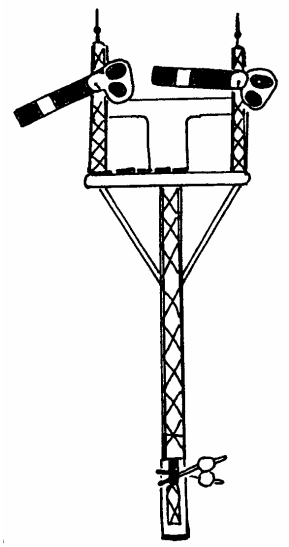
Signalling Record Society

A Guide to Signalling Research

by Peter Kay and Reg Instone



November 2001

Signalling Record Society

(Founded 1969 for the study of Railway Signalling and Operation in the British Isles and Overseas)

A Guide to Signalling Research

by Peter Kay and Reg Instone

Contents

This Guide is intended primarily to assist and encourage those members who may be considering embarking on "in depth" research of their favourite signalling subject, location etc., whether for ultimate publication or simply for its own sake.

It is also hoped that, by indicating the vast amount of interesting signalling information which may be examined at the various archives, others who have never previously considered the possibility may be encouraged to delve into the documentary records of our signalling heritage.

1 How to approach signalling research

Successful research requires:

a) Sufficient background knowledge to be able to interpret original material correctly. It is advisable to consult the available published works; section 2 hereunder lists the most important general works on signalling. Unfortunately, however, there are still not any published works reflecting our current knowledge of such important subjects as Block Working, Single Line Working, Rules and Regulations, Block Instruments, Signals and their functions, etc. This indicates the amount of research still to be done.

b) A knowledge of where the original source material is to be found, and of the problems involved in using it. It is for this purpose that this guide has been written.

c) A means of discussing one's research with others who are interested in the area in question, or who have specialist knowledge which will aid one's understanding of some particular aspect of signalling. The SRS corresponding member system exists to facilitate this.

d) The ability to realise what one does not understand and to realise which aspects of one's chosen subject still require further investigation.

The volume of original source material available is enormous and it is inadvisable to be over-ambitious in one's research project. Most new researchers will probably want to start by investigating the signalling of a particular location, which is a comparatively simple task (providing that you avoid massive locations!). Most locations have still not been properly researched at all, so (using the MT6 files as your starting point) you can start contributing knowledge to the system. Later you may proceed to studying the signalling of a line (see the suggested questions at the end of this section), or the signalling practice of a railway company. At present there are only two companies (the LNWR and the GNR) for which a full account of signalling practices has been published, so there is much work still to be done on this front! The most difficult type of signalling research is investigating general signalling subjects, such as the development of Single Line Working methods. This is very time consuming and requires a high level of background knowledge, so it is not surprising that nothing has yet been published on most subjects of this kind!

Lines opened at a late date can be fully researched much more quickly than those opened in the 1840-1860s, and branch lines can be researched more easily than main lines. Early signalling is a mine-field for those not familiar with the period; it is easy to fall into the trap of assuming that things were done in the same ways as they were later, and words are not necessarily used to mean the same thing as we would mean.

When studying original source documents it should always be borne in mind that what they say is not necessarily true. (This is why they often disagree!) Even if the person responsible was there at the time, he may have been overworked, bored, incompetent or wanting to present a certain sort of picture in preference to the complete truth. One should also be careful to distinguish between reports of things that have already been done and proposals (board minute authorisations, orders, etc.) which may not have been done then, or that way, or at all. When trying to correlate the results of your researches to date, always note the source of each piece of information; this saves much time subsequently and may help to identify dubious sources. Do not treat published books as a "source", they are notoriously inaccurate in signalling matters, although those listed in section 2 are generally reliable.

Before you turn to researching the records, it is always a sensible idea to contact the relevant SRS Corresponding Member to find out what research has already been done and who else is interested in that subject. With so much material to be consulted it is a great shame to spend valuable time duplicating research which has already been completed!

Checklist – Questions to be considered in researching the signalling development of the line.

1 What working methods and signalling apparatus were in use when the line opened? How were the stations staffed and worked? Did these methods change in any way in pre-interlocking days?

2 What traffic did the line carry? (type of traffic, number of trains per day). How did this affect the working? Was the line open all day/all week?

3 When was the electric telegraph installed? Was it used for train signalling initially, or subsequently?

Were trains signalled on the ordinary "speaking instruments", or were separate block instruments in use at the start of telegraphic signalling? Whose designs of instruments were used (a) initially? (b) subsequently?

4 When was "Absolute Block" working introduced? (This may be prior to or at the same time as, or subsequent to the introduction of separate "Block Instruments").

5 What was the exact system used? What changes were made in the block system subsequently?

6 When were semaphore signals introduced?

7 When were interlocked signal boxes provided? Why at that date – because of the company having a planned interlocking programme, or because of the Board of Trade requiring it at that particular location? (Remember that the 1871 Act effectively required any location altered after that date to be interlocked on alteration and the 1889 Act required universal interlocking as soon as possible).

