Saw Interface

Transferring optimised patterns (cutting instructions) to the saw.

Magi-Cut provides links to most major makes of beam saw; for some manufacturers specific proprietary formats are used.

The program has been linked to a wide range of saw controllers and types including:-

- Homag (formerly Holzma) Cadmatic (all types)
- Giben
- Schelling
- SCM
- Biesse (Selco)
- Anthon
- Holz-her
- Table saws
- DXF based controllers
- Various other controllers
- Printed patterns and cutting instructions for manual saws

** * Manufacturer's transfer methods are subject to change and as such a definitive list of supported machines cannot be provided. Please contact Magi-Cut to determine compatibility with a specific model. ***

Magi-Cut additionally provides two industry standard export formats PTX and CPOUT. Most saw manufacturers are able to support these formats and may be able to provide a post-processor if they do not directly read the file format. In many cases Magi-Cut is able to pass further part information within the file to support label printing at the saw.

PTX file format

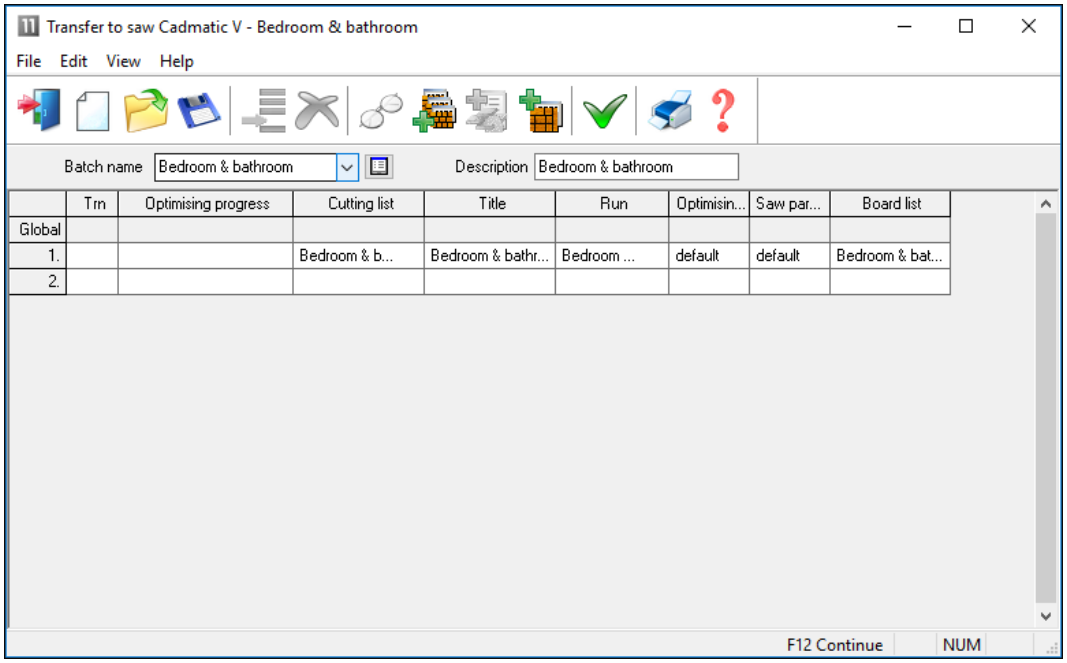
The Pattern exchange format contains all the part sizes, board sizes, parameter settings, cutting instructions and drawing information for a run and most of the summary data. Use this to export optimisations (runs) for use by other systems such as a spread sheet, database, or report generator.

This is the program's proprietary format for patterns (results). It is used by several manufacturers where they want pick up information from the optimisation results (cutting patterns). It is a public format.

All the pattern data and structure is contained in the file in ASCII/Unicode or MDB database format - so it is very useful where custom changes are needed for controlling specific machines or external systems. For example, to update stock control systems, use a special post processor to transfer to a saw.

