EUROCAE WG-78 Plenary # 41 / RTCA SC-214 Plenary # 51 "Standards for Air Traffic Data Communication Services" - Minutes	

Date	*Jun 10-14, 2024*
Place	*Maastricht, Netherlands*
Hosted by	*EUROCONTROL*

Meeting Summary:

The joint plenary of RTCA Special Committee 214 (SC-214) (#51) and EUROCAE Working Group 78 (WG-78) (#41) was scheduled June 10th – June 14th, 2024, with the entire week being a plenary. The meeting subsequently ended a day early, on June 13th, due to completion of agenda work. The meeting was conducted in person at EUROCONTROL in Maastricht, Netherlands with a virtual attendance option via WebEx. Attendees who participated virtually are denoted with an " * ".

Name	Company
Claire Robinson (Co-chair)	Universal Avionics
Luc Emberger (Co-chair)	Airbus
Rochelle Perera (Secretary)	Boeing
Alex Engel	EUROCAE
Brandi Teel	RTCA
Frederic Beltrando	Airbus
Wendy Gutierrez	Collins
Vincent McMenamy	FAA
Moin Abulhosn	FAA
Nicolas Rossi	Thales Avionics
Christophe Visee	EUROCONTROL
Viktor Jagasits	EUROCONTROL
Thierry Salee	EUROCONTROL
Cyril Ollier	EUROCONTROL
Rowan Stewart*	AIRTEL

Name	Company
Peter Muraca *	FAA
Arndt Suendermann*	DFS
Thomas Mustach*	FAA
Clement Selles*	Airbus
Clint Melton*	Textron Aviation
Dung Nguyen*	Boeing
Edward San*	FAA
Florin Grafu*	ROMATSA
Gonzalo Prieto*	ESSP
Heman Sheth*	Universal Avionics
Isabelle Herail*	EUROCONTROL
Natacha Nombrail*	Airbus
Sandra Gnichwitz*	DFS
Thomas Hess*	DFS
Wes Googe*	American Airlines

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1. Welcome, Introductions and Administrative Remarks

The joint 51st Plenary of SC-214 / 41st Plenary of WG-78 was convened June 10th, 2024 at 9:15am CEST by Chairs Claire Robinson (Universal Avionics) and Luc Emberger (Airbus). Welcoming remarks were made, followed by each attendee introducing themselves. RTCA anti-trust statement, proprietary policy and membership policy were read by Brandi Teel (RTCA). Alex Engel (EUROCAE) presented the EUROCAE IPR policy, participation policy, and the GDPR privacy policy.

Vince McMenamy (FAA) brought up that he works with several Caribbean states which are exploring implementing CPDLC and their input would be beneficial to this group. However, it was unclear if they could participate as they were not EUROCAE or RTCA members. Brandi Teel (RTCA) said, in the past RTCA has allowed participants to join for a short period of time, if it is specific to one topic. But would take this request to RTCA leadership to get input. Alex Engel (EUROCAE) said they have limited membership options rather than full organization membership. These limited membership options can either be for access to just one working group, or a candidate membership for a 3 month trial membership. These limited membership options would be taken back to the interested states for further discussion.

2. Agenda, Meeting Minutes and Action Item Review

Claire Robinson (Universal) made some minor adjustments to the agenda to account for participant availability as well as an additional topic. Rochelle Perera (Boeing) reviewed the meeting minutes from SC-214 Plenary #50/WG-78 Plenary #40. Minutes were approved with a change to add additional wording for the discussion on lat/lon definition for D-taxi not matching other lat/lon definitions.

3. DO-280B/ED-110B Change 2 FRAC/OC Comment Review

DO-280B/ED-110B Change 2 FRAC/OC Comments were reviewed by the group. There were no non-concur comments. Comments were reviewed starting with the HIGH remarks, followed by MEDIUM and LOW.

There was one HIGH comment which was regarding an incorrect figure title. This was determined to be due to converting from Microsoft Word to PDF and will be corrected during final release. There were two MEDIUM comments, both regarding the inclusion of new "shall"

statements in the change document, which is not allowed. The group agreed to change "shall" to "are" and "is" as applicable, for both comments. There were 11 LOW comments.