8 Who built the signal boxes? (signalling contractors? building contractors? company direct labour?) What design were they? (signalling contractor's standard design, railway company's standard design? special design?).

9 Who supplied the locking frames and other equipment? (signalling contractors? or the companies own shops?) Were the boxes ever re-framed/lengthened/replaced subsequently? When? Why?

10 In the case of single lines, when was ETS/Tablet/Token working introduced in place of OES/TS&T/ Telegraph working? What designs of instruments were used? Were other designs introduced subsequently?

11 Did the traffic patterns change? (In most cases traffic grew up to the 1900s-1920s, and then declined, at least on secondary routes). How did this affect the working? When were any doublings/loops/new sidings/ brought into use?

12 Were the signalling arrangements (and the infrastructure) rationalised before the closure of the box/line, or the introduction of MAS? Did the line become passenger only or freight only at any stage?

13 For each station, how did the layout at each period reflect/hinder the train working? What special local instructions were there? What were the signal box opening hours at different periods? What signal alterations took place (other than those obviously necessitated by major layout alterations) and were they due to changes in signalling policy or changes in local traffic needs?

14 What accidents occurred, and what defects in the signalling did they reveal?

These are, of course, suggested guidelines; unless you are writing a full scale book on a line there is no need to research all of the above aspects!

2 Published Books

Two major books, recent enough to reflect the current level of knowledge and therefore essential reading for all, are: -

The Signal Box, a Pictorial History and Guide to Designs
(Signalling Study Group, OPC 1986)
This covers the development of interlocking and the signal box, the work of the contractors and their relationship to the companies, and signal box design (plus an outline account of every railway company's signalling department). Supplemented by "A Guide to Mechanical Locking Frames", which can be obtained from Peter Kay, and:-

A Pictorial Record of LNWR Signalling
(Foster, OPC. 1982)
In the continued absence of any published works on many aspects of signalling development nationally, the relevant chapters in this book provide the best available account, provided that you bear in mind that other companies did not necessarily act in exactly the same way as the LNWR. Hence its recommendation to all.

Other recommended books are;-

"British Railway Signalling" Kitchenside & Williams, Ian Allan. Still the best published work on signalling practices past and present.

"Signalling in the Age of Steam" M. Vanns, Ian Allan 1995. Successor to the above.

"Modern Signalling Handbook", S Hall, Ian Allan 1996. Companion to the above.

"British Railway Signalling" O.S.Nock, Unwin, 1969. Out of print. A useful account of the development of power signalling from the 1920s to the 1960s.

"Fifty years of Railway Signalling" O.S.Nock, I.R.S.E., 1962. Out of print, reprinted by Peter Kay. Background on the changing thoughts about signalling practices from the 1900s to the 1950s.

"Government and Railways in Nineteenth Century Britain". H.Parris, RHP, 1965, Out of Print. Essential background on railway working and signalling from the 1840s to the 1870s.

"History and Development of Railway Signalling" Currently being published by the Friends of the NRM in several volumes.

"Mechanical Railway Signalling" H. Raynar Wilson, the publishers of the Railway Engineer, 1900, out of print, reprinted by Peter Kay. A massive work describing all aspects of mechanical signalling as then practised.

"Power Railway Signalling" H. Raynar Wilson, the publishers of the Railway Engineer, undated, out of print, reprinted by Peter Kay. An equally comprehensive account of the then power signalling systems.

"Railway Signal Engineering (Mechanical)" L.P.Lewis, Constable, 2nd Ed 1920, Out of Print. Reprinted by Peter Kay. A readable but full guide to all aspects of mechanical signalling as then practised.

"Modern Railway Signalling" Tweedie & Lascelles, Gresham, c1925, Out of Print. A full guide to the equipment and practices of the time, but especially power signalling and electrical equipment.

"Railway Signalling and Communications, Installation and Maintenance" A.E.Tattersall, The St Margarets Technical Press, 1946. Written as a handbook for practising S&T engineers and technicians.

"The Railway Clearing House in the British Economy" P Bagwell.

Also the various I.R.S.E. "green booklets". (Some reprinted in combined volumes by Peter Kay.)

A variety of signalling subjects are covered by the SRS "Signalling Papers" and "Research Notes".

Published accounts of major 20th century resignalling schemes can be found in "The Railway Gazette" (in the Public Record Office (1904-1972) and many libraries) and in booklets produced by the signalling contractors responsible (Contact Reg Instone for what is known to exist here). See also SRS Research Note No. 1 for Railway Gazette articles.