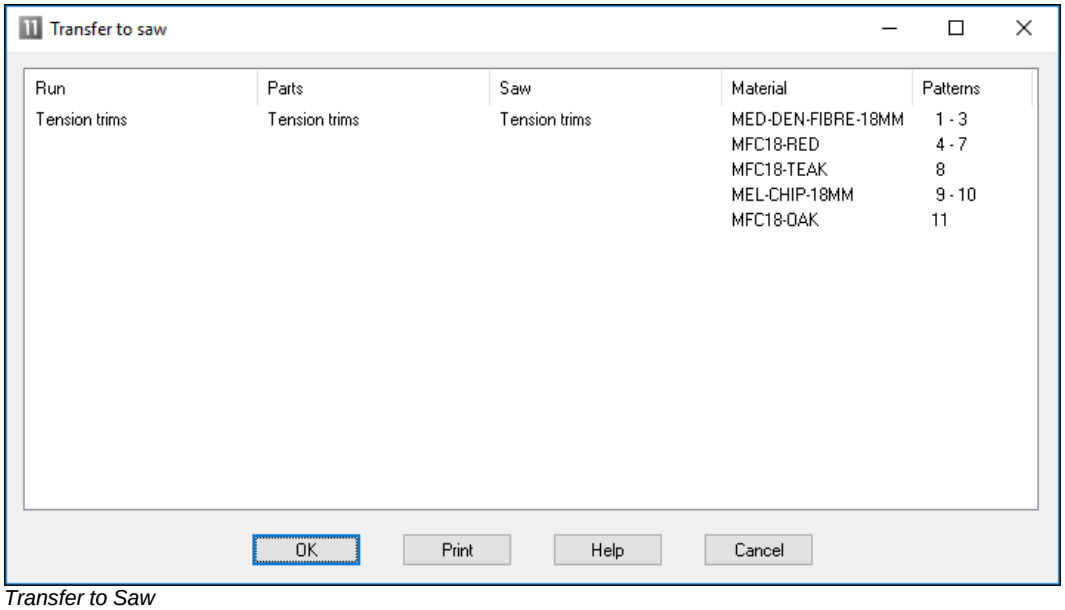
Saw Transfer

The saw transfer program allows the current job to be sent to the saw.



Transfer to saw batch screen

The program displays the data it will transfer.