LOW comment 71134 was discussed with the group. This comment was regarding the scenario when a transfer instruction is sent to the aircraft before the controlling ATSU has terminated its connection. This could result in a situation where a response is downlinked to the controlling ATSU but the aircraft has already initiated voice contact with the next ATSU which could potentially cause confusion. The group discussed this scenario and Viktor Jagasits (EUROCONTROL) stated that once transfer instructions have been given, they are operationally finished controlling and communicating with the aircraft so there is no concern on his end with this scenario. Wes Googe (American Airlines) agreed and stated that in the event of any confusion, flight crews would revert to voice anyway. The group decided to reject this comment and leave it up to the ATSUs to add guidance for their operations, if deemed necessary.

The remaining LOW comments were deemed to be editorial or formatting in nature. The group agreed to assign these to Claire Robinson (Universal) to be worked offline. The group then approved the documents for submission to PMC/Council for publication.

4. **DO-351B/ED-229B Change 1 FRAC/OC Comment Review**

DO-351B/ED-229B Change 1 FRAC/OC Comments were reviewed by the group. There were no non-concur comments. Comments were reviewed starting with the HIGH remarks, followed by MEDIUM and LOW.

There were nine HIGH comments with 1 being a duplicate comment addressed elsewhere.
Comment 71378 was regarding the location of the "contract number already in use" element. In its current location, it becomes a mandatory element whereas it is meant to be one supplemental optional choice in the rejectDetails choice list. The group agreed with the proposal to change the location to make it one supplemental optional choice in the rejectDetails choice list.

Comments 71380, 71411and 71417 had to do with item 6 of the change document. The group agreed to remove item 6 all together from both the RTCA and EUROCAE documents. During this discussion, Brandi Teel (RTCA) commented that the RTCA lawyers were evaluating the use of supplemental materials as a whole and if there is any export control concerns. Final decision is still in work but could potentially result in RTCA not being able to provide supplemental information in the RTCA store. Alex Engel (EUROCAE) added that if RTCA decided not to provide supplemental information in their store, EUROCAE will need to discuss its position on the matter as well (Please see section 14 of these meeting minutes, Post Meeting Notes, for further information on this issue).

Comment 71419 was in regards to information contained in the plain text file which was not part of Change 1. Claire Robinson (Universal) noted that the text file contents are technically outside of the FRAC/OC process. However, the group agreed that the ASN.1 comments do not need to be added to the released Change 1 document and therefore will not be included in the plain text file as it cannot contain information which is not part of Change 1.

Comments 71420 & 71420 were similar in nature regarding the inclusion of a change log only in the ASN.1 file for both CPDLC and ADS text files. The group agreed to remove the change log from the ASN.1 file as it will not be contained in the official Change 1 release. The group also agreed to use the file name of the two plain text files to indicate that they are linked to the respective change (such as "supplement to ED-229B Change 1").

Comment 71422 was with regards to lack of clean ASN.1 in the main Change 1 document which would make compiling it difficult. The group rejected this comment as it was determined the edits such as highlights and strikethroughs are necessary for the Change document to show where changes have occurred. The clean version of ASN.1 which can be used for compiling is available in the plain text file.

There were 12 MEDIUM comments submitted for this change.

Comment 71111 was in regards to uM159R ERROR [ErrorInformationR] which is also defined as ERROR [error informationR] in some places. The group agreed to have it formatted as [error informationR] in areas affected by Change 1. The group noted that there were quite a few instances of mismatching syntax within the P/OICS table. Frederic Beltrando (Airbus) noted that even if we change the instances affected by Change 1, there will still be other sections which will have the differing syntax which are outside of the Change 1 scope. The group agreed to work towards ensuring consistent syntax throughout the sections affected by Change 1 but that the overall P/OICS table should be thoroughly reviewed for such issues if a Revision C is opened.

Comment 71112 was in regards to instances of "LevelS LevelS" being written as "LevelSLevelS" in some instances. The group greed to write it as "LevelSLeveLS" in rows M-4.407-409 but left M-4.411 as is.

Comment 71367 was in regards to instances of errors in automatic reference updating. The group agreed this would be fixed in the final released document.

Comments 71369 & 71375 also addressed formatting and numbering which the group agreed will be fixed during final release.

Comment 71372 was with regards to Item 6 of the change document which the group had already decided to remove all together from both documents.