3 The location and use of original records

The Railway Companies' Records

Apart from those of the Scottish and London Transport constituent companies (for which see below), the main collections of these records are held at the Public Record Office. All records are classified in "Classes" by the Department of Origin, and the Indexes (which must be consulted prior to ordering any document) are known as "Class Lists". There is now a computer catalogue known as PROCAT, which has largely superseded the printed Class Lists. This can be found on the Internet at pro.gov.uk. There are four basic groups of Classes in the railway records:-

Classes RAIL 1 to RAIL 774 are the main records of the railway companies, arranged by company in alphabetical order. The Board Minute Books of almost every company are preserved, plus Committee Minute Books for larger companies where most items did not get considered by the board itself. In some cases the Minutes contain a wealth of detail on signalling matters, often more so for early decades than later. Work classed as "renewals" for accounting purposes may be omitted. Where contractors were used, the minutes may give details of some or all signalling contracts. In the case of larger companies, it may be necessary to check sample volumes from two or three committees to discover which was responsible for signalling; it may be more than one, and it may vary over time. Practice, and the titles of the committees, are infinitely variable; however, one commonly finds a "Traffic Committee", "Way & Works Committee", or "Engineering Committee" covering signalling matters. There is never any overall index to the Minutes, but in most cases each volume has an index included. Look through all the entries in the index, as you never know what the signalling items might be listed under.

Beyond the Minute books, the amount of material preserved varies enormously from one company to another. It is impossible to list here all of the items of signalling interest; you must read through the whole of the class list for the company in which you are interested (this does not take very long in most cases), and also use the BTC card index (see below). See also SRS Research Note No. 24 for a list of the more significant documents.

Classes RAIL 900ff are public and working timetables, arranged by company.

Classes RAIL 1000ff are a large and varied collection of material amassed by the former railway company record offices, including much of signalling interest. Certain specific items are referred to later, but the BTC card index is the main route for finding out what exists.

Classes AN 1 to AN 125 are the records from the BR period ("AN" may be though of as referring to "After Nationalisation") although some earlier material is included. They are somewhat less well organised than the RAIL classes. Some items of particular signalling interest are AN 1/39, AN 3/54/16 and AN 3/54/65 (REC reports on signalling of 1920, 1940, and 1944); and AN 28/15 and /26, AN 92/46 (ER/NER material of the 1950s).

There is an excellent BTC Card Index (located in a cabinet in the Research Enquiries Room) which covers all the RAIL classes (but not AN) plus all the periodicals and published books which the PRO inherited from the railway collections. Indexing is by company, location, subject and names. If you are researching a signalling subject, rather than a particular location, looking through the "SIGNALLING" cards in the card index should be your starting point. But everyone should use the card index to discover what there might be of relevance to them in RAIL 1000ff and the periodicals etc. The card index uses the pre-PRO document classification system, but the references given can be easily converted to current PRO references by using the "translation" book located on top of the cabinet.

The records of the Scottish companies, including most LNER and LMS material from Scotland, are at the National Archives of Scotland (formerly the Scottish Record Office). They are mostly arranged in company order (as per RAIL 1-774 at the PRO). The records at the NAS are included in the card index at the PRO, which should be consulted to see if there is also anything of relevance at the PRO. The NAS also has a number of donated collections including signalling material; see the GD Indexes there.

The records of London Transport constituent companies are at the London Metropolitan Archive (formerly known as the Greater London Record Office). The records of the Metropolitan Railway contain much of signalling interest, including much of interest to anyone researching power signalling at large (start by looking at file MET 10/1, in addition to the index itself). The other companies' records have little of signalling interest. The records at the LMA are included in the card index at the PRO.

THE BOARD OF TRADE / MINISTRY OF TRANSPORT RAILWAY DEPT. RECORDS

These are located at the Public Record Office. The most important records for the signalling researcher are the MT6 files which consist primarily of the inspecting officers' reports on new lines from 1840 to 1919, and alterations to existing lines from 1871 (plus some earlier) to 1919. There is a separate file for each inspection made, and the files are arranged in date order. The earlier reports concentrate on infrastructure and often have little to say on signalling, but from c1875 onwards signalling is the primary subject of most reports. Some 1860s files, and most files from the 1870s, contain plans (scale plans, not signal box diagrams) giving full details of signalling. Although they usually omit lever numbers, a small percentage of plans do include lever tables and locking charts. The plans are often too large to photocopy and you must be prepared to draw them out yourself (or at least some of them). In addition to the inspection report and plans, the files usually contain correspondence from the company. The PRO has recently threatened to revive a programme of removing the plans from the files and depositing them separately in the map rooms, which, although it may inconvenience readers, should ensure better preservation of the original documents.

There are two printed indexes to MT6; the (2-volume) main index in date order, and the (2-volume) alphabetical index. The alphabetical index is one's starting point. It lists locations both individually (by station, junction, signal box or line name), and by company. Thus Diss should be found under both "D", and under "G" for Great Eastern Railway, where all GE locations are again listed, from A to Z. It is desirable to check both entries as the alphabetical index (invaluable though it is) is full of errors; it appears to have been compiled by someone ignorant of railway geography and typed by someone who could not read their writing! Before ordering a file, you should double check the number in the main index, as there are often typing errors in the numbers in the alphabetical index. If you cannot find anything in the alphabetical index, but know that works which must have been Inspected were carried out at a place at a certain date, you should read through the main index for the relevant year, plus the next one or two years if you do not find anything there.

The 1902-1919 section of the chronological list has been reprinted as SRS Research Note No. 28.

The computer catalogue is searchable by "keywords", including place names, but this is of limited use due to the number of spelling/typing errors in the data, which have been perpetuated by verbatim transcription of the printed lists. For this reason you must assume that a keyword search will only reveal a proportion of the relevant entries, and consulting the printed lists will continue to be necessary.

