Infor System21 Style Production Planning

Product Guide

Contents

About this guide

The purpose of this document is to describe the functions that can be used within the Production Planning Module.

Intended audience

The guide is intended for any users of the P2 Production Planning business module.

Related documents

You can find the documents in the product documentation section of the Infor Xtreme Support portal, as described in the "Contacting Infor" section.

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Chapter 1   Overview

Introduction

Style Production has been developed specifically to meet the needs of organisations engaged in the production of items such as clothes (apparel), footwear and soft furnishings, where, although the products are diverse, the manufacturing requirements are similar.

In common with other System21 applications, a single copy of Style Production can be operated for any number of companies, the characteristics of each being determined by a number of control parameters. These parameters are held on the Production Company Profile and on the Organisational Model.

Overview of System

Style Production comprises the following integrated applications:

- Production Definition Management
- (Production Planning) Forecasting
- (Production Planning) Master Production Scheduling
- (Production Planning) Material Requirements Planning
- Production Control

Production Definition Management (PDM)

PDM may be run in stand-alone mode if required, and offers a self-contained environment for the definition and management of products, processes, resources and costs. It is the source of control parameters and reference information for all Style Production applications.

The maintenance functions of PDM enable the creation and amendment of reference information which is critical to the functioning of Style Production. Once this data has been set up, PDM is enabled to generate product costs (standard and non-standard) and provide extended analysis of product definitions and processes.

(Production Planning) Forecasting

This provides the facility to forecast demand to style/colour/size level, with products optionally grouped into product families. Such forecast demand is then input into MPS and MRP processing.

(Production Planning) Master Production Scheduling

This provides a top-level master production schedule (MPS) for your critical production items.

(Production Planning) Material Requirements Planning

This provides a detailed material plan for your business via a material requirements planning (MRP) run.

Production Control

This controls and maintains all aspects of the production cycle; from the manual creation and/or maintenance of suggested production orders, through material issuing, to work-in-progress reporting (booking), to the receipt of finished goods into inventory.

Production Control also provides comprehensive enquiries and reports to monitor not only the progress of individual production orders, but also the performance of your factory/production unit(s).

The Production System Applications

The Production system, Figure 1-1, comprises four core applications, governed by a company profile. The link between Style Production applications and Style Inventory Management is mandatory, whilst the others shown are optional, but functionally desirable, for the effective integration of management information.

Company Profile

The Production system, in common with all System21 applications, operates within a multi-company environment.

A company profile sets the basic system defaults and operation policies relevant to each Production company, defines the costing elements, and defines base calculation parameters which are used by all Production functions.

Access to the company profile is usually restricted to system managers and implementation project managers, who will require a comprehensive understanding of the implications of each if its parameter settings. However, awareness of the company profile's purpose and features is relevant to all users.

In addition, further parameters effecting control over the way in which the system operates are found within the Organisational Model.

The Production System (Figure 1-1)
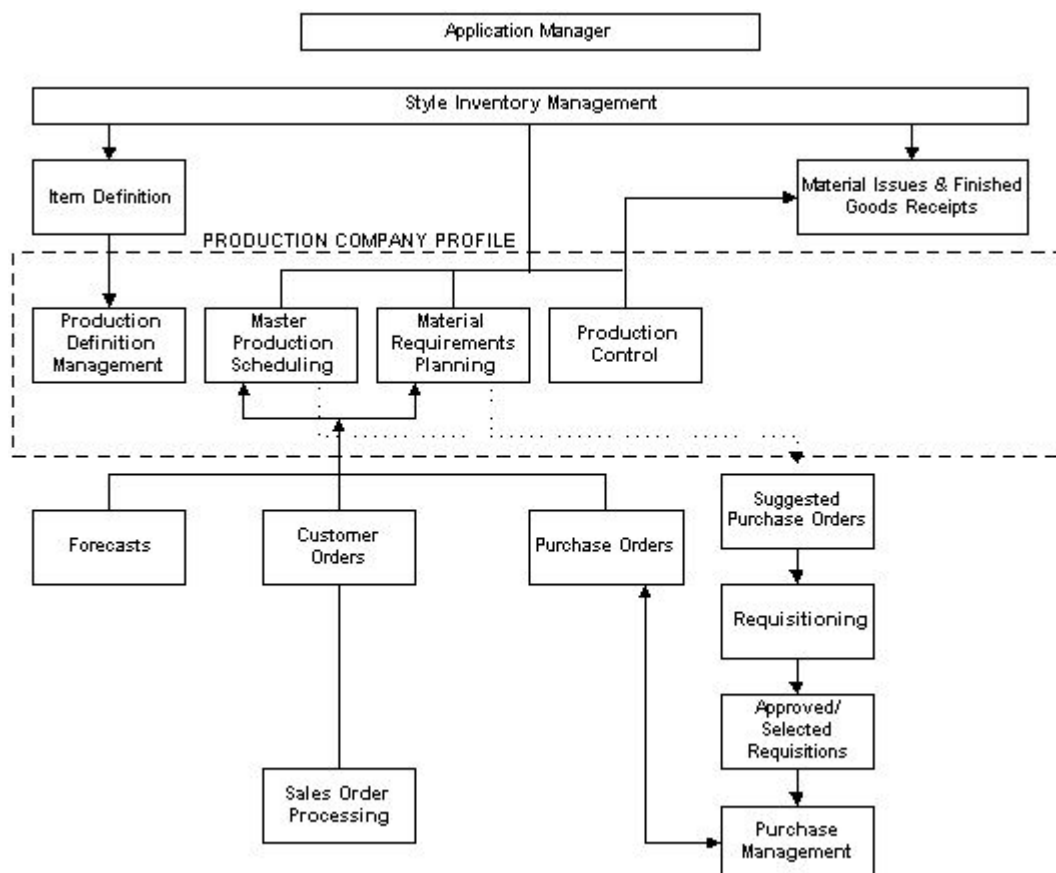
The Operation Management Cycle

The Operation Management cycle addressed by the Production system is summarised in Figure 1-2.

Sales orders and forecasts are combined to create a demand input to the Master Production Scheduling (MPS) application. A high level plan is created which suggests production and purchase order quantities and dates. This plan normally consists of manufactured items.

The capacity of the facility to implement the high level plan may then be checked using the inherent Capacity Planning facility.

Once a plan is agreed, the suggested orders output from the MPS cycle are then combined with associated component items and raw materials to create a demand input to the Material Requirements Planning (MRP) application. MRP reconciles existing production commitments with the revised MPS demand to create a detailed purchase order plan. This plan suggests all purchase orders relevant to a user-defined planning horizon.

When the production plan is finally approved, production and purchase orders are created and the planning cycle passes to the Production cycle.

The Production cycle enables orders of varying status to be released to production. Once released, orders may be tracked by notifying the system of operations and transactions completed though the Maintenance and Transactions functions. Additional facilities enable the entry of transactions and interrogation of the system through enquiry screens. Production reports may also be created. Completed items pass into Inventory to complete the Operation Management cycle.

