

TTP Technician's Guide

For approval and authorisation of this document, please refer to the
IECC Applications Manual Contents, RT/E/S/10040.

This document is the property of
Network Rail. It shall not be
reproduced in whole or in part,
nor disclosed to a third party,
without the written of the
document owner.

Published and issued by
Network Rail
40 Melton Street
LONDON
NW1 2EE

© 2003 Network Rail

This page is intentionally blank

Amendment Record

Issue	Date	Description
7	29/10/1999	Converted to revised layout by AEA Technology Rail. Same as Issue 6.
7.1	01/11/1999	Sections 3.1, 3.4, 3.5, 4.5, 4.6 and Appendix B.1 amended for MVME172 board. Minor typographical errors in previous issue corrected.
7.2	28/03/2000	Title amended to 'TTP Technician's Guide'.
8	29/01/2001	Amended for TTP Upgrade 002.
9	01/12/2003	Amended for IECC Upgrade TTP03 (Previous document sections 8 'HSDR-PC Restart' & 9 'HSDR-PC Changeover Procedure' removed as no longer applicable,Section 10,11,12 renumbered, Section 11 added).

Author	Approved	Date	Authorised	Date
--------	----------	------	------------	------

G.Elcome

Contents

1	Introduction	1
2	Console Terminal	2
2.1	BACKGROUND	2
2.2	AMPEX 220	2
2.3	WYSE 185	3
3	Fault Finding And Recovery	5
3.1	FAULT DISCOVERY	5
3.2	FAULT REPORTING	5
3.3	FAULT RECOVERY	5
3.4	REPEAT TIMETABLE TRANSMISSION	6
3.5	RESTART ON-LINE TTP	6
3.6	CHANGEOVER TO OFFLINE TTP	6
3.7	REPEAT TRANSMISSIONS	7
3.8	NO RESPONSE ON REMOTE TERMINAL	7
4	TTP Main Processor Power Up	8
4.1	COLD START	8
4.2	WARM START	8
4.3	SELF TEST	8
4.4	SELF TEST FAILURES	9
4.5	TTP START UP	9
4.6	RESETTING MVME101 AND MVME172 BOARDS	9
4.7	COMPLETION OF POWER UP	10
4.8	REMOTE TERMINAL	10
4.9	CHANGING DATE	10
5	TTP Main Processor Power Down	11
5.1	ORDERLY SHUTDOWN	11
5.2	SWITCH OFF	11
6	Tape Backup and Restore	12
6.1	TAPE BACKUP	12

6.2	TAPE INSERTION AND REMOVAL	12
6.3	TAPE RENEWAL	13
7	TTP Unit Changeover Procedure	14
7.1	POWERDOWN THE NEW ONLINE UNIT	14
7.2	SERIAL LINKS	14
7.3	RESET THE NEW ONLINE UNIT	14
7.4	POWERDOWN AND RESTART THE OLD ONLINE UNIT	14
7.5	CLEAR COMPONENT 9 FAULTS	14
8	Using The ISM To Repeat Timetable Transmissions	15
10.1	REPEAT TIMETABLE TRANSMISSION	15
10.2	HOW TO MONITOR THE TRANSMISSION PROCESS	15
9	ARS Restart Procedure	17
11.1	GENERAL	17
11.2	MISSED TRANSMISSION	17
11.3	ARS MEMORY AREA CORRUPTION	17
10	Simulator Timetables	19
11	Special Shunt Moves	20

I Introduction

This document provides information for the technician on the Timetable Processor (TTP). Topics covered are:

- operation of the console terminal (section 2);
- fault finding and recovery (section 3);
- power up and power down of the TTP main processor (sections 4 and 5);
- tape backup and restore procedures (section 6);
- changeover to the standby TTP main processor (section 7);
- using IECC System Monitor Subsystem (ISM) to repeat timetable transmissions (section 10);
- Automatic Routesetting Subsystem (ARS) restart procedure (section 11); and
- Simulator timetables (section 12).
- Special Shunt Moves (section 13).