You should thus be able to find the reports of most inspections fairly easily. If you cannot locate a report, the following reasons may apply:-

- The work in question was not inspected. Non-passenger lines were not normally inspected. Alterations to existing lines were not usually inspected prior to 1871, although some were, including most doublings. Signalling alterations not involving track alterations did not have to be inspected (but sometimes were); thus there may not be MT6 files for some new signal boxes such as straight forward box replacements, break section boxes, etc. Of course, some companies sometimes forgot to put up for inspection works that should have been inspected, and the BoT did not always find out.

- The work in question was not inspected until several years after it was done, or there was a subsequent correspondence which dragged on. The date of the last item in a file dictates its place in the index, so you may need to look through further (later) years in the main index. If matters dragged on after 1919 the file will have been lost.

- The description in the index is misleading. Sometimes several small places were inspected together, and only one of the names is in the index. This makes life difficult!

- The MT6 file has been lost. A fair number have been. (Lost files are not in the index; all the files in the index do exist). If you cannot find an MT6, turn to MT29 (see below). In some cases there is nothing in MT29 either. If so, MT7 (see below) may at least give you the date of inspection.

The MT6 series at the PRO includes all the inspections of Scottish (and Irish) railways.

Pre-1858 inspection reports may be more conveniently seen in the parliamentary papers, as detailed below. They are included in the general Annual Reports produced up to 1850, and in a report titled "Proceedings of the Railway Dept; Reports to the Board of Trade" in 1851-8, where they are printed instead of in semi-legible handscrawl, and one can see a whole year's work at a time. In some cases inspection reports also survive in the relevant companies' RAIL classes. The railway companies were always sent a copy, but only a few bothered to preserve them, e.g. MR.

The inspecting officers' reports are not always accurate in such details as the number of levers in a box, whether a box is new or merely lengthened, etc. The plans are usually accurate, but bear in mind that the plans were sent in before the work was begun, so it may not have been done exactly that way. There are some files for work that was never done at all! Also, the inspecting officers sometimes required changes to be made in the signalling, so that the layout shown in the plan only existed for a short period (anything between a few days and a few years) before being altered. Always read the report carefully.

For inspection reports of the 1920-1958 period one must look in class MT29. This consists of bound volumes having a year or so's reports in each. MT29s also exist for the period up to 1919. but these are simply carbon copies of the reports in the MT6s and need only be turned to when (as in the situation noted above) the MT6 file is inaccessible or the inspector's handwriting is illegible. From 1920 the MT29s are the only source (except for the few locations featured in MT6/2603ff and MT114, as described below). There are no plans or correspondence preserved from 1920 onwards, only the reports themselves. It seems that the LMS, at least, may no longer have sent in large folded plans of each place, but instead provided the inspecting officer with a book of fully signalled sketches. One such book is at RAIL 421/169, another is in a private collection. There is no overall index to MT29 as there is for MT6. Class MT30 has indexes to MT29 covering periods of several years each, but these are documents which have to be ordered and it may be quicker to guess which MT29 volume you want. Each MT29 volume is indexed within the volume, except for the period 1929-1949, where the index volume MT30/14 has to be used. A compilation of the contents of all the MT29 volumes from 1918 to 1964 has now been published in SRS Research Notes Nos. 22 and 23—but there is no alphabetical index to these either! A warning; from the 1920s it was common for works not to be inspected until 2-3 years after installation, and in the 1940s this lengthened to 7-8 years in some cases. A clue to this is given in the reports themselves, which usually state "in compliance with the minute dated …".

The MT6 and MT29 files also contain an enormous amount of material on general signalling issues. Some pre-1919 MT6 files are not inspection reports at all, but cover all sorts of signalling and operating questions; unfortunately they are not indexed (except in date order). The MT6 series was continued after 1919 for general issues only, except that a certain number of files are about individual schemes which raised important general issues. Here one can look up "signalling" in the "Index to MT6 2603-3547". But most general issues relating to signalling were not discussed in a separate file at all; instead they simply form the subject of correspondence in the MT6 file for the location where that particular issue first came to a head. Thus, for example, an 1870s MT6 file may include a lengthy discussion on the question of what the functions of distant signals ought to be, which would be of great value to anybody studying practices. Unfortunately it is quite impossible to find out which files have such material in them! From 1920 things are easier, as although such material is mostly still found in individual reports, the typed yearly volumes of MT29 can be flipped through comparatively quickly to see what interesting points are raised. Use MT29 also - rather than MT6 - if wanting to scan the 1890s - 1919 reports for general issues, however, prior to the 1890s the MT29s are too illegible to be scanned.

MT7 is a register of letters and may, as noted above, be worth checking when no MT6 or MT29 can be traced.

MT114 contains some detailed information on new works of the 1950s - 1960s period, plus files on individual accidents from 1947, which supplement the published accident reports. SRS Research Note No. 18 lists these files.