The Operation Management Cycle (Figure 1-2)
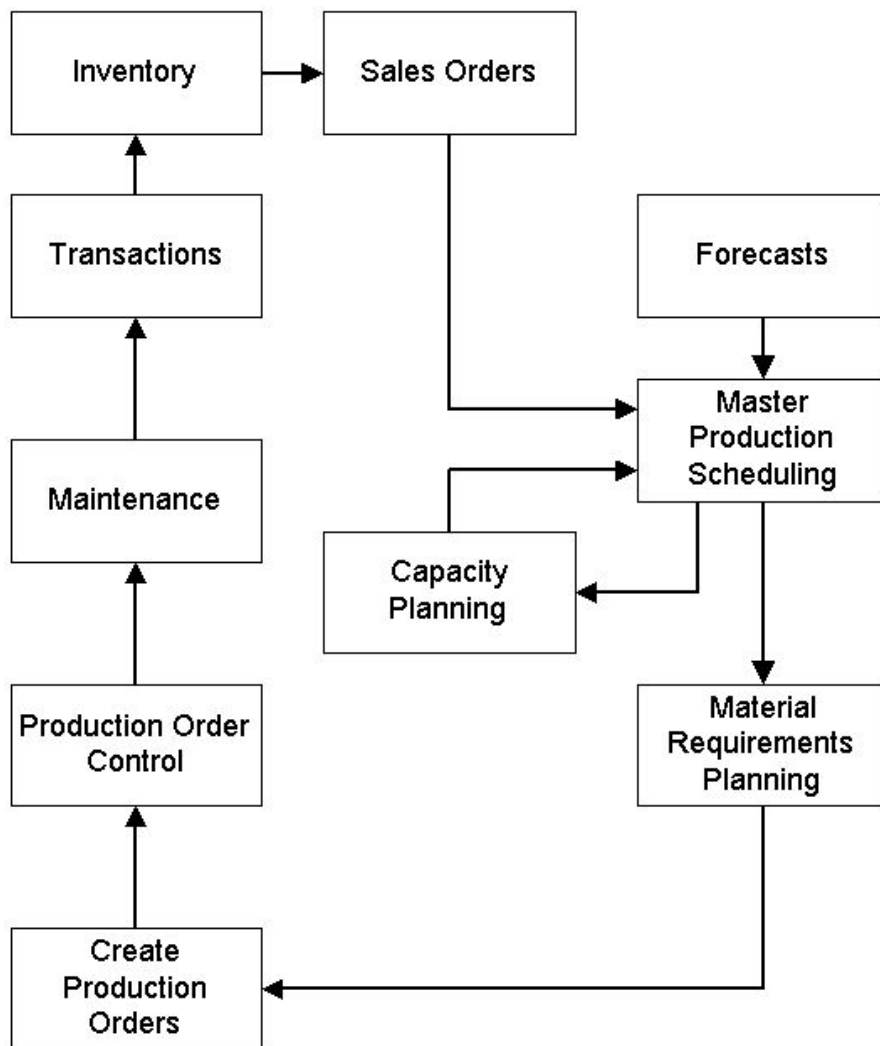
Production Definition Management

Style Inventory Management is the source of the primary item database within the overall system environment for both purchased and production items. Every item to be referenced within Production must first be defined to Inventory.

Production Definition Management (PDM), Figure 1-3, manages the Production database which contains extended, production-specific details of all items that will be used by the Production applications; holds definitions of the resources that will be used to combine materials into finished products; and provides facilities to cost products.

Resources are classified as machines (which may be grouped to form work centres), the cost basis of each machine being defined by an assigned cost centre, departments, labour skills and profiles, operators and teams, and subcontractors.

Single level production routes entered within PDM define the operations required to make an item, the machines at which the work will be carried out, and the materials necessary to complete the operation. The end result, or output, of a production route may be multiple items, such as different colours and sizes of jumpers, shirts or pairs of shoes, or a component (for use in the manufacture of a finished product). The single level production routes are automatically extended into full multi-level structures by the system where required.

Database configuration, in conjunction with the default settings in the company profile, is fundamental to an effective business management system. A clear understanding of the database, its links to Style Inventory Management and the company profile is prerequisite to determining the system to be implemented.

Production Definition Management (Figure 1-3)
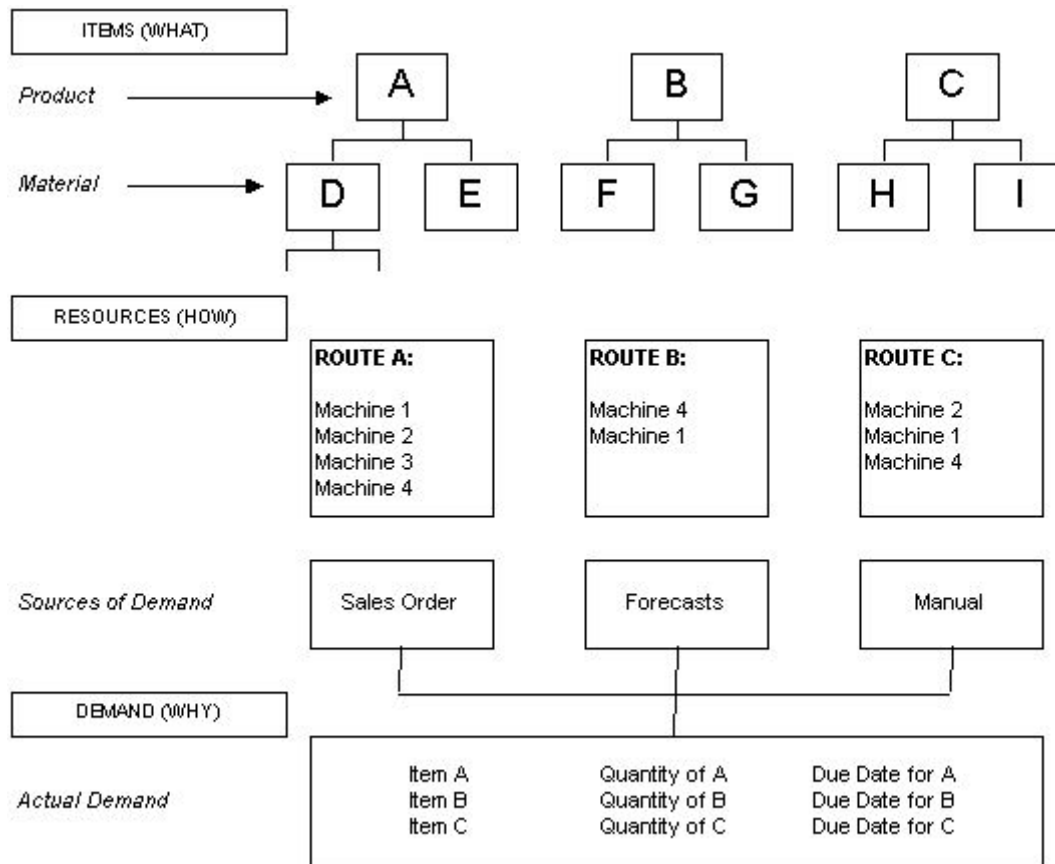
Master Production Scheduling

The Master Production Scheduling (MPS) application, Figure 1-4, produces a high-level production plan for manufactured items. The system then matches the projected demand for designated products to the ability to supply based on user-defined planning models and planning horizons.

Demand is a function of sales orders, forecast, and/or manual entries or a user-defined combination. The ability to supply is a function of the availability of associated items and resources defined within the Production Definition Management application. The resulting plan will, where necessary, suggest amendments to current production orders; and/or suggest the generation of new production and purchase orders. The calculation process for the respective plan generations is simply:

Demand - Availability = Requirement

A demand forecast may be determined using a simple annual forecast defined within MPS.

MPS is a time-based plan of suggestions to meet customer due dates. The plan is derived by the system by working backwards from the customer due date specified, taking account of product lead times, to suggest a latest start date that will achieve completion by the due date.

In each case, a plan is derived that includes suggested purchase orders and production resource requirements across the chosen time horizon. Production orders may be individually confirmed or confirmed 'en masse' and purchase orders can be automatically passed through to the Requisitioning application for subsequent confirmation and transfer to the Purchase Management application in advance of further MRP planning, if required.

MPS also incorporates capacity planning. This may use summary routings to determine the loading in hours on the Production facility resources relative to their capacity in hours. It takes account of machine capacities when assessing the demand proposed by MPS plans and determines a loading factor for each machine. Capacity planning also determines labour loading.

Item planning route information is accessed to convert demand (in quantities) into the number of hours required (the load) at each machine.

Planned supply dates are used to schedule these required hours into appropriate weekly production time slots at each machine, with reference to machine standard capacities and with due regard to planned down times and non-working days affecting the planning run timescales.

Reports and enquiries are available which compare the weekly machine/work centre hours required and available within the planning run timescales, so that it is possible to determine whether over or under load capacity situations at machines and for labour skills occur and thus to decide on action(s) required.

The routine enables finite capacity planning by individual order, but assumes infinite capacity of the facility. It is therefore the responsibility of the planner to complete any fine-tuning of the workload to optimise the loading factor and hence utilisation of production capacity.