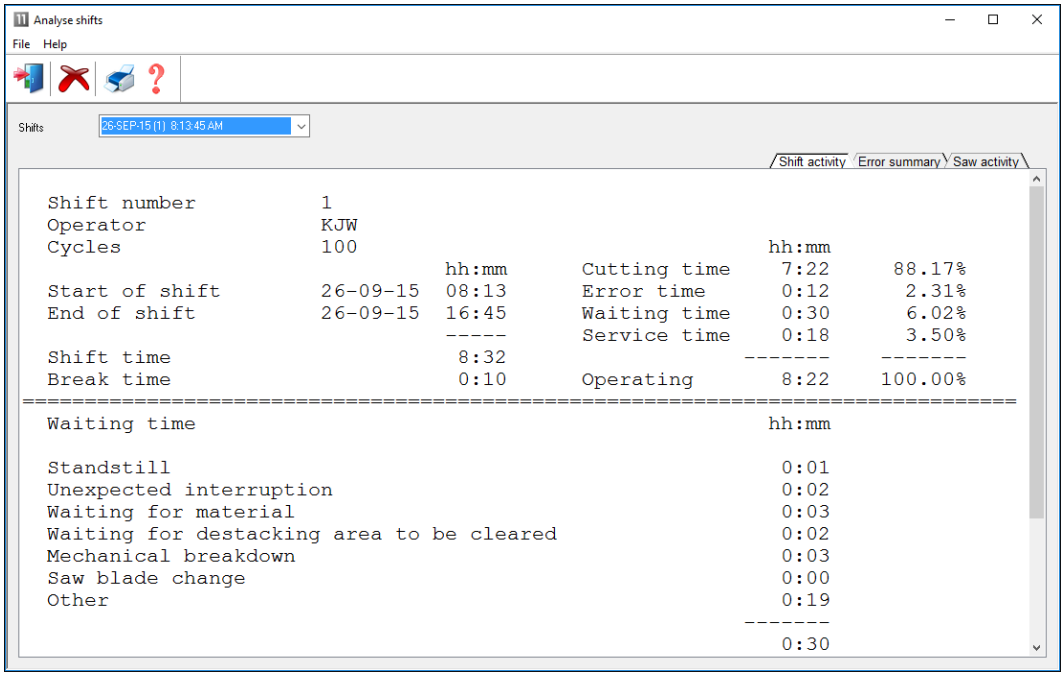
Transfer to Saw

Note - For practical use the saw transfer and machining transfer need to be set up for the company's machines. There are parameters for this and a wide range of options are available.

Typically the saw or machining centre transfer sends data to a location on the Network (Path for Saw data) and a separate program provided by the machinery manufacturer runs and sends the data to the machine. This can all be integrated into the above transfer process.

Analyse Shifts

Some saw controllers can record information as the saw is working. There are reports to analyse this data on a shift basis or to analyse each run.



Analyse shifts summary

At the top are the shift number, operator's initials and the number of saw cycles during the shift. The other information shows the start and end of the shift and the total elapsed shift time. The analysis of the time is split between the following categories:

```
Shift time    - total duration of shift
Cutting time  - time that the saw is cutting
Error time    - down time recorded against saw errors
Service time  - time for service operations (e.g. change saw blade)
Waiting time  - saw not in use
```

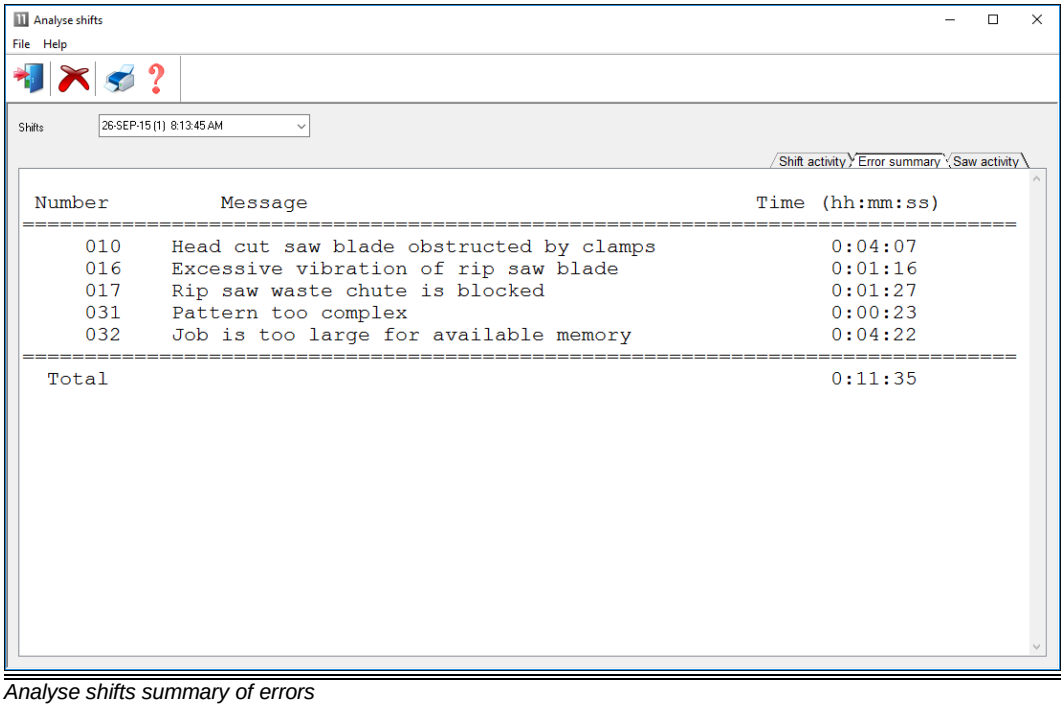
Waiting time = Op time - cutting - error - service
Break time - operator's break (for example: meals, rest)
Operating time - shift time less break time: *Op time = shift - break*

At the foot of the report is the material usage during the shift. This shows the area of parts and board processed during the shift.