PUBLISHED REPORTS (etc) OF THE BOARD OF TRADE/MINISTRY OF TRANSPORT RAILWAY DEPARTMENT

The "Board of Trade Requirements" for new works, first published in 1858 and frequently revised subsequently, are an important source for any study of signalling development generally. The best collection is at the PRO at RAIL 1053/169-171.

The Accident Reports, i.e. the reports of the inspecting officers into individual accidents, are an important source for signalling research. They should not be regarded as relevant only to those researching the accidents themselves, since they often have detailed descriptions of the layout, signalling, working and staffing of the station in question, sometimes also having a plan. In some cases an Accident Report may be the only available source for this information. Furthermore, the information included on the general signalling practices in use on the line at the period in question, is often far more detailed than what is available elsewhere. The companies' signalling instructions may be repeated verbatim. The Reports also state how the staff actually worked the line, as distinct from how they were supposed to do it, which is all that you can find elsewhere!

Anyone investigating a particular location could benefit from seeing what, if any, Accident Reports there are for that location. Unfortunately there is no index to twentieth century reports, and in practice one may have to restrict oneself to looking up reports of accidents that one has already heard of from other sources. The reports are in date order and the relevant report can be quickly located once one knows the date of an accident. An excellent index to nineteenth century accident reports has been compiled and published by John Dixon. It is arranged alphabetically by company and place.

Anybody researching the signalling practices of a railway company should look through all the Accident Reports for that company for the period in which they are interested. This is not such a massive task, as a lot of the accidents have little signalling relevance. It is advisable to photocopy any relevant reports, rather than just taking notes.

Until June 1915 the Accident Reports were published in the Parliamentary Papers, which can be found in most large city Reference Libraries. There is an "Index to the Parliamentary Papers" which has to be consulted to establish which volumes the reports are to be found in: look up under “Railways” in the Index. In essence the Accident Reports are to be found incorporated in overall annual reports of the Railway Department in the 1840-1853 period, and separately in batches of "Monthly Reports" from 1854. There are also "Special Reports" for the most spectacular accidents. Since July 1915 the Accident Reports have been Department Publications (i.e., not in the Parliamentary Papers), and are more difficult to find in libraries. They continued to be produced in regular batches up to 1938, but since then the number of accidents reported on has been reduced, and individual reports are published for each accident. The NRM has a (nearly) complete set of Accident Reports 1842-1985, and as it is located on open access and cheap copying is available, forms a convenient research location for this purpose. The PRO has a (nearly) complete set 1854-1975, at RAIL 1053/17-20, 51-161.

As well as the Accident Reports, there are, from 1846 to 1876 also summaries (called "Number and Nature of Accidents" in the Parliamentary Papers Index) which list and briefly describe those accidents sufficiently important to be notified, but not considered sufficiently important to be investigated and reported on by the investigating officers.

Additionally, there are the annual general reports on accidents. These do not need to be studied by those investigating a particular location/line, but are an essential source for anyone studying any general aspect of the development of signalling. They appear in the Parliamentary Papers under various titles up to 1858, seem to be discontinued for 1859-69, and then appear regularly under the name "General Report on Accidents" from 1870 to 1938. From 1939 they are Departmental Publications, i.e. not in the Parliamentary Papers. The NRM and PRO have nearly complete runs, held with the individual accident reports, as noted above.

Those interested in accidents themselves should not neglect to look up the press reports of the accident. Although liable to error and misunderstanding, they usually contain details not to be found in the Accident Reports. For post-1947 accidents see also MT114 at the PRO, as noted above.

Other Board of Trade published reports in the Parliamentary Papers are:-

- Returns of Connections and Crossings, and Block (1872) 1873 Vol. lvii (PRO has a copy at RAIL 1053/181). A predecessor of the 1873-95 Returns.

- Returns of Railway Signal Arrangements and System of Working. Annual from 1873 to 1895: see the index for the Volume numbers. (PRO has copies at RAIL 1053/185-189). These consist of an annual return from each railway company, giving the percentage of stations interlocked (but not listed individually), plus the method of working each line (listed individually). They are a basic source document for the signalling researcher, although the information varies in credibility and usefulness by company. In some cases they enable a full picture to be gained of the spread of block working, in other cases they may well be downright lies. Some of the later years’ returns contain detailed reports from some companies on the work done in interlocking during the year, listing individual locations.

- Special Returns on Interlocking, 1881 Vol. lxxxi (PRO has a copy at RAIL 1053/187). This consists of a return from each railway company (except that a few did not reply?) listing every station by name, and whether or not it is interlocked. Again the information varies by company; some companies list every signal box by name, e.g. LNW, MR, MSL. Reprinted as SRS Research Note No. 19.

- Orders under the Regulation of Railways Act 1889. 1890/1 Vol. lxxv. Orders issued to each company in November 1890.

THE RECORDS OF PARLIAMENT

We have just considered above the various published material originating from the Board of Trade to be found in the Parliamentary Papers. Now we turn to other material of signalling interest to be found there. Although there are a fair number of House of Commons investigations into railway subjects, the only one having a large signalling content is the Committee Report on the Causes of Accidents on Railways 1877 Vol. xlviii (PRO copy at RAIL 1119/25 and 26). This includes hundreds of interviews with railway employees of all grades as to how their stations, many of them still not interlocked at this date, were worked. Apart from its general interest, this could be of enormous value to anyone researching a specific location, if interviews from that station are included.