MPS (Figure 1-4)
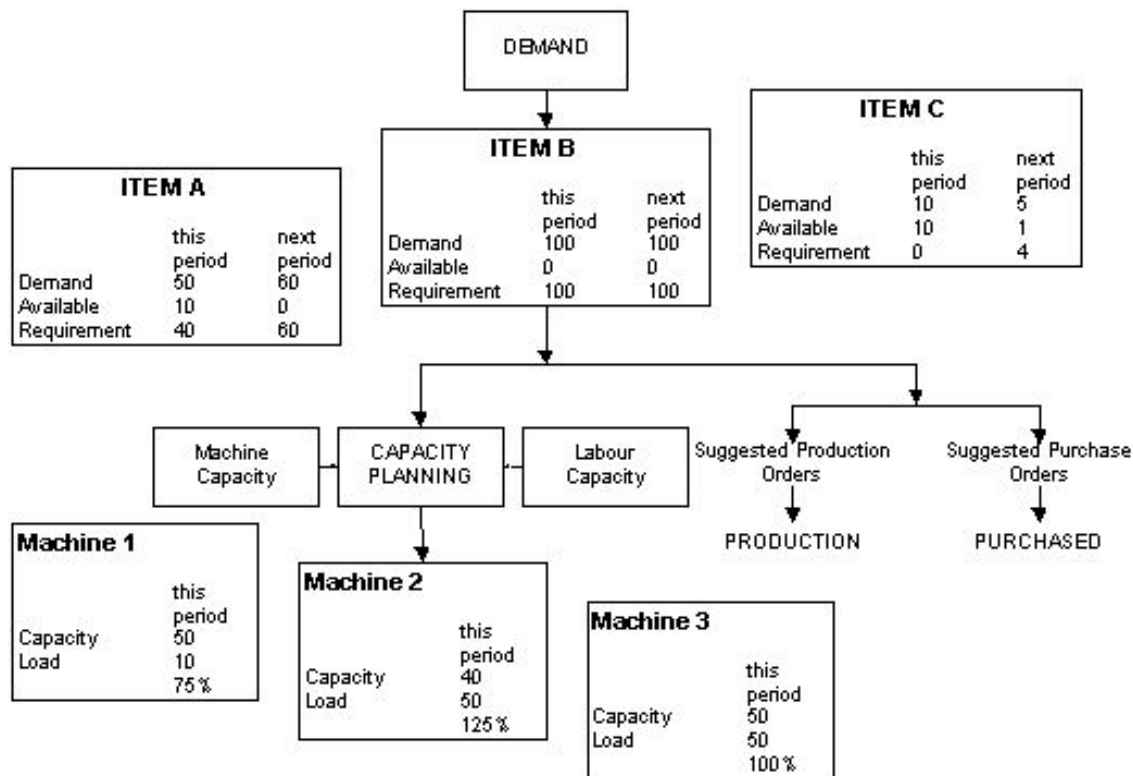
Material Requirements Planning

Material Requirements Planning (MRP), Figure 1-5, produces a detailed plan for the purchase of all the lower level items, sub-parents and raw materials. Planning is again based upon user-defined models.

MRP differs from MPS in two key respects. Firstly, it includes all items in a structure. Secondly, there is a choice of modes of processing:

- Regenerative - Plan for all items across all structures
- Selective - Plan only selected items and hence selected structures

MRP and MPS are autonomous applications. Either may be used stand-alone. However, MRP is normally driven by MPS demand as shown in Figure 1-5. A separate MRP demand may be used to enhance the requirements for dependant MRP items.

MRP and MPS plans are based upon independent user-defined models and reporting profiles. The reporting profiles may be based on a non-linear time horizon; for example, a three-month plan might be structured as follows:

Next Week	Daily detail
Week 2-4	Weekly detail
Week 5-8	Fortnightly detail
Week 8-12	Monthly detail

MRP (Figure 1-5)
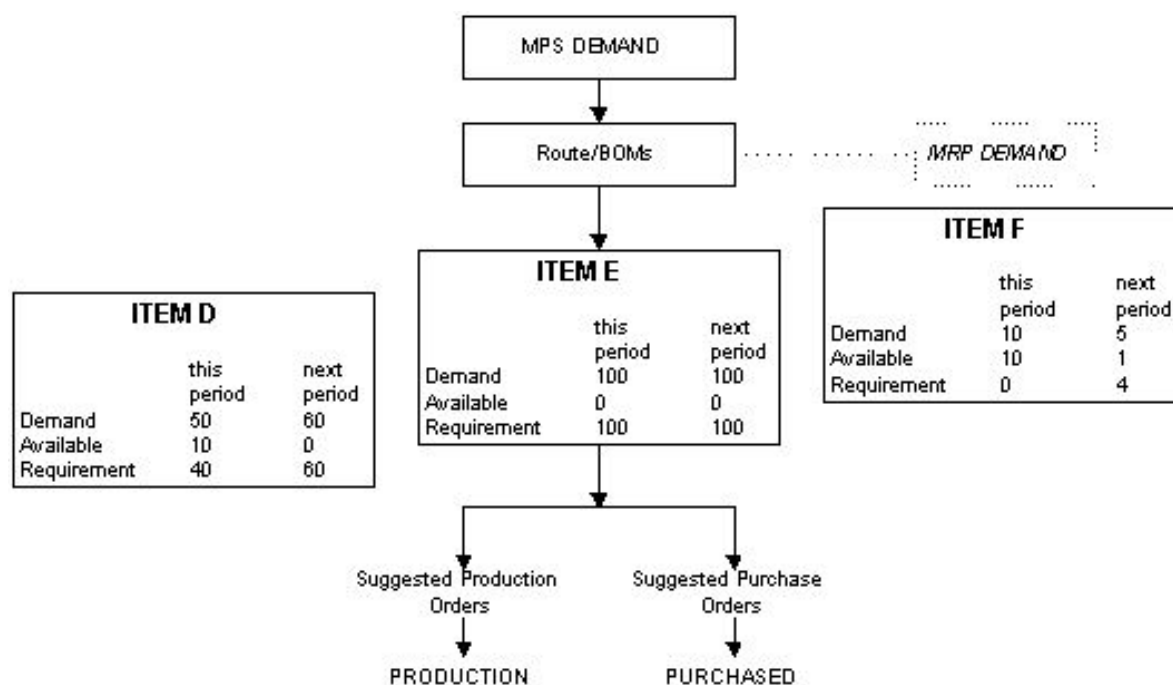
Production Control

Production Control, Figure 1-6, provides the means to record the 'real world' implementation of the production plan and permits operational transactions to be made against the plan.

Production Control enables the system to monitor the progress of orders through the Production facility by logging the status of each order at a machine. The order status may be:

- Suggested
- Planned
- Confirmed
- Released

- Active
- Completed
- Cancelled

In addition, Production Control facilitates the recording of operational transactions; the issue of materials, backflushing of bulk issues, scrap, re-work and placing unused materials back in stock.

Facilities are available to assist in the management of machines, work-in-progress inventory (WIP), and inventory stocks. Production-related reports may be generated which show costing and efficiency information. The accuracy of these reports is dependent on good discipline in booking operations. The rigor of such discipline has to be balanced with the demands of the Production environment.

Production Control Figure 1-6

```
Raise production order          →  print initial production order
(MPS or manual)
        │
        ▼
Check material
availability and allocate
at batch level
        │
        ▼
Release production              →  print final production order
order                                      │
        │                                  ▼
        ▼
Issue materials                    auto bundle creation ──────┐
        │                                                     │
        ▼                                                     │
Report production pre           →  at style/colour/size or at style
or non bundle control                                         │
        │                                                     │
        ▼                                                     │
Manual bundle up                →  print barcoded tickets ◄───┘
creation
        │
        ▼
Report production               →  bundle wand barcodes
        │
        ▼
Complete production             →  report final operation at style/colour/size
        │                                          │
        │                                          ▼
        ▼
Receive stock at                ◄── report final operation at style/colour/size
style/colour/size
```

The Critical Path to Production

The Style Production Definition Management product guide provides an overview of the critical path to follow in setting up a Style Production company, managing data take on and ultimately shipping your finished goods to a customer.

The path described also assumes you are working within a fully comprehensive, integrated system, where the following applications are available:

- Style Inventory Management
- Style Sales Order Processing
- Style Purchase Management (and by implication: Accounts Payable/Purchase Ledger)

In this manual, the critical path table has been repeated, with steps specific to, or particularly relevant to, Production Planning highlighted in emboldened italicised text. The implementation of Production Planning needs to be considered with your system manager and system consultant in the context of its relationship to all other Style Production applications.

