



## Saw Interface

**Transferring optimised patterns (cutting instructions) to the saw.**

The program supports a wide range of saw controllers:-

- Cadmatic (all types)
- Compumatic
- Topmatic
- Giben
- Schelling – (Commander 2 and Commander 4 – MCS)
- Homag Sawtech (CHxx, NPS400, Ilenia)
- Table saws
- Online PC
- Various other controllers
- Printed patterns and cutting instructions for manual saws



## Saw Transfer

Once selected, the saw transfer program prompts with the current job.

	Tm	Optimising progress	Cutting list	Title	Run	Optimisin...	Saw par...	Board list
Global								
1.			Bedroom & b...	Bedroom & bathr...	Bedroom ...	default	default	Bedroom & bat...
2.								

*Transfer to saw batch screen*

After job selection and confirmation, the program displays the data it will transfer.

Run	Parts	Saw	Material	Patterns
Tension trims	Tension trims	Tension trims	MED-DEN-FIBRE-18MM	1 - 3
			MFC18-RED	4 - 7
			MFC18-TEAK	8
			MEL-CHIP-18MM	9 - 10
			MFC18-OAK	11

OK Print Help Cancel

*Transfer to Saw*

The transfer is finished once this data is confirmed.

*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. Use this option to analyse the feedback from the saw for each shift.

Shift number	1				
Operator	KJW				
Cycles	100				
		hh:mm	Cutting time	7:22	88.17%
Start of shift	26-09-15	08:13	Error time	0:12	2.31%
End of shift	26-09-15	16:45	Waiting time	0:30	6.02%
		-----	Service time	0:18	3.50%
Shift time		8:32		-----	-----
Break time		0:10	Operating	8:22	100.00%
=====					
Waiting time				hh:mm	
Standstill				0:01	
Unexpected interruption				0:02	
Waiting for material				0:03	
Waiting for destacking area to be cleared				0:02	
Mechanical breakdown				0:03	
Saw blade change				0:00	
Other				0:19	
				-----	
				0:30	

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:

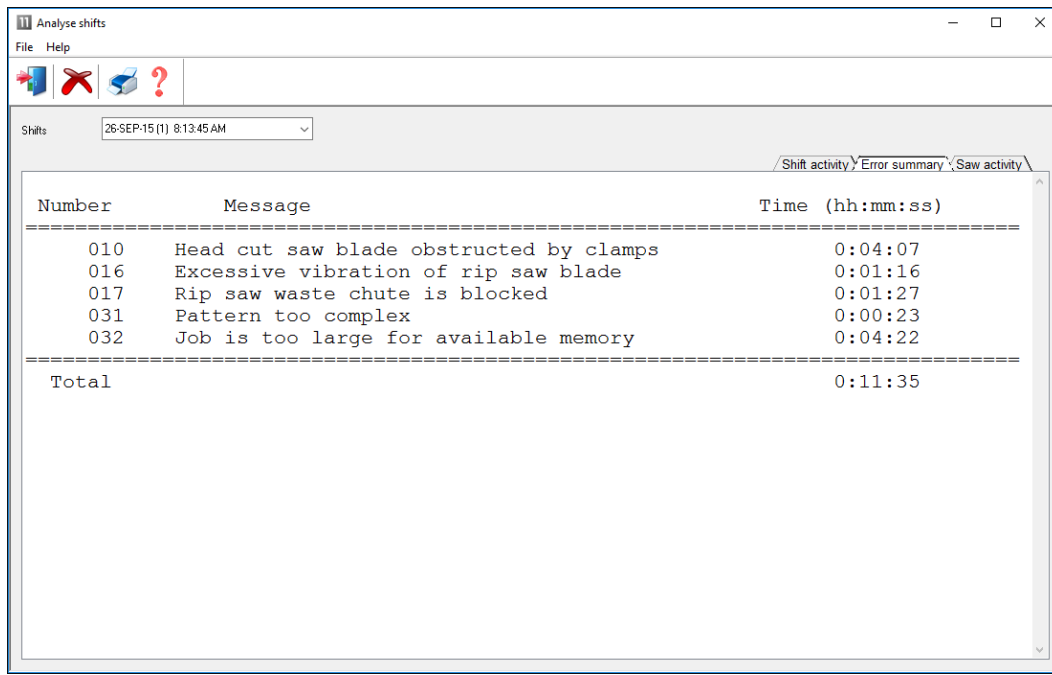
Shift time - total duration of shift  
Cutting time - time that the saw is cutting  
Error time - down time recorded against saw errors  
Service time - time for service operations (e.g. change saw blade)  
Waiting time - saw not in use

