaster the ability to produce and disseminate backup TAF(s) by clicking on the Backup Office button.  The TAFGen program will display the latest 10 Mtrs on the bottom text box.

Several Hot keys have been added to the program.  Please click the edit button on the Taf Generator Program to see these hot keys.

The following is an example of the TAFGen program:



The Work Button grabs the Latest work file that was generated by
the Taf Generator program.  The Prev button requests the latest
TAF's out of the informix database. (Recommend using this button
when in backup mode.)  The Blank button, will create a set of
blank tafs.

This version of the Taf Generator will now let you create and
transmit your backup sites at the same time in the same window.
The program now lets you expand the entire window in the
vertical.  The user can also move the window to the size he/she
wants.

The bottom text box will display the latest 5 Mtrs (For all sites
that you have selected).  You can also click on the "Display
Metar" down arrow button to view only one Metar.  The program was
written to allow you to cut and paste from the built in text
editors in AWIPS.  (Use the right mouse click option.) The labels
on the Display window now allow you click them and update the
MTR's.

The forecaster will be able to click on the QC button to quality control his/her TAF(s).  A separate text window will appear, displaying any errors/and or warnings within your TAF(s).  The QC will also highlight any errors in the editor by the yellow shading.

When you click on the Save button the program will automatically check the TAF(s) format and correct any formatting errors.

The program also gives you the opportunity to Update the xmit time by pressing the Update Time Button or answering yes to the update time question when you Transmit the TAF's.

Once you click on the Xmit (The TAF(s) are automatically saved before transmitting.) button, the program will ask you if you want to send now, send later, or cancel.  See the Example Below:
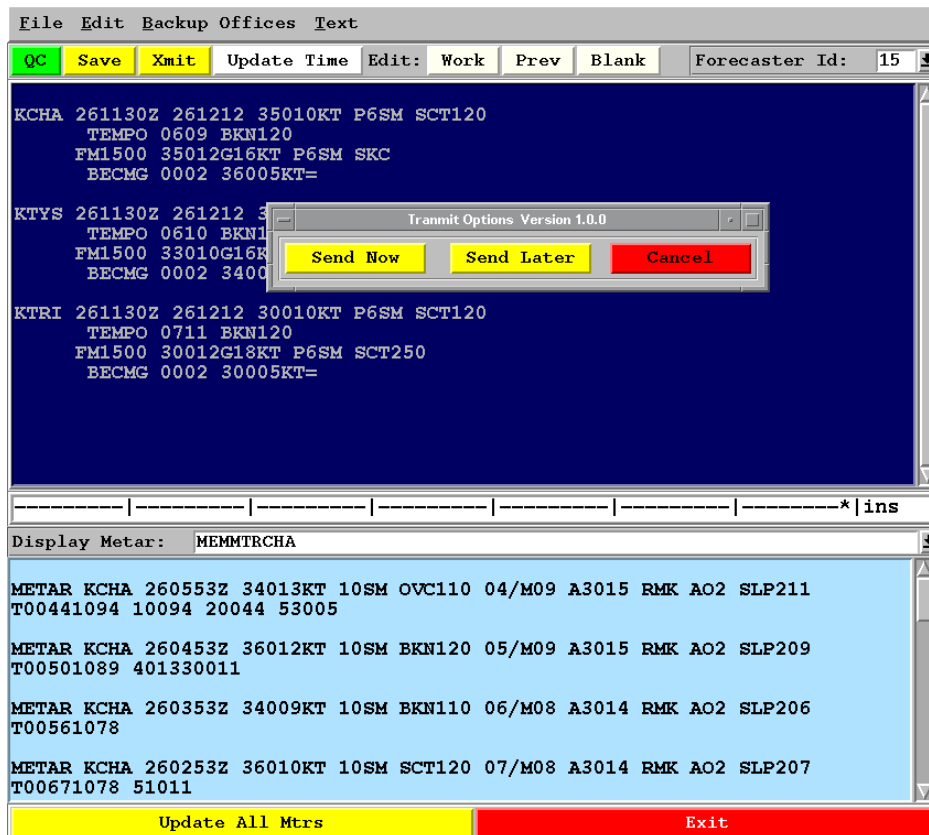


If you select send now, you will be asked if you want to update the time and then you will be prompt making sure you want to transmit the TAF's.