Each of the following stages is numbered consecutively in the order in which data definition should take place.

Note: *Do not assume that all prior stages have to be completed before lower level stages can be started. This is a guide, not an absolute order.*

You may want to hold discussions with your system consultant with regard to an implementation procedure specific to your requirements.

Step	Description	Menu	Tasks
	Prior to Style Production		
1)	Create a new company via Application Manager.	STRM400	
2)	Authorise the user(s) to the new company in Style Distribution as necessary.	STRM400	
3)	Copy the company in Style Distribution.	STCO	6
4)	Maintain the Style Sales Order Processing, company profile. Set the Style Production in Use flag to 1 (Yes).	STCO	1
5)	Maintain the Style Inventory Management company profile. Create stockroom records, including work-in-progress (WIP) locations and subcontractor materials stockroom.	STCO	2
6)	Maintain the Style Purchase Management, company profile.	STCO	3
7)	Create suppliers, including subcontractors, in Accounts Payable (Purchase Ledger).	APM	1
8)	Create colours for each company.	STINM	2

Step	Description	Menu	Tasks
9)	Create sizes for each company.	STINM	3
10)	Create Style Inventory Management calendars.	STINM	10
11)	Create Style Inventory Management periods.	STINM	11
12)	Create search families.	STINM	12
13)	Create size masks.	STINM	4
14)	Create inventory descriptions.	STINM	1
	Style Production		
15)	Authorise user(s) to Style Production.	STRM400	
16)	Maintain the Style Production company profile.	P1U	1
17)	Create Organisational Models.	P1U	6
18)	Create company parameters: planner codes and production stages.	P1U	2
19)	Create styles and materials.	P1M	1
20)	Create cost centres.	P1M	30
21)	Create calendars.	P1M	31
22)	Create shift profiles.	P1M	32
23)	Create departments.	P1M	33
24)	Create machines.	P1M	34
25)	Create work centres.	P1M	35
26)	Create labour skills.	P1M	37
27)	Create labour profiles.	P1M	38
28)	Create bundle ticket types.	P1M	36
29)	Create resource capacity profiles.	P1M	21
30)	Create critical resources.	P1M	20
31)	Create standard operations.	P1R	1
32)	Create style route/BOMs.	P1R	2
33)	Create price list profiles.	STOEM	5
34)	Create customers.	STOEM	2
35)	Create price lists.	STOEM	6
36)	Enter sales orders.	STOEP	2

Step	Description	Menu	Tasks
37)	Create MPS planning models.	P2M	1,2
38)	Create style forecasts.	P1F	13
39)	Spread forecasts to variants.	P1F	15
40)	Create supply sourcing rules.	P2M	3
41)	Run MPS.	P2M	11
42)	Review MPS.	P2M	15
43)	Review capacity.	P2M	22
44)	Confirm suggested orders.	P2M	14
45)	Create MRP planning models.	P3M	1,2
46)	Run MRP.	P3M	11
47)	Review MRP.	P3M	13
48)	Create purchase orders from suggestions.	STRQP	2,11,21,31
		STPMR	1
49)	Create purchase orders manually.	STPMP	1
		STPMR	1
50)	Enter raw material receipts.	STPMP	3
51)	Transfer purchasing costs.	P1C	3
52)	Full cost roll up.	P1C	1
53)	Create activity types.	P1U	31
54)	Create operators.	P1M	39
55)	Create teams.	P1M	40
56)	Define user authority levels.	STPMM	7
57)	Create manual production orders.	P4M	1
58)	Allocate lot materials.	P4E	2
59)	Release production orders.	P4M	2
60)	Issue materials.	P4T	1
61)	Report (book) production.	P4T	2,3,4
62)	Enter subcontractor WIP shippers.	P4T	6
63)	Progress subcontractor work.	P4T	7
64)	Receive from subcontractor.	P4T	8

Step	Description	Menu	Tasks
65)	Receive into finished goods.	P4T	2,3,4
66)	Enter supplier invoices.	APP	1,2,3
67)	Match invoices to GRNs.	STPMP	6
68)	Despatch to customer.	STOEP	8

Chapter 2   Planning Process

2

Planning Process Introduction

Within Style Production Planning there are two modules, Master Production Scheduling (MPS) and Material Requirements Planning (MRP). These share a great deal of common logic. You can use either of the processes, or both; however, MPS demand normally drives MRP.

MPS or MRP scheduling runs build a future production requirement using data entered in Style Production and other modules, such as Style Sales Order Processing, Style Forecasting and Style Purchase Management.

Note: Before you can run MPS or MRP, you must define planning models and reporting profiles and enter current sales, purchases and forecast data.

The output from the runs is a series of suggestions which:

- Suggest new production and purchase orders to meet required demand
- Re-plan any existing orders, by suggesting changes to order quantities and due dates

Although both MPS and MRP use the same processing rules, MPS gives a high level review of demand for sales, and items, critical to production. MRP extends that plan to include the demand for all materials. You can also use MPS for capacity planning.

Planning Models

To use MPS and MRP, you define planning models, which must include:

- Stockrooms
- The planning process considers only materials in, or finished styles received into, stockrooms in the planning model.
- Calendar
- This is the production calendar for scheduling work and defining forecasting week numbers.
- Reporting profile
- This is the reporting period used on reports, enquiries and MPS/MRP reviews.

Use planning models to view the results of different plans. You can perform planning runs on different areas of your data and analyse the results of different runs.

Note: If you run MRP using the Include Suggested MPS parameter, you must define identical MPS and MRP models.

The Live Model

You can define three types of model: centralised, multi-plant and plant. You can also specify whether the plants are live. You must define at least one planning model as the live model in the company profile. From the live model, you can change or confirm resulting plans and schedules.

In a non multi-plant environment, you normally have one live planning model that you use to manage your ongoing production. To try other plans without changing the day-to-day operation, you can set up other planning models.

Types of Demand

Within MRP and MPS, there are three types of demand, Independent, Dependent and Actual demand.

Independent Demand

Independent demand is demand entered for the item, such as sales orders or forecasts. Independent demand does not involve any other item and you cannot calculate or derive it. It must originate from an external source.

Dependent Demand

Dependent demand is demand on an item resulting from a plan to produce another. For example, if you produce an item, you must issue materials. The demand for the materials is dependent demand.

You can have any number of dependent demands associated with a single supply, or production order. If you cancel the production order, all of the dependent demands disappear.

For example, if you manufacture shoes, including all components, you have a sales or forecast demand for your shoes. Since you also manufacture the soles of your shoes, they have their own route and BOM.

You must balance an independent demand for shoes by a supply, or production, order. This creates a dependent demand for soles, balanced by a supply, or production order, and a dependent demand for laces, balanced by a supply, or purchase order. There is also a dependent demand for rubber balanced, by a supply, or purchase, order.

However:

- You can also sell laces independently, so they are also subject to independent demand, such as sales orders or forecasts.
- You can place purchase orders for rubber well in advance. Therefore independent demand, such as stock orders, also controls the orders by stock forecasts.

Actual Demand

Actual demand is the sum of independent and dependent demand on an item.

Discrete Demand Planning Process

Discrete Demand

Where the style is flagged as Discrete Demand and the sales order line has an Order Method of 1, suggested supply is planned by MPS separately for that sales order line.

Order policy rules (minimum, multiples, maximum, batch quantity etc.) are applied to each demand, so a number of supply orders can be generated for a single demand.

Forecast Demand is planned with supply accumulated and netted off on a daily basis. Sales order lines that do not have an Order Method of 1 are planned normally. Therefore, on a single style it is possible to have some demand planned discretely and some that is not.

Dependent Demand

Discrete Demand planning will function for dependent demand (demand created for manufactured components of other production orders) as well as external Sales Order demand. In this way, all supply orders through multiple Bill of Material levels can be linked to a specific sales order.

When order policy rules create a number of suggested supply orders for a single demand on a parent item, components will have separate dependent demand quantities for each suggested quantity. If the component is also a Discrete Demand item, separate suggested supply orders will be planned for each of the dependent demand quantities.