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.

- Click on the tabs at the top right to see more details. The reports available are:-
- Saw activity - shows the full details of each cutting cycle

- Error summary - shows any errors and the cause



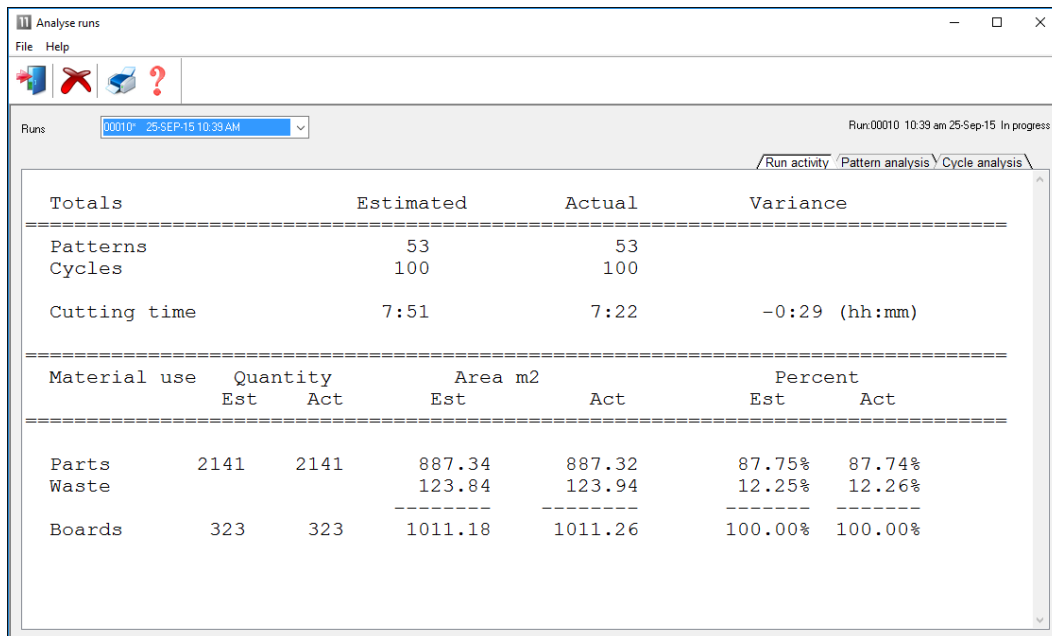
The screenshot shows the 'Analyse shifts' window with the 'Error summary' tab selected. The table lists errors with their numbers, messages, and times.

Number	Message	Time (hh:mm:ss)
010	Head cut saw blade obstructed by clamps	0:04:07
016	Excessive vibration of rip saw blade	0:01:16
017	Rip saw waste chute is blocked	0:01:27
031	Pattern too complex	0:00:23
032	Job is too large for available memory	0:04:22
Total		0:11:35

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.



The screenshot shows the 'Analyse runs' window with the 'Run activity' tab selected. The table displays estimated and actual values for various run metrics.