Comment 71385 was submitted by Airbus and concerned the use of "TRUE" (in CPDLC ASN.1) which could be used by the compilers as a Boolean value rather than representing degrees. The group agreed with the proposal to change instances of "TRUE" to "degTrue", especially as the P/OICS table already refers to it as degrees true. This was agreed to both for CPDLC and ADS-C (which was discussed in *Comment 71389*).

Comment 71387 was similar in nature except it referred to CPDLC speed. The group agreed to change these instances of "TRUE" to "speedTrue".

*Comment 71389 was a s*imilar comment to *Comment 71385*, but about the use of "TRUE" in ADS-C ASN.1. It was discussed and the group agreed with the proposal to change instances of "TRUE" to "degTrue"both for ADS-C and CPDLC (which was discussed in *Comment 71385*)".

Comment 71418 discussed the use of "em-dash" to denote changes. However as "em-dash" is not visible in PDF format, the group decided to remove it from the summary of changes all together as it may cause confusion.

Comments 71423 & 71424 were with regards to item 2 on page 7 of the change document which erroneously listed "(1..5) message elements for B2 Rev B B1". The group agreed to

delete the "B2 Rev B" portion and instead have it say "(1..5) message elements for B1" as only B1 has a limit of five message elements.

There were 33 LOW comments with one duplicate. Of these, 22 were related to fixing syntax/numbering/reference information or with regards to making a change in the P/OICS table. The group agreed to make applicable P/OICS changes however they would be limited just to the sections affected by this change. The group agreed to allow Claire Robinson (Universal) to make these 22 low comments as well as all the submitted editorial comments offline.

Comment 71376 was regarding a note which is at the start of the Chapter 5 text only existing in the EUROCAE document and not the RTCA document. The group agreed that a similar note would be added to the RTCA document. If RTCA decides not to include supplemental material, the inclusion of the note will be determined by RTCA/EUROCAE.

Comment 71383 was with regards to rewording the "contract-number-already-in-use" parameter context. The group agreed with the proposal to change the wording to say "Contract rejection when the contract request number is the same as a contract number already in place with this ATSU".

Comment 71384 was about the reason code in ADSC-IR 39B not being specified using its complete ASN.1 syntax. The group agreed to this change to replace "contract number already in use" with "contract-number-already-in-use" and add it to the summary of changes.

Comment 71386 suggested changing "magnetic" in the CPDLC ASN.1 to be "degMagnetic" as a corresponding change was done for "degTrue". The group agreed with this suggestion. *Comment 71390* was the same as the previous comment except for ADS-C ASN.1 and the group agreed with the suggestion to change to "degMagnetic".

Similarly, *comment 71388* suggested adding "speed" to the start of speed choices in CPDLC ASN.1 to be inline with the previously accepted change to use "speedTrue". The group agreed with making this change in the ASN.1 however the P/OICS table would not be updated. The P/OICS wording was deemed to be clear enough and therefore an update was not necessary.

Comments 71409 and 71410 proposed making changes to Interval Management (IM) related CPDLC messages. As there were no IM tiger team members in attendance to discuss the impact of such changes, the group elected to Reject these comments. However, the group also recommended reviewing this comment at a future change or revision which addresses IM functionality.

Comment 71413 suggested clarification of a header to be specific to (AIR columns). The group agreed with this suggestion.

Comment 71415 suggested rewording of a note for grammar purposes which the group agreed with.

The group then agreed to these comment resolutions and approved the documents for submission to PMC/Council for publication.

5. DO-353B/ED-231B Change 1 Proposal

Although the RTCA TORs update was not yet approved, it was the case for the EUROCAE TORs, and the group agreed to go through the change proposal for DO-353B/E-231B. The objective is to target a FRAC/OC starting in August, after the PMC approval in July.

Rowan Stewart (Airtel) joined the meeting virtually to present proposed ED-231B/DO-353B Change 1 items:

Item 1: Difference in definition of the parameter DistanceSpecifiedRBDirectionSideB. ED-231B/DO-353B defines this parameter as DistanceSpecifiedRDirectionSideB whereas ED-229B/DO-351B defines it as DistanceSpecifiedR**B**DirectionSideB. The ED-229B/DO-351B version is correct and not fixing this would be a blocking issue.