It is possible for a style to have dependent demand from a number of parent styles, some flagged as discrete demand and some not. The following table defines when linked supply is created:

Item Flagged as Discrete Demand?	Parent Style Flagged as Discrete Demand?	Demand Type	Linked Supply Created?
Yes	N/A	Sales Order	Yes
Yes	No	Dependent Demand	No
Yes	Yes	Dependent Demand	Yes
No	N/A	Sales Order	No
No	No	Dependent Demand	No
No	N/A	Sales Order	No

No	Yes	Dependent Demand	No

Note: This shows that linked orders (at all BOM levels) can only originate from a finished Style sales order. Dependent demand from a parent not flagged as Discrete Demand does not create linked orders, even though the item itself may be flagged as Discrete Demand; the normal net requirement calculations are used to plan supply.

Net Requirement/Available Stock MPS calculations

On Discrete Demand items, the opening stock balance is reduced by production receipts for linked sales orders which have not been despatched or for linked production material requirements which have not been issued.

The demand/supply status on linked orders is set to:

Status	
SX	Sales order (excluded)
PX	Planned production order (excluded)
CX	Confirmed production order (excluded)
RX	Released production order (excluded)
IX	In Work production order (excluded)

These are all excluded from net requirement and available stock calculations.

An additional KX Stock (excluded) demand shows the quantity received to stock from the linked production order not yet dispatched on the sales order (sales order line allocated quantity + in picking) or issue to a production order material requirement. This is for information only and is not included in net requirement calculations.

Forecast/Sales Order Demand Netting

Demand Policy = 1 (Greater of FC or SO + DD)

For Discrete Demand items, the sales order demand is always taken. If the Forecast demand is greater than the Sales Order demand, the Forecast quantity is changed to the difference between the two.

For example:

    Forecast   = 100

    Sales Order   = 80

becomes:

FC Forecast   = 20

SO Sales Order   = 80

FX Forecast (excluded) = 80

Demand Policy = 2 (Greater of (SO + DD) or FC)

For Discrete Demand items, the sales order and dependent demand is always taken. If the Forecast demand is greater than these, the Forecast quantity is changed to the difference between the Forecast and the sum of Sales Order and Dependent demand.

For example:

Forecast   = 100

Sales Order   = 35

Dependent Demand   = 40

becomes:

FC Forecast   = 25

SO Sales Order   = 35

DD Dependent Demand   = 40

FX Forecast (excluded) = 75

Demand Policy = 3 (Greater of SO or DD) and 5 (Forecast only)

These demand policies are inconsistent with Discrete Demand planning. If the Demand Policy is set to **3** and the Discrete Demand flag is set to **1**, an error message is displayed.

Note: Demand quantities for Discrete Demand items cannot be amended via the Review Demand task.

MPS Re-planning of Linked Production Orders

The generation of Re-schedule In/Out exception messages for linked production orders is controlled by the planning filter parameters, as normal orders are.

Quantity change exception messages are not generated for linked orders. The total production order supply quantity for a linked order is accumulated.

If the supply quantity is less than the demand order quantity, two demands are created:

- One for the existing supply quantity, with a status of Excluded
- One for the quantity difference between the demand order and supply

This quantity is not excluded, so additional linked supply will be planned.

If the supply quantity is greater than the demand quantity, ES (Excess Supply) records are written (unless prevented by the setting of parameter type STYD, code SESM) and are shown in reverse image on the review.

Confirm Suggested Orders

The Confirm Suggested Orders task is enhanced to allow creation by sales order line. Linked suggested production order supply orders are grouped with their originating sales order line. When creating planned or confirmed orders from suggestions, all suggested supply orders linked to a sales order line are confirmed together in one group; individual suggested supply orders cannot be confirmed separately.

Selection Window

Selection Parameters

From Start Date/To Start Date

Choose the start dates of the orders to be confirmed.

Year/Week Number

The Year field defaults to the current year.

A week number can be entered that is valid on the calendar file defined on the model's reporting profile, or if that is blank, the company profile calendar code.

The week start/end dates are retrieved from the appropriate calendar for use as the From/To order start date selection that is subsequently displayed on the detail window.

From Planner/To Planner

Enter planner codes if required.

Order Status

Select one of the following:

SW to PW (1) - From SW (suggested production order) to PW (planned production order)

SW to CW (2) - From SW (suggested production order) to CW (confirmed production order)

PW to CW (3) - From PW (planned production order) to CW (confirmed production order)

Work Order Planning Level

Enter a planning level.

Alternatively, use the prompt facility to select from the inventory description WORL Production Works Order Level pop-up.

Work Order Planning may be set to **0**, **1** or **2** to display orders suggested at Style, colour or full product respectively.

All Levels

This may be used as an alternative to the above.

Use this checkbox as follows:

Checked - To display ALL suggestions, each at the production level view set for its item. The order creation and flagging window then shows additionally the colours or SKU details respectively for suggestions generated for items with production order levels **1** or **2**.

Select Sales Order Linked Supply

Use this checkbox as follows:

Unchecked - For unlinked orders to be selected and displayed on the current order confirmation subfile window

Checked - For linked (discrete demand) orders to be selected and displayed on a new subfile window, grouping supply orders by their linked sales order demand

Note: When Sales Order Linked Supply is selected and planned or confirmed orders are created from suggested orders, the start date range selection functions differently.

Note: As all suggested supply orders for a sales order line must be confirmed as a group, all suggested supply orders within the start date range are included plus any other suggested supply orders which are linked to sales order lines included by the start date range selection.

During creation of planned or confirmed orders from suggestions, all supply orders for a sales order demand are selected as a group together. A selection option is only available against the first line for a group of suggested supplies for the same sales order line.

The format of the production order number assigned is controlled by the Demand Based Order Number parameter on the Style Manufacturing Item Additional Details window (see Style Maintenance for further details).

Caution: Orders can be created via MPS Review option 5, though this is only allowed on suggested orders for styles with a single BOM level of discrete demand.

MPS Enquiry

Linked suggested order supply lines display the originating sales order number in the supply order column.

Production Receipts

When entering a production booking of good quantity at the last operation on a production order, the physical stock is increased at the production order's receiving stockroom.

On back-to-back orders, the allocated balance on the linked sales order line is also updated and the outstanding reserved quantity is reduced. The same processing will be done for discrete demand linked orders where the linked demand order is a sales order.

Caution: For linked demand to a production order, the facility to reduce outstanding reserved quantities and create batch reservations is not provided.

Sales Order Reservations Enquiry

The Reservations enquiry already displays production orders linked to a sales order for back-to-back orders. Reservations are now created for discrete demand linked orders so that these will also be displayed by the enquiry.

However, when the Reservations enquiry is called from the Production Order enquiry, the option to enquire on a linked production order is not provided.

Sales Order Supply/Demand Exception Report

This report prints exception messages for back-to-back orders and reservations. As discrete demand linked orders also create reservations, exception messages are generated for amendments to linked sales and production orders.

Sales Order Entry

Sales order lines for discrete demand styles have a default of Order Method of **1** (Make to Order) to prevent sales order entry functions from allocating stock to the sales orders. The order method can be overridden to allow creation of order lines that will not be planned as discrete demand.

Common Processes

Note: The MPS and MRP runs generate data specific to a planning model; the planning model defines the stockrooms to consider.

The MPS/MRP runs comprise two distinctive stages:

- Pre-processing
- Processing

After completing these stages, you review the output produced and make scheduling and procurement decisions based on the recommendations.