The reports available are:-

- Saw activity - shows the full details of each cutting cycle

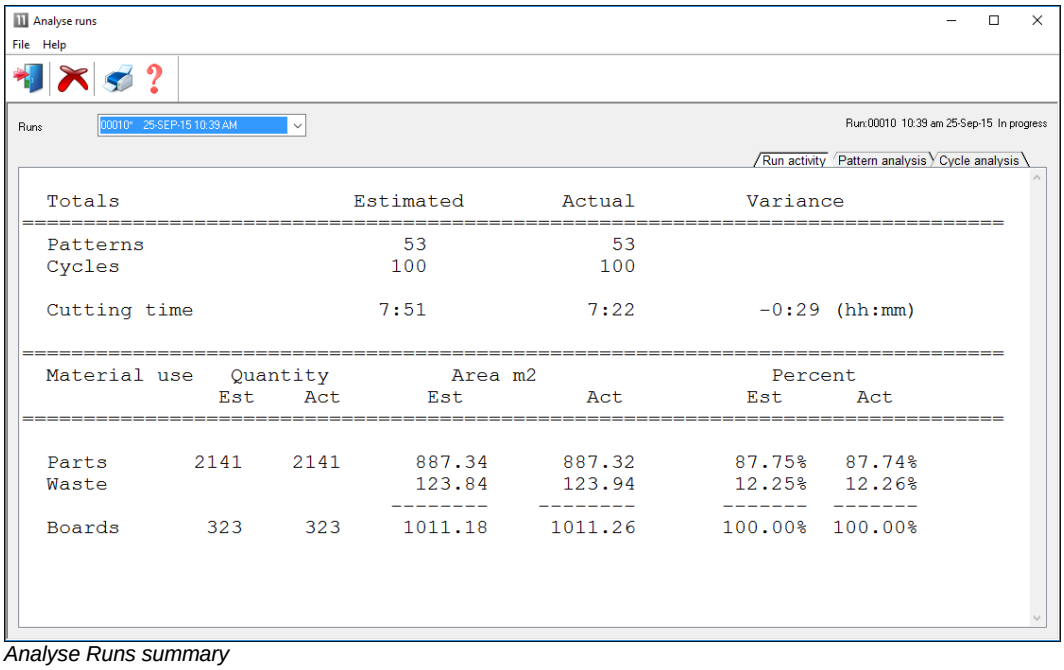
- Error summary - shows any errors and the cause



Analyse shifts summary of errors

Analyse runs

The feedback data from the saw can also be analysed in terms of runs, that is, comparing the estimated values for a run with the time actually taken at the saw.