Totals		Estimated	Actual	Variance
Patterns		53	53	
Cycles		100	100	
Cutting time		7:51	7:22	-0:29 (hh:mm)

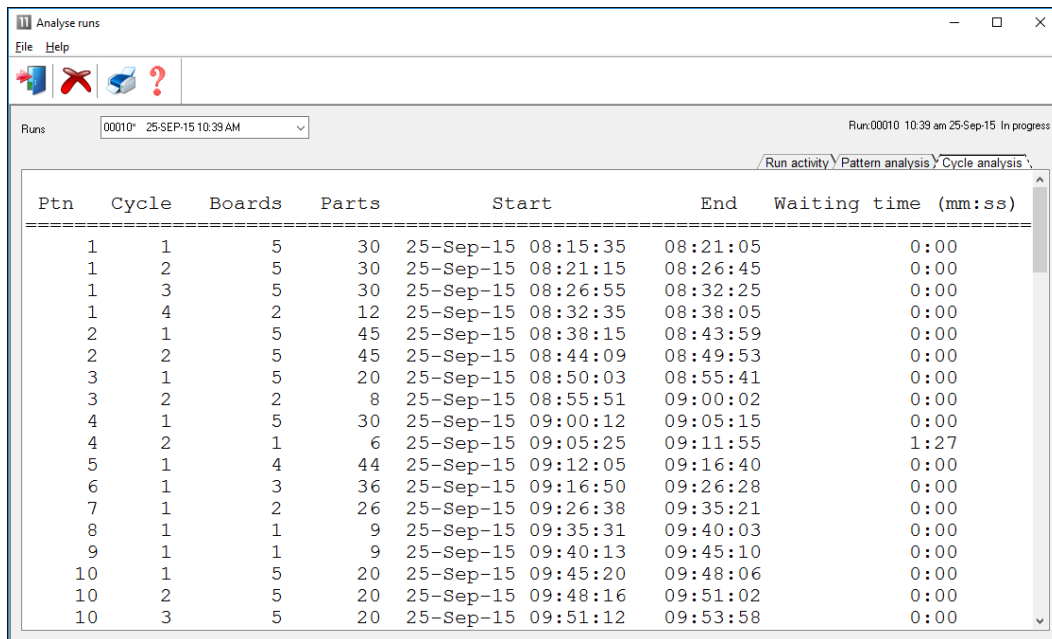
Material use	Quantity		Area m2		Percent	
	Est	Act	Est	Act	Est	Act
Parts	2141	2141	887.34	887.32	87.75%	87.74%
Waste			123.84	123.94	12.25%	12.26%
Boards	323	323	1011.18	1011.26	100.00%	100.00%

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.

- Click on a tab at the top right for more detailed reports, that 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

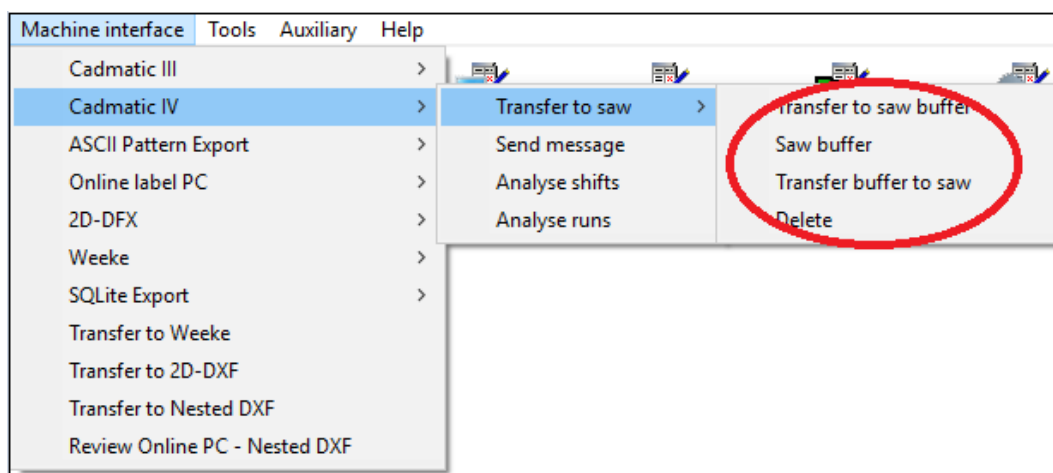
The Saw interface feature also includes an option to communicate and send messages to the saw during operation.