Pre-processing

Pre-processing accumulates the reference data for the processing stage and consists of a number of steps:

- Low-level code analysis
- Item selection and stock consolidation
- Extraction of sales orders
- Extraction of production orders

- [MRP only] Extraction of demand from MPS
- Extraction of purchase orders
- Extraction of sales and stock forecasts

Processing

Processing provides the analysis and produces the recommendations; and consists of a number of phases:

1 Consumption of forecast

2 Calculation of daily demand

3 Adjustment of supply to meet net demand

4 Summarisation of variant details to style level

5 Explosion of recommendations

6 Generation of daily machine and labour loading requirements

Run Parameters

When you submit the MPS and MRP run, you enter parameters to determine the scope of the run. These user-defined dates and periods are shown in the following example:
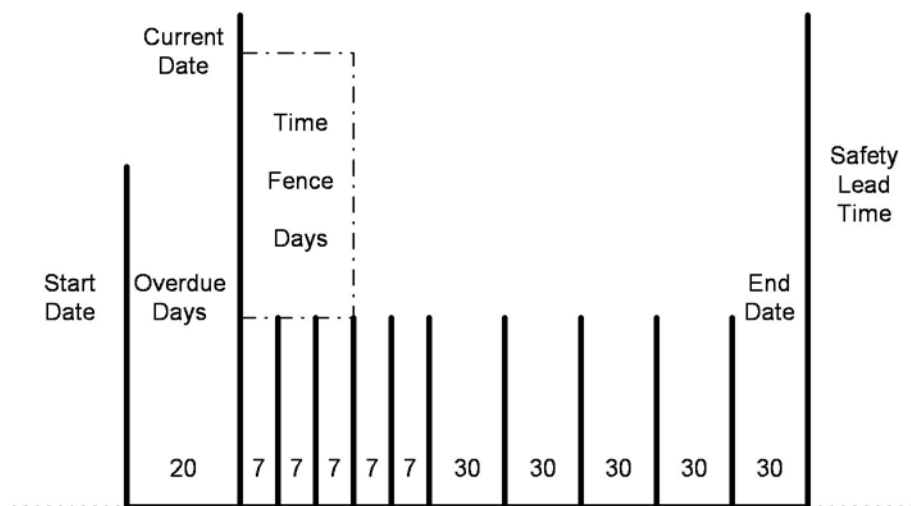
User Defined Reporting Type 'Buckets'

Current Date

This is the live date for the plan. The start date and frozen period, or time fence days, are calculated from this date.

Overdue Days

This is the number of days of overdue supply and demand you want to consider.

Start Date

Note: *This is not displayed for MRP.*

This is the first date considered for the run. Any orders before this date are ignored. It is the current date minus overdue days.

Time Fence Days

The period between the current date and the time fence date is fixed. This is a frozen period, or schedule, in which the MRP or MPS run does not make any recommendations. You can either enter the time fence days, or use the production lead time for each style.

If you want to use the production lead time, **check** the Use Item Time Fence field. You define the production lead time in the Item Master file. If you do not enter a time, or it cannot be calculated, the run uses the default time fence days.

Safety Horizon Days

This extends the end date to include all generated demand in the lower level analysis.

End Date

This is the last date considered in the run. You can either enter the date directly, in which case the date is added to the safety lead time, or leave the software to calculate this date as the cumulative lead time for each style added to the safety lead time.

If you want to calculate the end date, **check** the Use Item End Date field. You enter the cumulative lead time in the Item Master file. If you do not enter a time, or it cannot be calculated, the run uses the global, default end date.

Note: *When calculating the time fence days and end date for non-production items, the software uses the purchasing lead time.*

Pre-Processing

Both MPS and MRP break down high-level demand into lower level supplies and demands. Demand is an anticipated event that reduces the stockroom inventory of an item, for example issues to satisfy customer sales or production orders.

Supply is an anticipated event that increases the stockroom inventory of an item, for example, receipt from a production order or a purchase order.

Note: *Sales forecasts also represent demands.*

Style Production Planning processes all the demands and supplies for all your styles and identifies where you need to change your plans. To do this, the software calculates the expected stock level of every style throughout a specified period. The software compares the stock level with the required stock of the style and displays suggested actions whenever you cannot meet requirements.

The software first considers the demand on your finished products, so that it can determine whether your current plans will provide enough stock. If not, the software recommends suggested supplies, usually by production orders.

All existing production orders and new suggestions create demands on component items. Therefore, when the software has reviewed all finished products, it then reviews the components.

This process continues until all items have been reviewed.

Step 1: Low Level Code Analysis

This step checks the database to make sure that there are no conditions present that will cause the planning run to fail. It validates the data and then assigns the low level codes.

Note: To check all routes and BOMs, run the Generate Low Level Codes task before running MPS and MRP.

Note: If you check the Suppress Low Level Code Generation field on the Run Options window, this phase is skipped.

Note: For MPS, the Lowest Level to Review field on the MPS Run Options window determines how many levels, within routes and BOMs, the software searches for occurrences of items.

Note: If you have multi-level routes and BOMs, make sure you set the level to include the lowest level at which an item occurs.

Low Level Code Integrity Checking

The run examines all planning routes, and changed production order routes, for a parent and child relationship inconsistent with other defined relationships. For example:

Route/BOM 1   Route/BOM 2
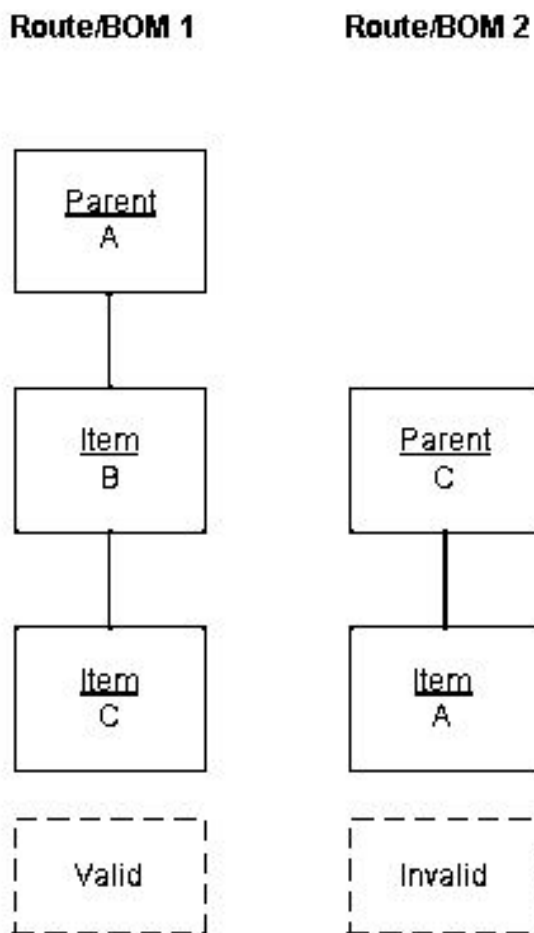
Route/BOM 2 is invalid, as A is a parent of C in route/BOM 1. An item cannot be both the child and the parent.

Caution: Invalid routes generate an exception report, which shows all invalid parent and child relationships. The MPS or MRP run terminates. You must correct your route or BOMs before re-submitting the job.

Assignment of Low Level Codes

The low level code of an item shows the lowest level at which the item appears in any route or BOM. This is held in the Item Master file. The planning routines review the items in a sequence based on the low level code. This makes sure that all higher level, dependent demand is generated before an item is reviewed.

When you maintain the route or BOM, you can change the lowest position of an item. Therefore, the planning routines start by reviewing the low level codes. Any changes are updated in the Item Master file.

Note: You can review the lowest level code using the Item Master Enquiry.

Items with no parents in the route and BOMs have a low level code of zero (0). Items with one level of parent are level 1, and so on.
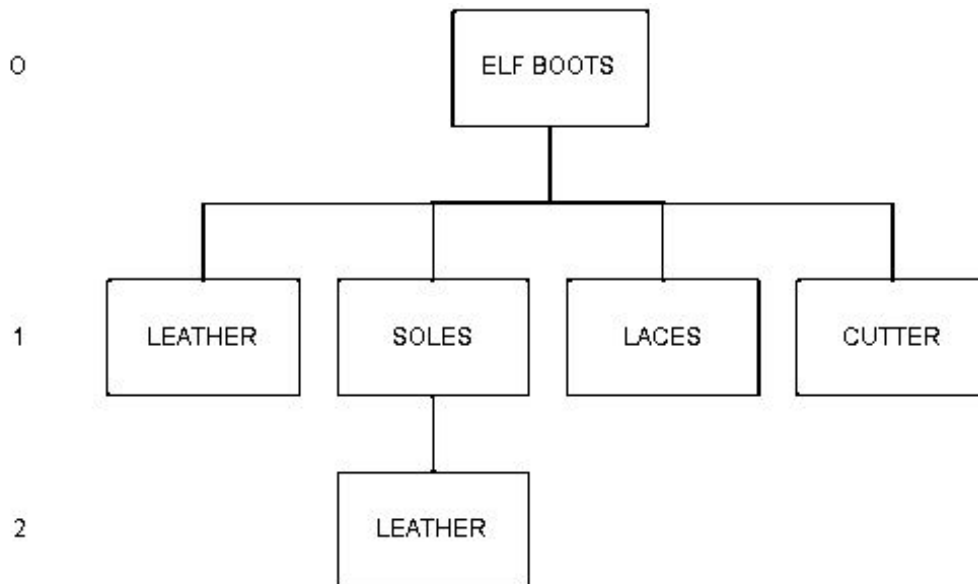
For example, Leather is at levels 1 and 2, so the low level code is 2.