PRO RAIL 1124/86 is the Report and Evidence from the Regulation of Railways (Prevention of Accidents) Bill 1873.

Those studying the general development of signalling should also see the relevant Statutes (to be found in the bound volumes of Statutes in any major Reference Library). The basic ones are the Regulation of Railways Acts of 1840, 1842, 1871 and 1889; and the Railway Regulation Act (Return of Signal Arrangements, Working etc) 1873.

THE RECORDS OF THE RAILWAY CLEARING HOUSE

The RCH had an important role in the development of Block working, etc. Most of its records are preserved at the PRO at RAIL1080-1. See the Index, and particularly RAIL 1080/121-146, 567-70, 620; and RAIL 1081/43-85.

THE RECORDS OF THE SIGNALLING CONTRACTORS

The statutory company records, for those firms which were Limited Companies, are either at the PRO (at BT31) or at Companies' House. All have been abstracted; contact Peter Kay for notes.

The published catalogues of the contractors are of considerable interest to anyone studying equipment. There is no coherent archive, and many exist only in private hands. There are also smaller advertisement sheets, etc. Contact Reg Instone for information on what is known to exist.

In some cases, works or contract records survive, and these can be of interest to anyone researching a company supplied by that contractor. Contact Reg Instone for further advice. Some of the records of the Railway Signal Co. have been listed in SRS Research Note Nos. 2 & 12.

PATENTS

An essential source for anyone researching signalling equipment. Much abstracting (including all designs of mechanical locking frames) has already been done. An index to the patents of the major firms and prominent individuals can be found in SRS Research Note No. 20. Contact Reg Instone for further advice.

LOCAL NEWSPAPERS

These are of comparatively limited interest to the signalling researcher, but can be consulted for:

- the opening of lines: the reports often refer to the signalling contractors and the method of working the line;
- accidents;
- any major station rebuildings and layout alterations and/or resignallings, at least for the pre-1900 period. There may well be an account of the work on the weekend(s) when the old box/layout was taken out of use and the new commissioned.

Most reference libraries and/or County Record Offices have copies of at least one local paper. The national archive, containing all papers ever produced in this country, except some which have been lost, is the British Library Newspaper Library at Colindale.

4 Where to find specific types of document

WORKING TIMETABLES

Working timetables did not exist in the first decades of the railways, the staff relying on the public handbills etc., but most companies had introduced them by the 1860s. Apart from the timetable pages themselves, which are of importance to the signalling researcher in revealing the level of traffic on the line, crossings on single lines etc., most Working Timetables contain a large amount of information on the working of the line, especially in the period prior to the introduction of separate General and Sectional "Appendices" in the 1870s/90s. They may have instructions on block working, local instructions for individual locations. etc. Prior to the BR period, many companies included lists of signal boxes and their opening hours in the Working Timetable, although such lists may alternatively be in Sectional Appendices, or in a separate publication. In 1953 all BR Regions produced “Hours of Opening of Signal Boxes” booklets, although most reverted to their established practice soon afterwards.

The main collection of Working Timetables is at the Public Record Office, at RAIL 900ff. They are filed in company alphabetical order, and are quickly located from the Class Lists. You should also check in RAIL 981, which has some timetables not in the main company order lists, and also acts as a partial index to the other timetable classes. For some companies the Working Timetable collection is all but complete, for others it is patchy. Current Working Timetables have been added each year, at least until 1994. The PRO collection includes Scottish companies, but there is another large collection of Scottish Working Timetables at the National Archives of Scotland.

Beyond this, there are some Working Timetables at the National Railway Museum Library, the Brunel University Library, the libraries of the leading railway societies, and in numerous other public and private collections. Unfortunately nobody has yet attempted to list what is available outside the PRO collection.

RAIL 900ff also includes a large collection of public timetables, although the signalling researcher need not normally study these.

GENERAL APPENDICES, RULE BOOKS, REGULATIONS FOR TRAIN SIGNALLING. ETC.

These are of great importance to anyone studying the signalling and working of a particular company, and may also include information on specific locations. However, what was produced varies enormously from one company to another, and by period; there is usually very little prior to the 1870s/80s. See the article by Reg Instone in the Signalling Record, No.1, for an outline of what is available and the uses to which it can be put.

The main (but patchy) collection of General Appendices, Rule Books, etc., is at the Public Record Office in classes RAIL 1134, RAIL 1135 and AN 94. You should also check in the Card Index for what there might be in company RAIL classes. The National Archives of Scotland has a large collection for the Scottish Companies. Beyond the main PRO and NAS collections, a large number exist in other libraries and in private collections. See SRS Research Note 8 for a full listing.

SECTIONAL APPENDICES

The "Sectional Appendix" was evolved by the larger railway companies from the 1890s on, to include local instructions on signalling and working for which there was no longer room in the "General Appendix" or the Working Timetable. The idea was adopted by all the post-grouping companies, and has been continued by BR. As in the case of General Appendices etc, what is included is very variable. Often a list of signal boxes is included. Whatever the case, the Sectional Appendices must be studied by all researchers.