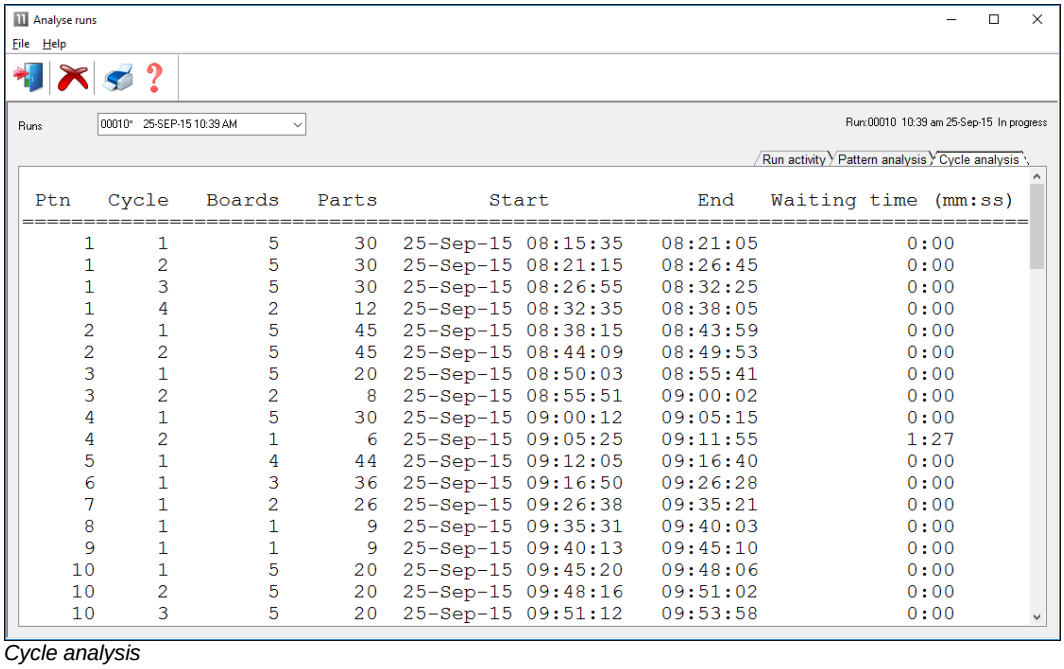


Analyse Runs summary

The 'Est' and 'Act' columns show the difference between the estimated values and the actual values. In this case the parts produced and waste were the same but the actual cutting time was shorter than estimated.

- Further reports show the differences on a per pattern and per cycle basis, for example:-

Cycle analysis



Ptn	Cycle	Boards	Parts	Start	End	Waiting time (mm:ss)
1	1	5	30	25-Sep-15 08:15:35	08:21:05	0:00
1	2	5	30	25-Sep-15 08:21:15	08:26:45	0:00
1	3	5	30	25-Sep-15 08:26:55	08:32:25	0:00
1	4	2	12	25-Sep-15 08:32:35	08:38:05	0:00
2	1	5	45	25-Sep-15 08:38:15	08:43:59	0:00
2	2	5	45	25-Sep-15 08:44:09	08:49:53	0:00
3	1	5	20	25-Sep-15 08:50:03	08:55:41	0:00
3	2	2	8	25-Sep-15 08:55:51	09:00:02	0:00
4	1	5	30	25-Sep-15 09:00:12	09:05:15	0:00
4	2	1	6	25-Sep-15 09:05:25	09:11:55	1:27
5	1	4	44	25-Sep-15 09:12:05	09:16:40	0:00
6	1	3	36	25-Sep-15 09:16:50	09:26:28	0:00
7	1	2	26	25-Sep-15 09:26:38	09:35:21	0:00
8	1	1	9	25-Sep-15 09:35:31	09:40:03	0:00
9	1	1	9	25-Sep-15 09:40:13	09:45:10	0:00
10	1	5	20	25-Sep-15 09:45:20	09:48:06	0:00
10	2	5	20	25-Sep-15 09:48:16	09:51:02	0:00
10	3	5	20	25-Sep-15 09:51:12	09:53:58	0:00

Cycle analysis

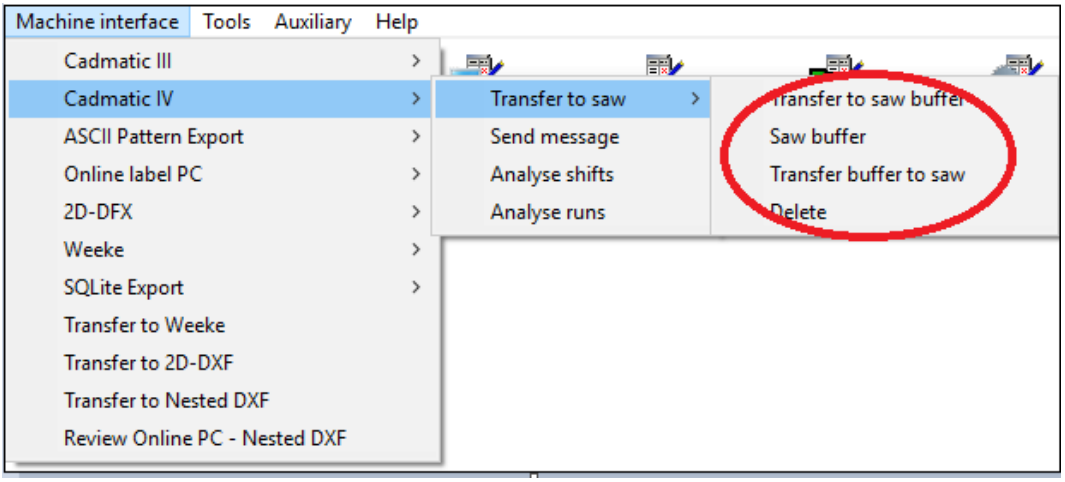
The Saw interface feature also includes an option to communicate and send messages to the saw during operation.