Note: It is unusual for route and BOMs within Style Production to create levels lower than 2.

Step 2: Item Selection and Stock Consolidation

This step reviews all items on the Item Master file and extracts the items to include in the run and any items you want to review.

Note: You use the Planning Type field on the Item Master file to define an item as MPS or MRP. You normally define manufactured items as MPS items and purchased items as MRP items.

Item Selection

The MPS review selects items that meet the following criteria:

- MPS items with a low level code less than or equal to the specified low level code cut-off, and which have a stockroom balance in at least one of the stockrooms defined in the planning model
- MRP items with a low level code less than the selected cut-off level, and which have MPS items as components with low level codes less than or equal to the cut-off level
- This traps all possible dependent demand for MPS items.

The MRP review selects items which meet the following criteria:

- MRP items residing in stockrooms defined in the planning model
- Items, not in the planning model, with dependent items that meet the above criteria
- If you are running an MRP selective run, MRP items which meet user selection criteria

- MRP items dependent on selectively reviewed items

Stock Consolidation

The opening stock balance for the MPS or MRP review is the total physical stock for each valid stockroom. Frozen stock is included if the Parameter file type PSTK/FRZN parameter is switched on.

The software uses the lead time defined on the first supplier in the item/supplier profile for the primary stockroom. If this does not exist, the software uses the lead time defined for the stockroom.

If you use Requisitioning, the software uses the supplier on the item/supplier profile for the stockroom. If none exists, the software uses the first supplier it can find for the item. Otherwise, it uses the first supplier defined to the stockroom. If there are no suppliers defined to the stockroom, the software leaves the supplier blank.

Step 3: Extract Sales Orders

This step selects the outstanding sales order balances for the items selected in Step 2. It summarises every order line for each extracted item, colour and size. The routine extracts the item, size and colour record according to the following criteria:

- The order status is blank.
- There is an outstanding ship quantity.
- The shipment date is within the start and end date of the run.

You define the stockroom, warehouse or depot on the planning model.

Step 4: Extract Production Orders

Within MRP and MPS, this step selects:

- Supplies associated with the MRP or MPS items selected in Step 2
- Dependent demands on items, selected in Step 2, emanating from supplies of MPS or MRP items

The software checks each order to see if:

- The due date is within the start and end date of the run.
- The receiving stockroom is in the planning model. If the stockroom is not in the model, the order is exploded down to its material demand. (For MPS this is dependent on the low level code specified for the run.)

The routine also checks whether the materials are a selected item (Step 2), whether the issuing stockroom is in the planning model, and that there is a required date within the start and end dates of the run. This identifies all generated demand.

Step 5: Extraction of Demand from MPS (MRP)

This step is only present in MRP and extracts dependent demand generated in MPS applicable to relevant MRP items.

It reviews every suggested order for an MPS item and determines if it has a dependent demand for an MRP item selected in Step 2. If so, the software checks the demand record to establish the issuing stockroom. If the stockroom is used in the planning model, it extracts the demand for review.

If you **checked** the Include Suggested MPS (Production Orders) field, the software also reviews the MPS planning model and extracts the suggested MPS production orders. The MRP run uses the planning route of the MPS parent item to identify the MRP item material requirement. It uses the MPS suggested due date and quantity as the basis of the requirement calculation.

The software also checks whether you can use the MRP materials at the time of the requirement (see Phase 4 of processing).

Step 6: Extract Purchase Orders

The software first extracts scheduled and blanket orders and then extracts outstanding orders.

Extract Scheduled and Blanket Orders

Scheduled and blanket orders are extracted if the deliver-to stockroom is defined in the planning model. The uncommitted quantity outstanding on the schedule is planned for receipt at the end of the run. This is so that you can re-schedule the uncommitted portion to meet earlier shortages.

Extract Outstanding Orders

This extracts outstanding orders and goods received not booked into stockrooms. Outstanding orders with a receipt date within the run date range are also extracted. The receipt date is the latest of the due date, expected date and promised date.

The software only extracts purchase orders for common materials, material group items, finished goods and subcontracted items. It also extracts goods inwards and inspection status purchase orders even though you cannot re-schedule these orders.

The outstanding quantity on extracted orders is taken from Style Purchase Management or Style Inventory Management.

Step 7: Extract Sales and Stock Forecasts

This step extracts the sales and stock forecasts for items within the planning model.

Note: It only extracts forecast data if you have generated item forecasts or transferred forecasts from Style Forecasting.

The processing depends on the levels of forecast you generated:

- For variant level forecasts only, this step automatically generates a style level forecast.

- For style level forecasts only, these forecasts are style level only. The processing routines do not include them in the netting phase. In addition, the Phase 3 processing stage generates a style level only supply order (production or purchase).
- If style and colour, and style, colour and size, but not style level forecasts exist, a style level forecast is generated from the style, colour and size forecast.

Style level only forecasts are identified by a demand status code, with a Y prefix, for example, YF STYLE forecast.

The forecast extraction and generation process is summarised as follows:

Style	Style/Colour	Style/Colour/Size	Extract	Generate Style From
No	No	Yes	S/C/S	S/C/S
No	Yes	No	Nothing	S/C
Yes	No	No	Style	
No	Yes	Yes	S/C/S	S/C/S
Yes	No	Yes	S and S/C/S	
Yes	Yes	No	Style	
Yes	Yes	Yes	S and S/C/S	

Where:

S/C/S is Style, Colour and Size

S/C is Style and Colour

S is Style

Processing

Phase 1: Consumption of Forecast

You use the MPS/MRP Consume Forecast field in the company profile to determine whether the forecast comparison is a discrete comparison or a cumulative consumption.

The comparison is also governed by the demand policy setting on the Item Master file, which can modify the consumption process for an item or range of items.

***Note:** If you do not want to forecast an item, the demand is from sales orders only and the cumulative consumption of forecast is forced. If you want to include forecasting, you must have generated the forecasts before running MRP or MPS.*

Discrete Comparison

This method compares the forecast with the actual demand for a forecast period. The greater of the forecast and the demand is the demand figure for the item. The discrete method is only used where a sales forecast exists as an element of demand; if a forecast is not present, the cumulative method will be forced.

Cumulative Consumption

This method compares the cumulative forecast demand and the cumulative actual demand to the end of the forecast period.

The demand is calculated as follows:

- Operation 1 calculates the cumulative forecast.
- Operation 2 is the cumulative actual demand.
- Operation 3 sets the cumulative demand to the greater of the cumulative forecast or cumulative actual demand.
- Operation 4 calculates the consumed cumulative as the sum of the consumed cumulative demand excluding the current period.
- Operation 5 calculates the current period demand.

Demand Policy

The consumption of forecast calculation depends on the demand policy set on the Item Master file, which defines the actual demand calculation for each period. Demand can comprise one or more of sales demand, forecast demand and dependent demand.

