

Remote Interlocking Interface Tutorial

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

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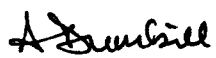
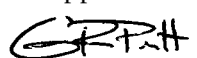
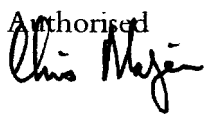
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5	13/10/2000	Reference to Relay Interlocking Interface replaced by Remote Interlocking Inter&x. SSI Data Preparation Guide replaced with SSI Applications Manual.

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1 Introduction

1.1 OVERVIEW

The Remote Interlocking Interface (formerly known as a Relay Interlocking Interface) subsystem (RII) is an IECC subsystem which is intended to allow the IECC to interface with one or more Route Relay Interlockings (RRIs) connected via Time Division Multiplex (TDM) links.

RII is connected to the IECC via one or more pairs of connections to the duplicated Signalling Network. Each such pair of connections behaves (from the point of view of the IECC) in the same way as a Solid State Interlocking (SSI), and is known as a Translation and Network Processor (TNP). There is also a pair of connections to the duplicated IECC Information Network, used mainly for error reporting. Each connection to a TDM link (which may also be duplicated) is known as a Field Communications Processor (FCP).

1.2 SCOPE

Each TNP within the computer unit produces up to 63 bytes of outputs towards the field, known as control telegrams, and takes in up to 63 bytes of inputs from the field, known as indication telegrams. The data described in this document controls the following items:

- (1) Transfer of telegrams between the TNPs and the various items of field equipment.
- (2) Configuration of TDM links.
- (3) Reporting of status of TDMs and field equipment to ISM.
- (4) Update of internal TNP information from master to standby computer unit.

The conversion of information between the IECC format and that of the telegrams, and other functions local to the TNP, are controlled by TNP data. TNP data is similar to SSI data and prepared in the same way. SSI data is described in the SSI Applications Manual^[1], and the preparation of the “SSI-like” data to be used in TNPs is described in the SSI-Like Data Preparation Guides^[2, 3].

This document is a tutorial. No attempt is made to define the syntax of the files themselves. Instead, a higher-level description is given of the type of information which is required, and this is illustrated by examples.

1.3 PROTOCOLS

Various TDM protocols are in use, and the RII provides for alternative “personality modules” to communicate with different protocols. These personality modules consist of different variants of the FCP software which interface to the rest of the system in the same way.

At present there are two types of personality modules available, both based on the Westinghouse S2 protocol. One personality module emulates an S2 office end and is used to communicate with an RRI which is equipped with an S2 field end unit. The other personality module emulates an S2 field end and is intended to communicate with the S2 office end emulation. The field personality module is used for testing purposes when it is necessary to simulate the operation of the S2 link. It may also be of use when two RIIs require to exchange information - for instance when the lookbacks required for train-operated route release cross the boundary between RRIs which are connected to different RIIs.

It is likely that further personality modules will be provided in the future. Since the data areas for the new personality modules may have different formats or may be used in a different way, this document places the “general” data areas in a separate section from those which are specific to a personality module.