Details on the Technician Facilities (TCF) that are available to the technician via the "tech" login on the TTP main processor are not described. These are covered in the companion document, IECC 6010 Timetable Processor Technician Facilities User Guide.

This issue of the document applies to the TTP version known as TTP Upgrade 002.

This issue of the document applies to the update of previous version to include IECC Upgrade TTP03.

2 Console Terminal

2.1 BACKGROUND

The technician's interface to TTP is usually via the console terminal.

In order of preference the console terminal should be: an Ampex 220 or Wyse 185 VDU; any other "VT220" compatible VDU; the Lynwood J100 VDU usually used with ARS.

Details on the Ampex 220 and Wyse 185 are given in Appendices B and C. Appendix A describes how to connect the Lynwood J100 VDU to TTP.

2.2 AMPEX 220

2.2.1 Controls

The on/off switch is at the right hand side of the base. The brightness control is underneath the screen on the right hand side.

2.2.2 Connections

There are two connections at the rear labelled Primary Port and Printer Port. The TTP connection, which is normally via the serial line switch, should be into the Primary Port.

The VDU may be configured for 110V or 240V operation by means of a strap within the VDU unit. The current configuration should be clearly labelled at the rear of the unit. Care should be taken to ensure that the correct power supply is used.

2.2.3 Keyboard

The following keyboard features should be noted:

- (1) The RETURN key to the right of the alphabetic keys. All inputs to the system should be terminated by pressing the **RETURN** key, which indicates to the system that input is complete.
- (2) Above the **RETURN** key is the **BACKSPACE** key, which is shown as an X within a pentagon. If one or more characters is typed in wrongly, simply operate the **BACKSPACE** key until the incorrect characters disappear from the screen.
- (3) On the bottom left is a **SHIFT** key which when pressed at the same time as an alphabetic key will generate an upper case (capital) letter rather than a lower case (small) letter. Since Unix, the TTP operating system, uses mainly lower case letters, this is not often required.
- (4) The SHIFT key is also used to obtain the punctuation characters from the keyboard such as \$, *, " etc which are on the number keys at the top of the keyboard and in the small bank of keys just to the left of **RETURN** key. These characters are sometimes used in Unix.

- (5) Near the SHIFT key is the **LOCK** key. This should not be pressed because it will lock the keyboard into upper case characters. When this has happened a light also labelled **LOCK** is displayed at the top right of the keyboard. To unlock the keyboard press **LOCK** again and the light should go off.
- (6) At the top left is the **HOLD** key. This should not be pressed because it will freeze the screen display. When this has happened a light labelled **HOLD** is displayed at the top right of the keyboard. To unfreeze the screen, press **HOLD** again and the light will go off.

2.2.4 Protection against Screen Burn-in

If the screen display is not updated for ten minutes, the VDU will automatically blank out the screen to prevent screen burn-in. When this has happened, the display can be made to reappear by pressing the space bar.

2.2.5 Login Prompt

Under normal operation, if the brightness is turned up and the **RETURN** key is pressed, one of the prompts:

A:Console login:

or

B:Console login:

should be displayed.

The **A** prompt is given by the TTP A unit and the **B** prompt by the TTP B unit. This avoids confusion when console VDUs are in use on both units at the same time. There is no other difference in the behaviour of the units and the prompt is abbreviated to **Console login:** throughout the rest of this document.

However, if the VDU has been powered down then the login prompt may not be given when it is initially powered up. In this case press the **BREAK** key (top row, 5th key along) followed by the **RETURN** key, and continue pressing these keys alternately until the login prompt is given. Before the prompt is given, spurious output caused by incorrect transmission speeds may be generated.

2.3 WYSE 185

2.3.1 Controls

There is an on/off button on the right hand side of the screen. Brightness and contrast controls are situated in front of the on/off button.

2.3.2 Connections

There are several ports at the rear of the VDU but only one fits the TTP connection cable.