Saw Buffer

When transferring data to the Saw with multiple users it can be useful to set up the Saw transfer so that only one user acts as the master location for sending data to the saw. This allows the various incoming runs to be sorted in a buffer and sent to the saw in a more controlled way.

This is set by a Saw transfer parameter: 'Saw buffer'.

If this way of working is set up the saw interface menu (for the master user) contains extra options for managing the saw data.



Buffered transfer to saw

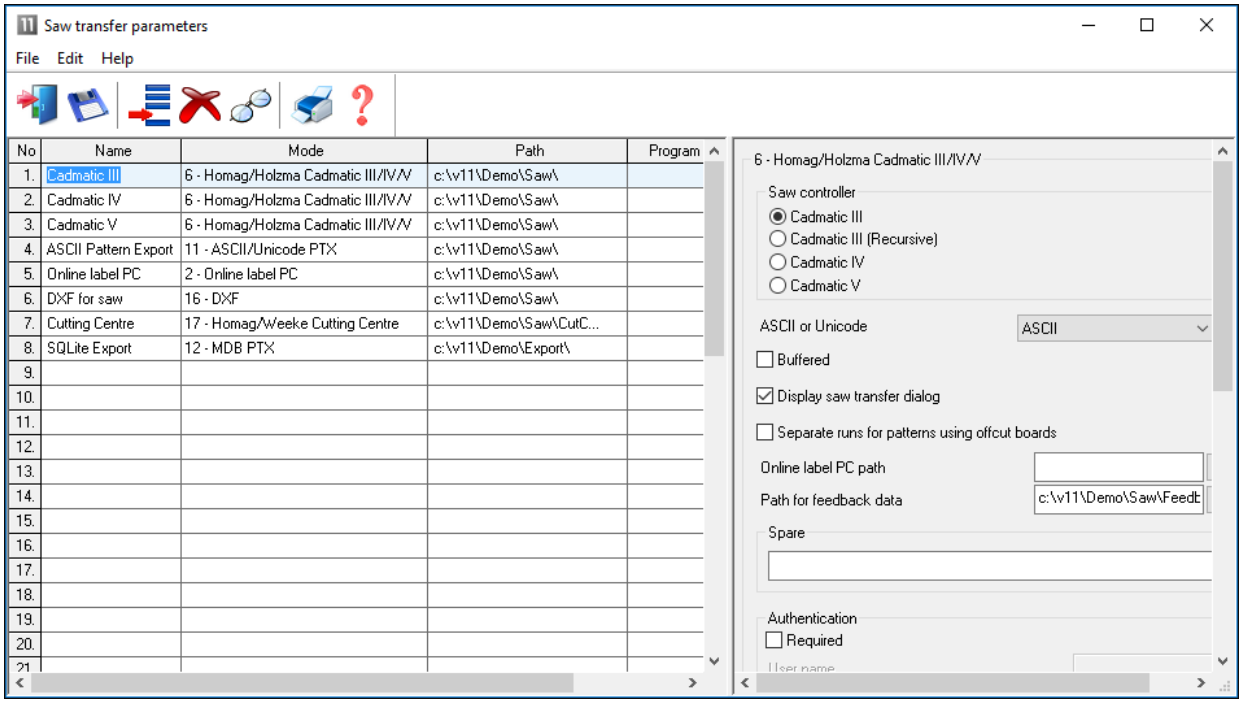
The options are:-

Transfer to saw buffer
Saw Buffer
Transfer buffer to saw
Delete

Saw transfer parameters

The various links to the saws are set up with the *Saw transfer parameters*.