Item 2: Similarly, ED-231B/DO-353B has incorrectly defined IMTrafficAircraftRouting parameter as SEQUENCE rather than CHOICE. ED-229B/DO-351B has the correct definition and therefore ED-231B/DO-353B should be changed to match. This is also a blocking issue. It was also noted by Airbus that there is a related minor issue in ED-228B/DO-350B where the definition is incorrect and only covers IM4DTrajectory choice, but not PositionATW, on-the-same-route, etc. It was recommended to consider this minor issue for the next revision or change to ED-228B/DO-350B.

Item 3: Inconsistent element name for the VerticalChange parameter in ED-229B/DO-351B. This was already addressed in Change 1 so no further action is needed for this item.

Item 4: Inconsistent element names, this time for IMGoalTypeIdentPlanCancelPointO. It was recommended to update ED-231B/DO-353B to correct this even though it was not considered a blocking point.

Several minor issues were noted regarding ASN.1 comment differences. Frederic Beltrando (Airbus) provided a complementary presentation providing more details on these. While they are not blocking items, they should be addressed for consistency if possible.

Minor Issue 1: Update ED-231B/DO-353B ASN.1 wording. Replace "Constraint For" with "Restriction At" for UM265, UM340 and UM341. Replace "Constraint" with "Restriction" for UM293. These changes are to bring the wording in line with what was agreed to be used in ED-228B/DO-350B, ED-229B/DO-351B and GOLD Manual Ed. 2.

Minor Issue 2: Change alert attributes from "M" to "N" for UM160, UM271, UM233R and DM146.

Minor Issue 3: Update wording for UM321 and UM380 to be consistent with ED-229B/DO-351B, ED-228B/DO-350B and GOLD Manual Ed. 2.

Minor Issue 4: Add "O" to indicate Optional for the parameter used in UM401 and UM403..

Minor Issue 5: Editorial removal of one slash in attribute indications for UM100R and for UM101R.

Minor Issue 6: Change Unit, Range and Resolution text for Temperature variable.

Minor Issue 7: Change "degree" to "Degree" for DegreesMagnetic and DegreesTrue variables.

Minor Issue 8: Replace "Rev B" with "Rev A" in the text/comments associated with DirectionNumberOfDegrees and Direction variables. Dung Nguyen (Boeing) commented that if we say "B2 Rev A backward compatibility" that it needs to be defined. Luc Emberger (Airbus) agreed with this as it could be read to mean backward compatibility of Rev A to Rev New. They suggested "B2 Rev B Backward Compatibility with Rev A". Rowan Stewart (Airtel) pointed out a note exists in DO-229B/DO-351B which defines what Rev A backwards compatibility is:

> *"Interoperability requirements needed to support B2 Rev A backward compatibility between Baseline 2 Revision B ground systems and Baseline 2 Revision A only aircraft are defined in this document. Backward compatibility between Baseline 2 Revision B aircraft and Baseline 2 Revision A only ground systems is not supported."*

The group discussed this further and agreed to proceed with the suggested inclusion of "Rev A Backward Compatibility" wording.

Minor Issue 9: Add the word "compatibility" to the text/comment for PositionATWDistanceSpecifiedRDirectionSide variable and capitalize "rev" to "Rev".

6. TOA Range Discussion

Frederic Beltrando (Airbus) presented on an issue concerning Time of Arrival (TOA) range. In the definition of TOA, it is not clear on how to fill the data group for the optional waypoint name parameter. It would be beneficial to have a harmonized approach to aircraft system implementation. The OEMs in attendance have agreed to implement this by not providing the waypoint name in the TOA range data group as there is already a mandatory waypoint lat/lon value provided. Luc Emberger (Airbus) pointed out that while this approach has been agreed to by the OEMs who have participated in the discussion, there is no guarantee that someone outside of these discussions won't implement differently.

Dung Nguyen (Boeing) stated that the TOA downlink is a special case because it will never be initiated on its own, only in response to an uplink. In that uplink the lat/lon is specified. The issue here is that if the name is also included in the downlink, and if it is used by the ground, the ground needs to ensure that the waypoint name matches the (mandatory) lat/lon sent. So there is additional room for error introduced by including both.