If you select the Send Later option, the TAF Queue display will
show up and allow you to set the time to transmit.  See the
following picture for a sample screen:
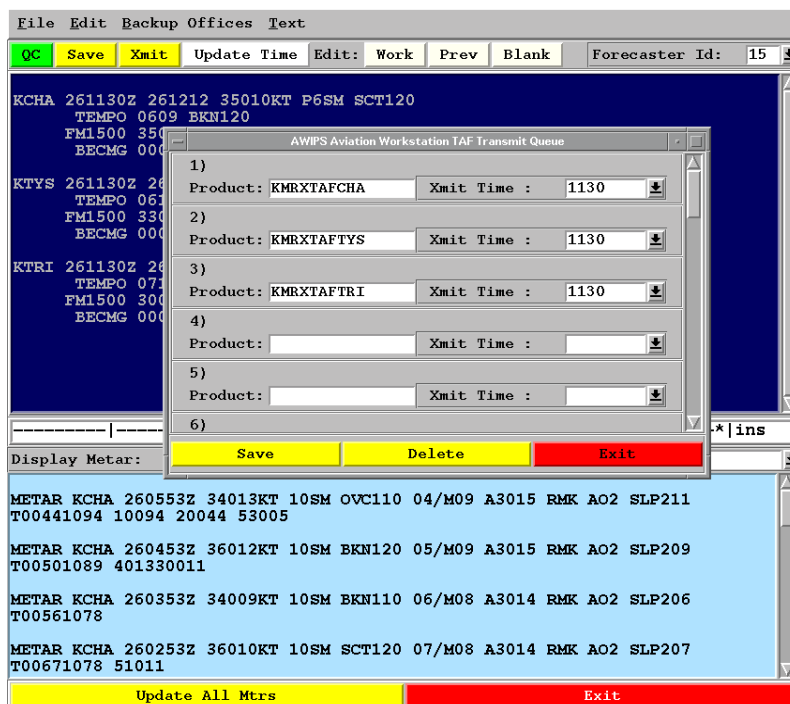


The Cancel button allows you to exit out of the transmit option.
The forecaster has the following options: Save, Delete or Exit.
The "Save" button will save any changes to the queue list.  The
"Delete" button will pop up the Delete Queue window.
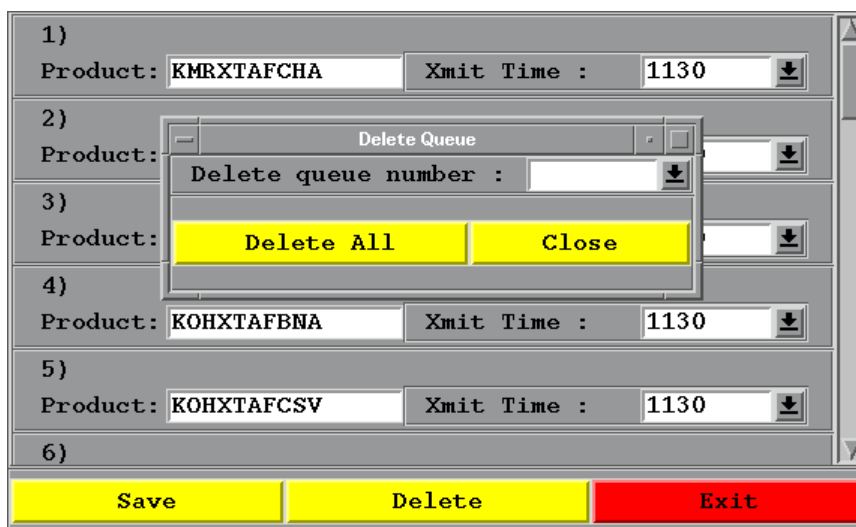
This window will allow the forecaster to either delete all of the queue list by pressing on the "Delete All" button or delete one product by clicking on the "down arrow" button.  The forecaster can delete a specific product by selecting the product number. The "Exit" button will destroy the Delete Queue window.