There are many different types of saw and saw controller and the parameters are often very different for each type. The MODE determines the overall type of saw. e.g. Homag/Holzma Cadmatic III/IV/V.



Saw transfer parameters

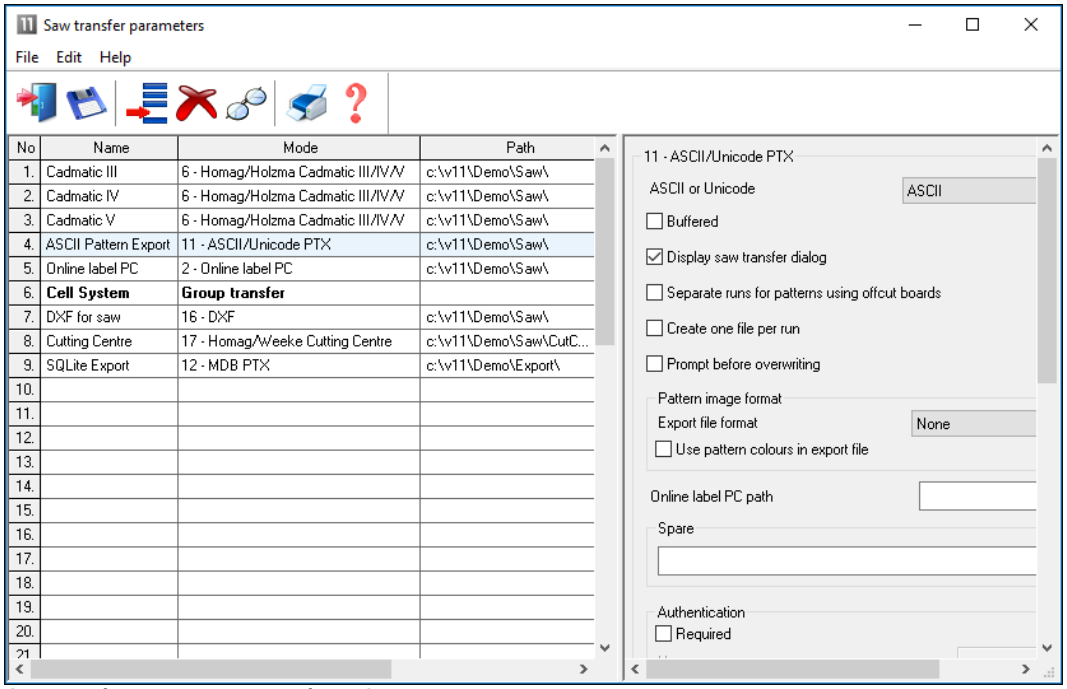
For each row there are extra parameters in the right hand pane to allow for the accurate set up of each saw and its proprietary settings.

All the saw types set up via these parameters are shown as options on the Machine Interface menu.

Most suppliers now provide typical examples of how to set the Saw transfer parameters for their types of saw and controller.

Transfer to Groups

The Saw transfer parameters do not only apply to saws and can be used to transfer data to a group of machines on a flow line, for example, a Homag/Holzma Saw and Homag Automation destacking machine, using the 'Group transfer' option.



Saw transfer parameters - transfer to Group

The machines in the group and the order of the machines are set up via the Saw transfer parameters. There are extra options in the right hand pane to set up the communication link for each machine on the Network.

The Group option appears as an item on the Machine interface menu at the main screen and this can then be used like any other transfer option to send data to all the machines in the group; this ensures the same data is sent to each machine and it is correctly co-ordinated.

This type of transfer is only suitable for transfer modes where export file names are unique and create 'one file per run'. The pattern exchange transfer format (PTX) is typically used for sending data to other machines such as Homag, Homag Automation etc.

Saw Interface summary

Transfer data to groups of machines	•
Configurable transfer methods for multiple saws	•
Shift, Run and Cycle analysis	•
Export data to a variety of formats	•