2.3.3 Keyboard

The Wyse 185 has a very similar keyboard layout to the Ampex 220, see section 2.2.3, and it may be used in the same way. The only real difference between the Wyse and the Ampex is that the

Wyse terminal does not have indicator lights on the keyboard for showing whether the **LOCK** has been pressed or whether the **HOLD** key has been pressed.

If the Wyse terminal does not respond to key strokes or the display has frozen then it may be that the **HOLD** key has been pressed. Press it and the display and keyboard should then respond.

Copyright Network Rail
Provided by IHS under license with Network Rail
No reproduction or networking permitted without license from IHS

3 Fault Finding And Recovery

3.1 FAULT DISCOVERY

A problem with TTP will usually be identified by one of the following:

- report from the signaller that ARS has given a **Timetable not received** alarm;
- report from the signaller that ARS is not able to identify trains in its timetable;
- **TTP out of contact** alarm on ISM, and magenta indication on ISM overview display;
- TTP error alarm on ISM, and red indication on ISM overview display;
- YJ: SX ERROR N messages on ISM, and ISM overview display, where X and N are numbers;
- remote user terminal problems.

Other indications of TTP problems include:

- absence of timetable transmission reports on the ISM at the usual times;
- **HALT / FAIL** indications on the processor board;
- in systems with MVME101 boards, any indication other than flickering **2** on the first MVME101 board, flickering **3** on the second MVME101 board, etc.;
- in systems with MVME172 boards, **FAIL** indicator illuminated or **RUN** indicator not illuminated;
- system error messages on the console terminal.

It should be remembered that problems with communication between ARS and TTP could be due to failures of the Information network and/or its nodes. This should be checked using the ISM facilities.

3.2 FAULT REPORTING

It is important to report any TTP errors as soon as they are spotted. This reduces the likelihood of a corrupt timetable.

3.3 FAULT RECOVERY

Technician facilities should be used for fault recovery, refer to IECC 6010.

3.4 REPEAT TIMETABLE TRANSMISSION

If a timetable transmission failed, but ISM shows that TTP is in contact and the TTP processor is operative, then the recovery action is to force a repeat transmission by means of ISM, as described in section 8. In systems with MVME101 boards an operative TTP processor is indicated by the MVME101 board showing a gently flickering 2 (first MVME101 board - connection to first IECC Information network) or 3 (second board - second IECC) or 4 (third board - third network). In systems with MVME172 boards an operative TTP processor is indicated by the MVME172 board having a fully or partially illuminated RUN indicator and no indication on the FAIL indicator.

Note that the transmission may be monitored by looking at the period train count on the ISM using the DUMP facility, see Appendix B. During timetable transmission the period train count should gradually increase. Messages such as those shown in section 3.7.1 should be displayed in the ISM reports window during timetable transmission.

3.5 RESTART ON-LINE TTP

A restart of the complete on-line TTP unit is necessary if:

- TCF advises that it is necessary (refer to IECC 6010);
- there is a **HALT** or **FAIL** indication on the processor board;
- in systems with MVME101 boards, any of the TTP MVME101 boards show anything other than flickering **2**, **3** etc. e.g. steady **2** or **F**;
- in systems with MVME172 boards, any of the TTP MVME172 boards show a non-illuminated **RUN** indicator or an illuminated **FAIL** indicator;
- TTP has entered automatic power-up procedure following a temporary loss of power.

The restart is performed via the TCF "Restart TTP" option (refer to IECC 6010).

It is important that all users stop editing and log off when a restart is to be performed. The users should **NOT** recommence work until TTP has been correctly restarted.

3.6 CHANGEOVER TO OFFLINE TTP

If the subsystem restart fails, or if it still proves impossible to establish communication with ARS and transmit a timetable, then it must be assumed that there is a fault on the TTP unit.

The final recovery action is therefore to change over to the offline TTP unit as described in section 7.

The users should be advised not to do any further editing until the situation has been clarified.

Fault control must also be informed of the failure.