Viktor Jagasits (EUROCONTROL) stated that this implementation of not including the waypoint name would be acceptable for the ground but there should be a note for ground implementers to ensure they know to make the connection between the lat/lon and a waypoint name if it's not included. This should be done using the lat/lon and waypoint name data from the EPP reports. Therefore the group agreed with the OEM agreed upon implementation and additionally assigned an action item to Viktor Jagasits (EUROCONTROL) to add such guidance into the "Guidelines for Initial Trajectory Information Sharing" document for ground implementers.

The group also noted that this should be looked at for a future revision to the standard in order to potentially add a formal requirement.

7. TTR Proposal to ICAO

Viktor Jagasits (EUROCONTROL) presented a paper which is being shared at the meeting in June 2024, regarding TTR issues seen with current B2 aircraft in European airspace. The paper identifies multiple cases where pilots were sending responses to old CPDLC messages.

The group discussed how one value would not be suitable as there are different use cases in domestic and oceanic airspaces as well as between simple and complex clearances. Claire Robinson (Universal) pointed out that TTR was not included in the B2 Rev B standards as the

safety assessment allowed not needing it. Frederic Beltrando (Airbus) pointed out that if you say there is a safety impact, there needs to be a safety requirement/assessment to point to. Rochelle Perera (Boeing) noted that there will still be cases where pilots will act on old clearances regardless of having TTR. Viktor Jagasits (EUROCONTROL) stated that it is understood this will not catch all cases but will improve current performance.

Christophe Visee (EUROCONTROL) presented statistics on cases where pilots delayed a long time in responding to an uplink. However, there is no data on when the crew actually executed the clearance, rather just when the response was sent. The data showed that 11minutes was the median time for all delayed messages included in this analysis which is outside of what is allowed by RCP240.

Alex Engel (EUROCAE) noted that there are other ways to address the clearance so there could have been voice communication happening between the pilots and controller and they responded to the uplink at a later time. Rochelle Perera (Boeing) asked if there were safety concerns identified. Luc Emberger (Airbus) agreed and said it would be good to know how many of these late responses created a safety impact. Christophe Visee (EUROCONTROL) stated he will add additional information to Aeropus to indicate how the data was measured. However, this current data does not indicate if there was a safety concern or not.

 Viktor Jagasits (EUROCONTROL) was tasked with reporting out on the outcome of the the ICAO CP-OPDLWG presentation and any further steps this group needs to take.

8.   Waypoint Name Discussion

Clement Selles (Airbus) presented virtually on an issue Airbus would like guidance on regarding downlinking Along Track Waypoints (ATWs) built off of other ATWs of Place-Bearing/Place-Bearing waypoints. Airbus would prefer to not include these in the downlink and wanted input as to any issues with that. Boeing and Collins commented they both downlink such ATWs. Dung Nguyen (Boeing) stated that ATWs should be included as they are technically part of the route, however Clement Selles (Airbus) commented that they do not affect the lateral projection of the aircraft so it should not have an impact on the ground.

Viktor Jagasits (EUROCONTROL) said that it will vary by local ground implementation, but if the data can be graphically shown to the controller, then including it is fine, but if it cannot be graphically shown to the controller, then that data is just ignored and therefore, there is no value. Airbus took an action to discuss further with Oceanic ATSUs as oceanic airspaces are where ATWs are mostly used.

9.   Test Standard Outline

Vince McMenamy (FAA) presented the verification template updates. The group discussed how to organize the document; whether to list it by service with a test case for FANS/B1/B2 for each service, or to have the document split up by a different section for FANS/B1/B2. An empty template will be included as an appendix; however, all official test cases will be inside the main document. Alex Engel (EUROCAE) commented that we may need to have a supplement for this document as well so people can copy and paste information from the tests.

Thomas Mustach (FAA) pointed out that the aim of this test document is to ensure that local implementations are aligned however it will not create any derived requirements. The group further discussed the proper verbiage for this test, whether to use "end system", "application" or "function". The group agreed to move forward with "end system" instead of applications. The group also discussed whether to organize by ATS service or ATM operation. It was agreed to organize by ATS service.

10. Test Scenario Review

Claire Robinson (Universal) presented a test scenario for DO-350B/ED-228B Table 5-9, Specific Uplink CPDLC Message Permitted Responses. Clement Selles (Airbus) noted that for

certain messages such as UM128R, there is no threshold value stated to trigger the specified event. Therefore, we need to keep it generic and covered in a note to state that implementation values may differ. The group agreed and then continued reviewing and editing the scenario.