Unfortunately there is no really comprehensive collection in the public records, and a lot of 1890s-1920s Sectional Appendices seem to be quite unobtainable. The Public Record Office collection at RAIL 1136 is the best single collection, there are some others at the PRO at AN94 and elsewhere. There is a substantial collection at the National Archives of Scotland, and a collection at the National Railway Museum. Once again, SRS Research Note 8 lists all known copies.

SIGNALLING NOTICES

From the latter decades of the nineteenth century, most larger companies issued regular Signalling Notices giving details of the opening and closing of signal boxes, new and altered signals, new running lines, etc. These are of course of enormous value to the Signalling Researcher.

Unfortunately the great majority appear to be unobtainable. The only coherent collections in the public records (and then only for short periods) are for the LNER (NE Area), LT&S, Midland, and Furness in the appropriate company RAIL classes at the Public Record Office, plus a GNoS collection in the National Archives of Scotland.

The SRS Archive has a substantial collection. Consult the appropriate Corresponding Member for what exists in private collections.

A database of notices is in preparation.

SIGNAL BOX DIAGRAMS

There is no coherent archive.

The Public Record Office has a fair number in total, mainly as follows.

AN23	Several hundred BR(NER) including some on ex-Midland lines, mostly 1930s-50s.
AN46	A handful from BR(WR).
RAIL214/94 and 95	1880s/90s diagrams for most Furness boxes.
RAIL 252	Several hundred GWR and BR(WR).
RAIL 485/103	A handful from M&GN.
RAIL 1017/6/20	A handful from the Bournemouth area.

The Signalling Record Society's "Cullum Collection" includes over 7,000 SR and BR(SR) box diagrams. Catalogues are available for sale, and the collection itself may be seen by arrangement with the Archive Manager. The SRS also has available for sale some 3000 signal box diagrams; these are redrawn to a standard format, not copies of the original diagrams. Lists are available, see separate information sheet, and adverts in "The Signalling Record".

Contact the appropriate Corresponding Member for what exists in private collections.

The MT6 plans, as described above, can also serve as a substitute for signal box diagrams.

TRAIN REGISTERS

Although of great value, in that they are the only means of discovering the actual (as distinct from booked) traffic on a line and its working, hardly any Train Registers have been preserved in the public records. The Public Record Office, National Archives of Scotland, and National Railway Museum each have a small number. The SRS Archive has a few. There are not a lot in private collections either.

ARCHITECTURAL DRAWINGS OF SIGNAL BOXES

There are not a lot of these available, most signal boxes never had full drawings anyway, as they were built from pre-fabricated standard components.

At the Public Record Offices there are some BR(WR) drawings at AN 48, a fair number of NER drawings at RAIL 527, and odd drawings from other companies in appropriate RAIL classes.

At the National Archives of Scotland the RHP series includes several dozen signal box drawings from the Scottish companies.

A good number of GWR architectural drawings are included in the Reading mechanical drawing collection in the SRS Archive.

Consult the appropriate Corresponding Members for what exists in private collections.

The fact that a drawing exists does not of course prove that the box was built like that, or at all.

STATION PLANS

Although not strictly a "signalling" source, it is obviously necessary for the signalling researcher to acquire plans showing the development of the layout at the location in which they are interested.

THE MT6 PLANS

Have already been discussed.

THE PUBLIC RECORD OFFICE

Has a large number of other railway plans. Check through the appropriate company's RAIL class index. See also AN31 and AN48.

THE NATIONAL ARCHIVES OF SCOTLAND

Has some 10,000 plans of Scottish locations in the RHP series.

THE BR PLANS

Formerly sold through OPC, and listed in the OPC "Railprint Track Plans Catalogue", these are now again available, from the National Railway Museum. This collection has material from all regions except the ER Southern area and Scotland.

ORDNANCE SURVEY MAPS

Are a very important source. The 25" maps show full track layouts clearly and usually accurately, although the OS were confused by complicated pointwork prior to the 1890s. Even small buildings such as lamp huts are shown, and signal boxes are always clearly shown. The positions of signal posts are shown (although some are often omitted), but one has to work out for oneself what each signal is. The first editions of the 25" were prepared between the 1850s and the 1890s, depending on the county. There are usually one or two subsequent revisions up to 1939, and frequent revisions since 1945.

County Record Offices and/or major reference libraries usually have large (but rarely complete) collections of 25" maps and photocopying facilities. Complete collections are held by the British Library (Map Library) at 96 Euston Road, London W1 2DB (Tel: 020 7412 7000), and the National Library of Scotland, 33 Salisbury Place, Edinburgh EH9 1SL. The latter accepts orders for photocopying by post, providing of course that one gives the exact sheet number and revision(s) required. They have all the English and Welsh maps as well as those for Scotland. Telephone 0131 226 4531 for details.

Even more detailed than the 25" maps are the 1/500 sheets produced for some towns in the 1850s-90s period. These are very rare but the British Library and the National Library of Scotland have them; they are also often to be found in the appropriate local library (local history section).