The TAFs within your work file in the TAFGen program will be automatically copied into the AAW transmit queue.  The forecaster can either save them into the queue file by pressing the "Save" button or click on the "Exit" button to exit the window.  Also, the AAW transmit queue window will also display any pre-existing TAFs in queue.  The forecaster can delete any or all of the TAFs by pressing on the "Delete" button.

You will also have the option to change the Xmit Time by pressing on the down arrow beside the transmit time.  This will give you a list of valid transmit times to choose from.

A new feature in build (2.6) of the program, the time you select to transmit at, will automatically be stored in the TAF(s), so that when they are transmitted the times will match.
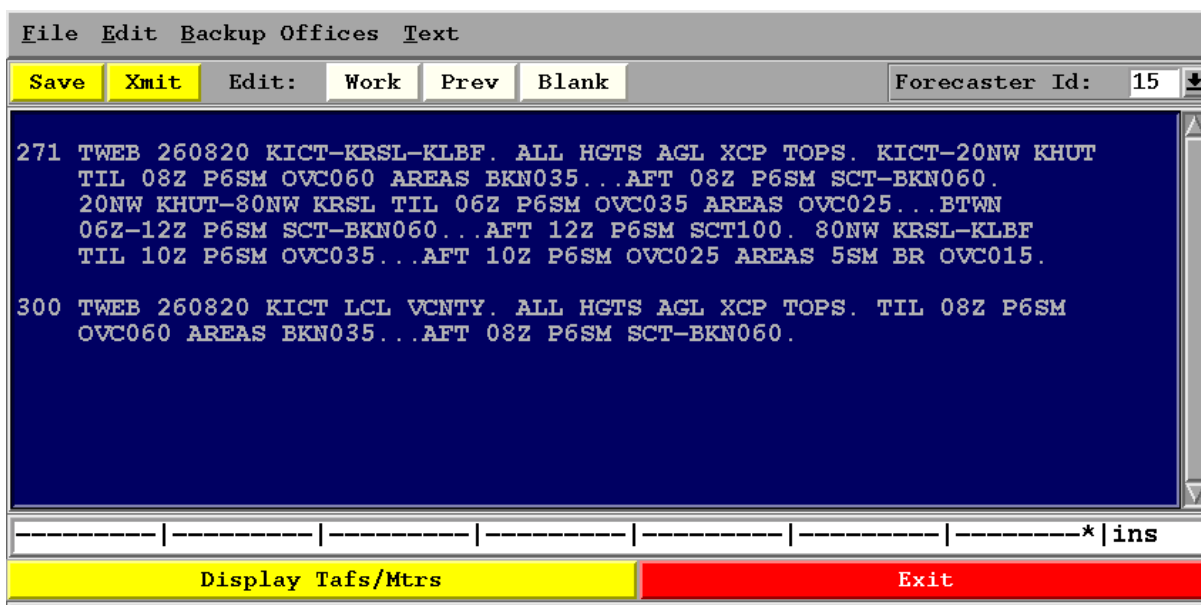
**TWB Generator (TWBGen) Program:**

From the TAF monitor, the forecaster can also click on the TWBGen button, which will launch the TWB generator program.  The TWB generator allows the forecaster to produce new issuances of TWBs, amend or correct TWBs, and transmit the forecast(s).

The program will also format the TWEB to 69 characters per line and indent each new line the proper spaces. This is done automatically when the Save or Xmit buttons are pushed.