Rochelle Perera (Boeing) presented a test scenario for position reports. The group agreed to include a note to specify which of the data in position reports is optional versus mandatory. There was also discussion on whether test cases should also include versions with and without freetext. While freetext is not part of specific services such as position reports, it can technically be concatenated with many messages. The group agreed to reach out to the pilot community to understand their desire for adding freetext to messages such as position reports as well as reaching out to ground implementers to understand how an ATSU would handle that. The result of these discussions will dictate how many tests cases are required for this service.

The group also discussed how to handle optional parameters and the group agreed that optional parameter testing is part of requirements based testing that is done as part of normal avionics and ground system development. Therefore, no specific test cases are needed for optional parameters. The group discussed the inclusion of ADS-C test cases and decided not to include them. This is because ADS-C implementation doesn't generally have local implementation differences and therefore would be adequately covered by normal development testing. However, an action was taken to discuss with oceanic ANSPs to ensure there is nothing that they may deem valuable to include.

The group discussed how to title the document and its intent. Thomas Mustach (FAA) stated that there are no plans from the FAA certification office to use this verification test as part of any certification requirement. Claire Robinson (Universal) stated that having "verification" in the title is problematic as it can insinuate verification and validation which this test document is not meant to be. Dung Nguyen (Boeing) seconded this concern. Viktor Jagasits (EUROCONTROL) stated that this document is meant to be a supplement to other existing documents such as the SPR and interoperability documents, to help understand the intent of thosedocuments. Pete Muraca (FAA) added that the FAA DataComm program intends to use this document to help ensure that when something is implemented by their ground side operations, that they can count on the airside all working as desired without having to test every single flight deck implementation. Additionally, they would test their ground side implementation against this test. Therefore this document could support the acceptance for an Airline to participate to the DataComm program. Thomas Mustach (FAA) also stated that this is an optional test where some aircraft will pass and some won't, but they can all be certified. Claire Robinson (Universal) and Luc Emberger (Airbus) took the action to raise also the question of intended use of the document to EASA. The group finished this discussion by assigning an action to Clint Melton (Textron) to investigate how to notify stakeholders that this document exists.

11. Any Other Business

Claire Robinson (Universal) opened the floor for any new business. Frederic Beltrando (Airbus) brought up an issue being discussed with Bjarni Stefansson (ISAVIA) offline. The question was with respect to whether the upcoming revision of the GOLD document should indicate "persons on board enhanced" rather than "persons on boardE" when defining the RemainingFuelPersonsOnBoardE parameter. ED-228B/DO-350B uses "E" whereas ED-229B/DO-351B uses "enhanced". The group discussed and agreed to use "enhanced". While this was decided during the meeting, there was post meeting discussions which resulted in agreement not to make the change. The decision not to modify "persons on boardE" to "persons on board enhanced" was made post meeting due to the large impact on multiple EUROCAE/RTCA documents (such as ED-229B/DO-351B amongst others). Therefore, it was decided that such a change to using "persons on board enhanced" would not be possible at

this state and rather, should be evaluated during a future revision of the affected standards. "Persons on boardE" would continue to be used at this time.

12. Upcoming Schedule

- August 7, 2024, Plenary, Virtual
- October 14-17, Plenary, Cedar Rapids, Iowa
- March 3-7, 2025, Plenary (tentative)

13. Adjourn

As all agenda items were completed by the end of the meeting on June 13th, the final day of the plenary was cancelled. The meeting was adjourned on June 13th, 2024 at 4:00pm CEST. All documents and presentation material reviewed during Plenary have been uploaded and are available in the applicable RTCA AerOpus documents folder.

14. Post Meeting Notes

After the official plenary had ended, RTCA discussed the matter of including supplemental materials as a whole, and if there were any export control concerns. It was determined that there are no restrictions for RTCA products regarding export control, however RTCA will be adding language to its current policies to ensure all members are aware of RTCA's policy relative to members' sharing of ITAR marked artifacts. RTCA is working with EUROCAE and will ensure alignment of the respective policies on this matter.

Rochelle Perera
Secretary, SC-214

CERTIFIED as a true and accurate summary of the meeting.

Claire Robinson
Chair, SC-214

Luc Emberger
Chair, WG-78