PARLIAMENTARY DEPOSITED PLANS

Those for the construction of a line are of little relevance to the signalling researcher, but those deposited for subsequent Bills for doublings, station rebuildings, etc., often include detailed plans of the station in its current form. For the 1850s-70s period, where there may be no Ordnance Survey maps or MT6 plans, the Parliamentary Deposited Plans (if of course there are any) may be the only source for the station layout.

County Record Offices usually have a fairly complete collection of Deposited Plans, and hopefully they will be indexed in such a way (usually by the name of the railway company) as to readily locate anything of relevance. If the County Record Office fails, the House of Lords Record Office has a (nearly) complete national collection, they are quite used to railway researchers but you must ring several days in advance for an appointment: telephone 020 7219 5316. Railtrack have complete sets, but these are not normally open for public inspection.

5 Addresses etc. of the Record Offices

THE PUBLIC RECORD OFFICE, KEW

Ruskin Avenue, Kew, Richmond, Surrey. Tel. 020 8876 3444. 10 minutes walk from Kew Gardens BR/LT, free parking, meals/snacks at reasonable prices. Open Monday, Wednesday, Friday 0900-1700, Tuesday 1000-1900, Thursday 0900-1900 and Saturday 0930-1700. Closed Bank Holidays and some adjacent days, also for two weeks each Autumn for stocktaking. Readers tickets issued on production of identity, no appointment required. Pencils only (typewriters, recorders and word processors are permitted in specified areas). Photocopying available but expensive. Website: pro.gov.uk.

The PRO is somewhat overwhelming to the new reader, and it is sensible to take time on ones' initial visits to familiarise oneself with the class lists, the BTC index, and the general layout. Documents must be ordered by computer, after finding the exact reference in the relevant class list, and usually take 30-45 minutes to arrive. No ordering after 1530. Once you have a reader's ticket, you can order by phone on the previous day (0930-1530), if you already know the exact references; you can also access the catalogue and make reservations on their web site.

If at all possible, get a seasoned user to “show you the ropes” on your first visit.

Do not rush or get flustered, especially when drawing out diagrams.

THE NATIONAL ARCHIVES OF SCOTLAND

West Register House, 17 Charlotte Square, Edinburgh EH2 4DF. Tel. 0131 535 1413. 10 minutes walk from Waverley or Haymarket. No food but is in city centre. Open Mondays to Fridays 0900-1645. Some closed dates (ring). Readers tickets issued on production of identity, no appointment required. This is a small office and ordering procedures are simple. Pencils only. Photocopying.

THE LONDON METROPOLITAN ARCHIVE

40 Northampton Road, London EC1R 0HB. Tel. 020 7332 3820. 10 minutes walk from Farringdon BR/LT. Open Monday, Wednesday, Friday 0930-1645, Tuesday and Thursday 0930-1930. Ring for Saturday opening days and times. No readers ticket required. Pencils only. Photocopying.

THE NATIONAL RAILWAY MUSEUM LIBRARY, YORK

Located in the main museum building in Leeman Road, York YO26 4XJ. Tel. 01904 686235. Ten minutes walk from station. Open Monday-Friday, 1000-1700, no longer closes at lunchtimes. Appointments are always necessary and should be arranged several weeks in advance to secure a desk. You may be asked to state the subject of your research. Also houses a large photographic collection. The NRM Library, despite the important material it contains, is not a properly staffed record office, and some of the material is not fully indexed. But the small number of readers means quick production and instant (cheap) photocopying. Pencils only. Close to city centre facilities, there is also a museum cafeteria.

Now has an Index by Location to the Accident Reports for most (not all) periods, see above.

Email: nrm.library@nmsi.ac.uk.

THE BRITISH LIBRARY NEWSPAPER LIBRARY

Colindale Avenue, London NW9 5HE. Tel. 020 7412 7353. Opposite Colindale LT. Open Mondays to Saturdays 1000-1645, some closed dates (ring). Readers tickets issued on production of signed identity, no appointment required. Biro or pencil only (no fountain pens). Photocopying.

COUNTY RECORD OFFICES

There is a Record Office in most of the 1974 English and Welsh counties. (Cumbria has 3.) There have been some changes in connection with the establishment of Unitary Authorities, although these have affected the names of offices more than their physical locations.

For a list of offices, contact details, opening times and facilities, see “Record Repositories in the UK” by the NCA, or the ARCHON database of the NRA.

RECORDS IN UNEXPECTED PLACES.

Some records of interest to the signalling researcher have found their was into County Record Offices, museums, specialist libraries and the collections of railway societies. Until now (2001) there has been no unified index to these, but the Tracking Railway Archives Project (TRAP) promises significant benefits in terms of a searchable database of all relevant material, wherever in the UK it is located. TRAP is allied to the PRO’s broad-ranging Access to Archives (A2A) initiative.

TRAP is a long-term project and the results will appear gradually over a number of years.

In the meantime the National Register of Archives may assist in locating material, although its scope is very limited, and depends on the office in question having sent in the details. See www.nra.gov.uk