Several Hot Keys have been added to the program.  Please click the edit button on Tweb Generator program to see these hot keys.
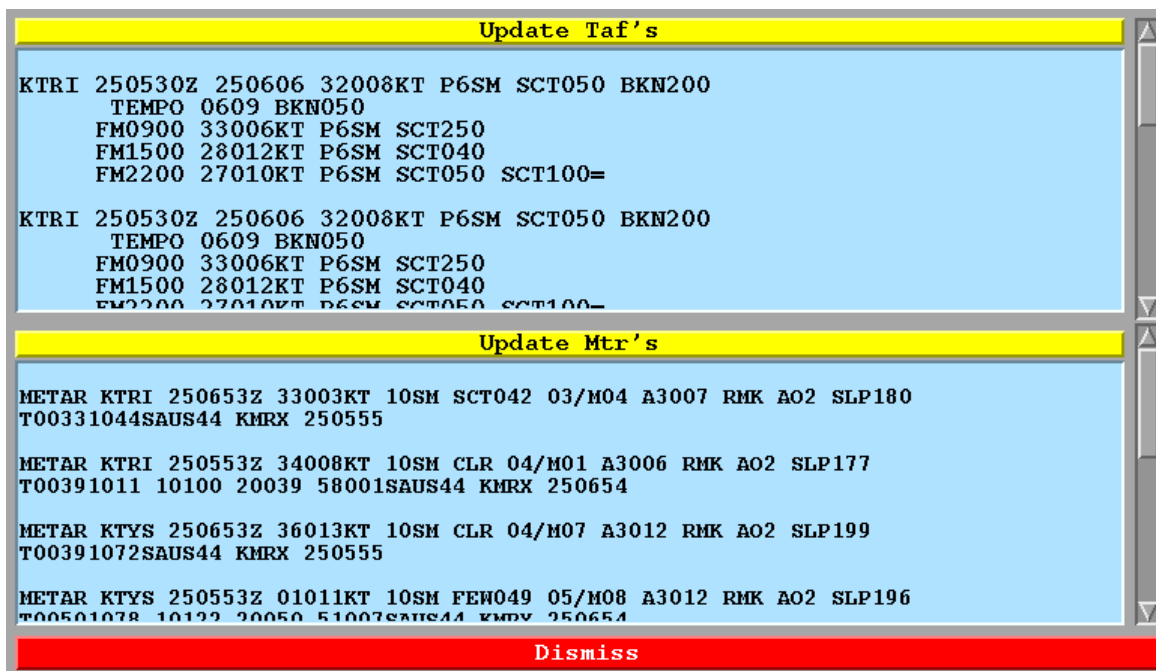
The following is an example of the TWB Generator:
The Work button grabs the lastest work file that was generated by

```
 File  Edit  Backup Offices  Text

  Save  Xmit   Edit:   Work  Prev  Blank           Forecaster Id:  15  ±

 271 TWEB 260820 KICT-KRSL-KLBF. ALL HGTS AGL XCP TOPS. KICT-20NW KHUT
     TIL 08Z P6SM OVC060 AREAS BKN035...AFT 08Z P6SM SCT-BKN060.
     20NW KHUT-80NW KRSL TIL 06Z P6SM OVC035 AREAS OVC025...BTWN
     06Z-12Z P6SM SCT-BKN060...AFT 12Z P6SM SCT100. 80NW KRSL-KLBF
     TIL 10Z P6SM OVC035...AFT 10Z P6SM OVC025 AREAS 5SM BR OVC015.

 300 TWEB 260820 KICT LCL VCNTY. ALL HGTS AGL XCP TOPS. TIL 08Z P6SM
     OVC060 AREAS BKN035...AFT 08Z P6SM SCT-BKN060.




 ----------|----------|----------|----------|----------|----------|--------*|ins

         Display Tafs/Mtrs                            Exit
```

the Tweb Generator program. The Prev button requests the latest TWEB's out of the informix database. (Recommend using this button when in backup mode.) The Blank button, will create a set of blank TWEBS.

This version of the Tweb Generator will now let you create and transmit your backup sites at the same time in the same window. The program now lets you expand the entire window in the vertical. The user can also move the window to the size he/she wants.