## 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*. Use one row for each saw.

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

No	Name	Mode	Path	Program
1.	Cadmatic III	6 - Homag/Holzma Cadmatic III/IV/V	c:\w11\Demo\Saw\	
2.	Cadmatic IV	6 - Homag/Holzma Cadmatic III/IV/V	c:\w11\Demo\Saw\	
3.	Cadmatic V	6 - Homag/Holzma Cadmatic III/IV/V	c:\w11\Demo\Saw\	
4.	ASCII Pattern Export	11 - ASCII/Unicode PTX	c:\w11\Demo\Saw\	
5.	Online label PC	2 - Online label PC	c:\w11\Demo\Saw\	
6.	DXF for saw	16 - DXF	c:\w11\Demo\Saw\	
7.	Cutting Centre	17 - Homag/Weeke Cutting Centre	c:\w11\Demo\Saw\CutC...	
8.	SQLite Export	12 - MDB PTX	c:\w11\Demo\Export\	
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				

6 - Homag/Holzma Cadmatic III/IV/V

Saw controller

☒ Cadmatic III

☐ Cadmatic III (Recursive)

☐ Cadmatic IV

☐ Cadmatic V

ASCII or Unicode

ASCII

☐ Buffered

☒ Display saw transfer dialog

☐ Separate runs for patterns using offcut boards

Online label PC path

Path for feedback data

c:\w11\Demo\Saw\Feedt

Spare

Authentication

☐ Required

User name

*Saw transfer parameters*

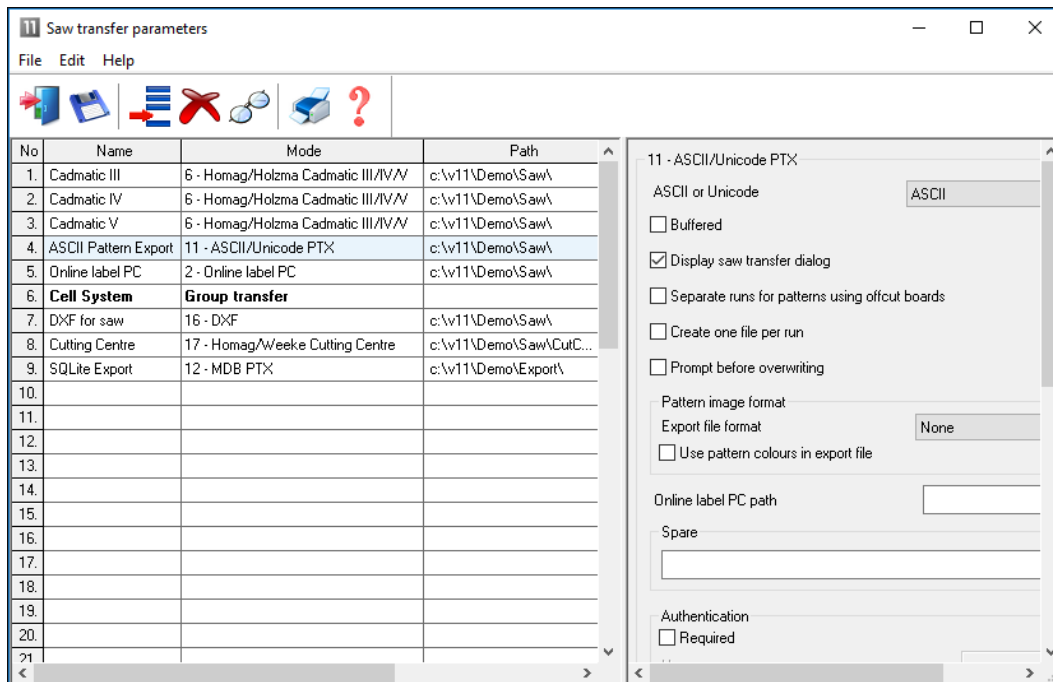
For each row there are extra parameters in the right hand pane to allow for the accurate set up of each saw and its proprietary settings.

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	•