The Display button can be slow if run on the text workstation. It
will call up your latest TAF's and your latest 2 Metars (For all
sites that you have selected). The program was written to allow
you to cut and paste from the built in text editors in AWIPS.
(Use the right mouse click option.) The labels on the Display
window now allow you click them and update the TAF's and MTR's.

```
Update Taf's

KTRI 250530Z 250606 32008KT P6SM SCT050 BKN200
     TEMPO 0609 BKN050
     FM0900 33006KT P6SM SCT250
     FM1500 28012KT P6SM SCT040
     FM2200 27010KT P6SM SCT050 SCT100=

KTRI 250530Z 250606 32008KT P6SM SCT050 BKN200
     TEMPO 0609 BKN050
     FM0900 33006KT P6SM SCT250
     FM1500 28012KT P6SM SCT040
     FM2200 27010KT P6SM SCT050 SCT100=

Update Mtr's

METAR KTRI 250653Z 33003KT 10SM SCT042 03/M04 A3007 RMK AO2 SLP180
T00331044SAUS44 KMRX 250555

METAR KTRI 250553Z 34008KT 10SM CLR 04/M01 A3006 RMK AO2 SLP177
T00391011 10100 20039 58001SAUS44 KMRX 250654

METAR KTYS 250653Z 36013KT 10SM CLR 04/M07 A3012 RMK AO2 SLP199
T00391072SAUS44 KMRX 250555

METAR KTYS 250553Z 01011KT 10SM FEW049 05/M08 A3012 RMK AO2 SLP196
T00501078 10122 20050 51007SAUS44 KMRX 250654

Dismiss
```

Once you click on the Xmit (The TWEB(s) are automatically saved
before xmitting) button, the program will ask you if you want to
send now, send later, or cancel (similar to TafGen). If you
select send now, you will be asked if you are sure you want to
transmit the following TWEB(s).

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If you select the send later option, the TWB Queue display will
show up and allow you to set the time to transmit.

1)		
Product: KICTTWB271	Xmit Time :	1330
2)		
Product: KICTTWB300	Xmit Time :	1330
3)		
Product: KCLETWB061	Xmit Time :	1330
4)		
Product: KCLETWB063	Xmit Time :	1330
5)		
Product: KCLETWB064	Xmit Time :	1330
6)		

| Save | Delete | Exit |

The Cancel button allows you to exit out the transmit option.
The forecaster has the following options: Save, Delete or Exit.
The Save button will save any changes to the queue list. The
Delete button will pop up the delete queue window, where you can
select a specific item to delete or delete all items in the
queue.

**BEFORE EXITING OUT OF THE TWEB QUEUE WINDOW, REMEMBER TO SAVE ANY
CHANGES THAT WAS MADE TO THE QUEUE LIST OR THE CHANGES WILL NOT
TAKE EFFECT.**

The TWEB(s) within your work file in the TWBGen program will be
automatically copied into the AAW transmit queue. The AAW
transmit queue will also display any pre-existing TWEB(s) in the
queue.

You can change the transmit time by pressing on the down arrow
beside the transmit time. This will give a list of valid
transmit times to choose from.

TWBAMD Generator (TWBAmdGen) Program:

This program will allow the forecaster to Amend/Correct or
Amend and Correct a Twb. The TwbAmd Generator is quite similar
to the Twb Generator program, except that you will select the
type (Amend/Correct/Amend & Correct) and select a Twb or
Synopsis. The following is an example of the TwbAmd Generator
and the selection window:
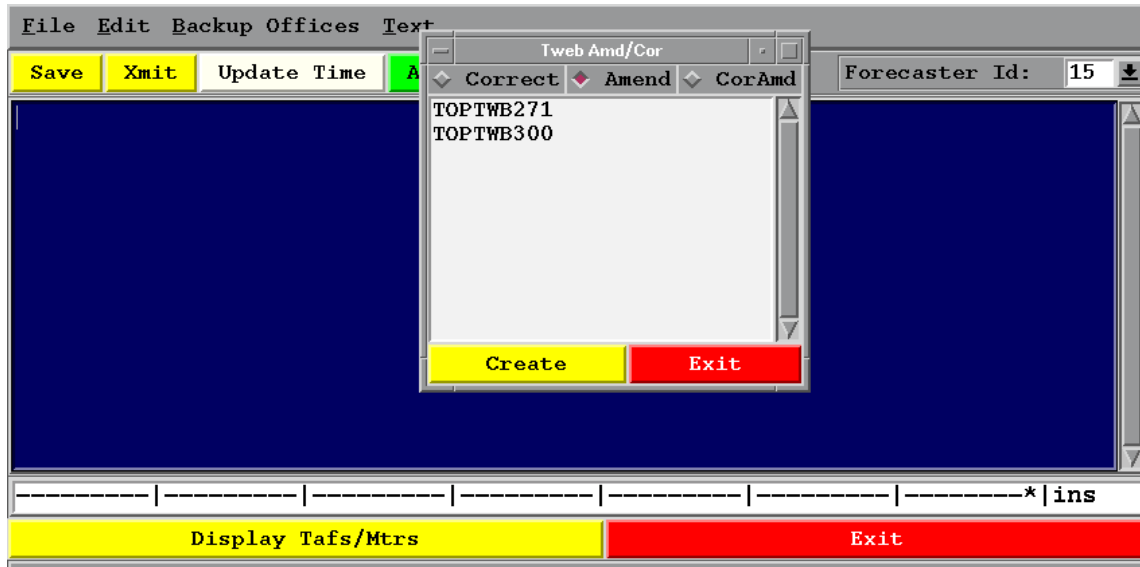
After selecting the Twb and type, then press the "Create" button
to place the Twb in the TwbAmd editor. You can select your
backup offices Twbs by clicking on the offices desired from
the "Backup Offices" menu button. You can re-select another
Twb by clicking on the "Amd/Cor" button.

The forecaster can then press the "Save", "Xmit" and "Update
Time" buttons. The operations of the TwbAmd Generator is quite
similar to the Twb Generator.

You can re-select another Twb/Syn to amend and/or correct by
clicking on the "Amd/Cor" button.

Table 1.... COLOR LEGEND

GREEN CIRCLE indicates TAFs are Okay.

PALE GREEN CIRCLE triggered by...

1) Wind directions that deviate by 30 deg or more when wind
   speeds are from 7 to 11 knots.
2) Wind Speeds and/or gusts that deviate by 7 to 9 knots.
3) VFR ceilings in the observations with no ceilings in the TAF.
4) VFR ceilings found in the TAF with no ceilings in the
   observations.
5) VFR ceiling differences of 5000 feet or more.
6) Rain and/or snow is in the observation and not in the TAF and
   visibility in the observation greater than 7 miles.

YELLOW CIRCLE triggered by...

1) Drizzle in Observation but not in the TAF.
2) Visibilities and/or ceilings that differ by one category.
3) Rain and/or snow is in the observation and not in the TAF
   AND visibility in the observation is greater than 5 miles
   AND 7 miles or less.

ORANGE CIRCLE triggered by...

1) Wind directions that deviate by 30 deg or more when wind
   speeds are 12 knots or more.
2) Wind speeds and/or gusts that deviate by 10 knots or more.
3) Visibilities and/or ceilings that differ by two categories.
4) Rain and/or snow is in the observation and not in the TAF
   AND visibility in the observation is 5 miles or less.
5) Ice is in the observation and not in the TAF, regardless of
   visibility.

RED CIRCLE triggered by...

1) Visibilities and/or ceilings that differ by three categories.
2) Thunder is occurring in the observation and is not in the TAF.
3) Freezing precipitation is occurring in the observation and is
   not in the TAF.

PURPLE CIRCLE triggered by...

1) Visibilities and/or ceilings that differ by four or more
   categories.
2) Tornado or funnel cloud is detected in the observation.