Demand Policies

Code	Description	Demand Definition
0 or blank	Total actual demand	Sum of sales orders plus dependent demand; no forecast
1	Forecasts compared with independent demand	Greater of (forecast or sales orders) plus dependent demand
2	Forecasts compared with total demand	Greater of (sales orders plus dependent demand) or forecasts
3	Independent demand compared with dependent demand	Greater of sales orders or dependent demand; no forecast
5	Make to forecast	Equal to forecast only; no sales orders or dependent demand
6	Total demand	Total demand; that is sum of forecasts plus sales orders plus dependent demand

Demand Policies and Consumption of Forecast

For Discrete Comparison, the total demand is calculated, for each demand policy:

- Policy 0: Sales Order + Dependent Demand
- Policy 1 without Dependent Demand: the greater of Forecast or Sales Orders

- Policy 1 with Dependent Demand: (the greater of Forecast or Sales Orders) + Dependent Demand
- Policy 2: the greater of (Sales Order + Dependent Demand) or Forecast
- Policy 3: the greater of Sales Orders or Dependent Demand
- Policy 5: Forecast
- Policy 6: Sales Orders + Dependent Demand + Forecast

For Discrete Comparison, the total demand is calculated, for each demand policy, as follows:

- Policy 0: Sales Order + Dependent Demand
- Policy 1 without Dependent Demand: the greater of Forecast or Sales Orders
- Policy 1 with Dependent Demand: (the greater of Forecast or Sales Orders) + Dependent Demand
- Policy 2: the greater of (Sales Order + Dependent Demand) or Forecast
- Policy 3: the Greater of Sales Orders or Dependent Demand
- Policy 5: Forecast
- Policy 6: Sales Orders + Dependent Demand + Forecast

For Cumulative Consumption, the total demand is calculated, for each demand policy, as follows:

- Policy 0: (Cumulative Sales + Cumulative Dependent Demand) - Previous Period's Consumption
- Policy 1 without Dependent Demand: (the greater of Cumulative Sales or Cumulative Forecast) - Previous Period's Consumption
- Policy 1 with Dependent Demand: (the greater of Cumulative Sales or Cumulative Forecast) - Previous Period's Consumption + Dependent Demand
- Policy 2: The greater of ((Cumulative Sales + Cumulative Dependent Demand) or Cumulative Forecast) - Previous Period's Consumption
- Policy 3: (the greater of Cumulative Sales or Cumulative Dependent Demand) - Previous Period's Consumption
- Policy 5: Cumulative Forecast - Previous Period's Consumption
- Policy 6: Cumulative Sales + Cumulative Dependent Demand + Cumulative Forecast - Previous Period's Consumption

Phase 2: Calculate Daily Net Demand

The run calculates, on a daily basis, the gross and net demand, and the available stock for each selected item.

Gross Demand = (netted sales forecasts, sales orders and dependent production order demand) + safety stock (target inventory level) + stock forecast

Available Stock = (physical stock (for the first period in the run) or projected available stock (for future periods in run)) + outstanding production or purchase order quantities

Net Demand = Gross Demand - Available Stock

Phase 3: Adjust Supply to Meet Net Demand

After calculating the net demand, the run makes recommended changes to supply orders to correct any imbalance. The time fence, planning filter and order policy codes influence these recommendations.

Net Demand < 0

If net demand is negative, you have an over supply condition. The run recommends that you reduce the supply quantity, or cancel an order if the demand is non-existent.

Net Demand > 0

If net demand is positive, you have a supply shortage. The run attempts to cover the shortage by re-scheduling any cancelled orders, then re-scheduling live orders. It also recommends a quantity change. Finally, it generates suggested supply orders to meet the deficit.

New order quantities depend on the order policy code set in the Item Master file.

Net Demand = 0

If net demand is zero, the supply and demand are in balance and the current plan does not need modification.

Time Fence Days

The run makes no recommendations to change orders, in either timing or quantity, within the time fence days. It does not re-schedule orders into the frozen period; or suggest new orders due inside this period.

Planning Filters

You can use planning filters to control the re-scheduling of any MPS or MRP recommendations. You define planning filters in the Parameters file (type WTYP). You can specify default values for an item in the Item Master file or for a specific production order.

Planning filters also control the MPS or MRP re-scheduling of production order dates or quantities or both.

Date Re-schedule Policy

You can expedite (bring due date in, schedule earlier) or delay (defer, take due date out) production orders. You can restrict date re-scheduling recommendations as follows:

- No re-schedule allowed
- Any re-schedule allowed
- Re-schedule allowed if not less than a specified number of days
- Re-schedule allowed if not less than a specified percentage of the lead time
- Re-schedule allowed if the resulting order value is greater than the extended value, where order value = (suggested quantity x Inventory standard cost)

Quantity Re-schedule Policy

You can increase, decrease or cancel production order quantities. You can restrict quantity re-scheduling recommendations as follows:

- No re-schedule allowed
- Any re-schedule allowed
- Re-schedule allowed if not less than minimum order quantity
- Re-schedule allowed if not less than the entered percentage of an item's safety stock

You can change the global operation of the software by changing the rules for standard order types, or use the planning filter to vary the operation according to specific situations.

You can allow or restrict recommendations to cancel an order. You can also use these modifications with purchase orders although different rules may govern the scheduling of normal, schedule, blanket and user-defined purchase orders.

The planning filter, assigned to an item or individual order, conditions the run response. If you define the re-schedule policy for the order type and the assigned filter, the filter rules are used. If you are not using a filter, the rules applying to the order type are used. If neither order type nor filter has a policy defined, the order is not subject to recommendation. For additional information on planning filters, see the Style Production Definition Management product guide.

Order Policy Codes

The Item Master file production details include an order policy code and associated parameters for the suggested orders.

Code	Description	Recommended Quantity	Example	
A	Discrete	Required quantity	Actual demand	100
			Recommended quantity	100
B	Discrete above minimum	Greater of Required quantity or Minimum Order Quantity	Minimum order quantity	200
			Actual demand	100
			Recommended quantity	200
D	Fixed quantity	Enough batches of the Fixed Order Quantity to satisfy the required quantity	Fixed quantity	80
			Actual demand	100
			Recommended quantity	160
G	Number of days supply	Enough to satisfy all requirements for the specified number of days from the initial shortage date	Number of days supply	3
			Monday	20
			Tuesday	20
			Wednesday	30
			Recommended quantity	70

H	Multiples above minimum	Greater of enough batches of the Multiple Order Quantity and the Minimum Order Quantity	Minimum order quantity	200
			Max order quantity	500
			Multiple order quantity	50
			Actual demand	101
			Recommended quantity	200
			Actual demand	501
			Recommended quantity	550
I	Multiples up to a maximum	Maximum is the physical maximum possible in a factory	Max order quantity	500
			Multiple order quantity	50
			Actual demand	101
			Recommended quantity	200
			Actual demand	501
			Recommended quantity	500
				50

Phase 4: Summarise Variant Details to Style Level

The software processes the first three phases at style, colour and size level, whereas Phase 4 updates at style level. The information summary depends on whether you are processing new suggested orders or changing existing orders (production or purchase).

Suggested Order

The software accumulates quantities from all colour and size records for the same style and date and creates a style record for the total.

Change to Existing Order

The software can suggest different changes for each colour and size on a single order. For example, on some colours, you need bring in the due date and on others, you need to take out the due date or change the quantity.

The software changes the original order to match the date to which most colours and sizes are linked. It then creates suggested orders for the other dates, changing the original order status to Suggested for all colours and sizes.

Phase 5: Explode Recommendations

This phase generates dependent demand records for the supply changes identified in Phase 3.

Suggested and Planned Orders

First, the software back-schedules each suggested and planned order to determine the planned start date of each operation. Then it examines the materials issued at that operation to determine whether they are effective on the specific date. If so, it creates a dependent demand record.

Using the suggested due date as a basis, the software explodes the route/BOM through its operations. It calculates the lead time of each operation, using the standard times, and applies the recommended order supply quantity to inflate or deflate the times. The actual route used depends on the settings on the Additional Parameters Run pop-up:

- If you **check** the Include Capacity field, the software uses the capacity route entered in the Capacity Route field.

- If you **check** the Include Capacity field and the Planning Route field, the item's planning route is used.

- If you leave the Include Capacity field **unchecked**, the item's planning route is used.

To get an operation start date, the software also applies any wastage defined to the cycle times. The lead time calculation includes any parallel processing operations, defined by the bundle ticket type. The software checks the dates against the calendar for the machine, to make sure the operation start date is a working day.

The routine also creates operation load records (for suggested production orders only); that is, start and end dates, machine, labour profile, machine and labour time (run and setting). Phase 6 uses these records.

Back-scheduling Example

Move Time	Specified in route/BOM maintenance
Queue Time	Specified by machine, in machine maintenance
Duration Time	Calculated from the times specified in the route

Order Due Date	30/10/06
(A) Order Quantity	10
(B) Standard Lot Size	1
(C) Standard Machine Time	3 hours
(D) Operational Wastage	10%

(E) Machine Duration Time	((C x A)/B) x ((100/(100-D))
	((3x10)/1) x (100/(100-10))
	33.33 hours
(F) Standard Shift Length	7 hours
Duration Days	E/F
	33.33/7
	4.76 days
	5 days (rounded up)
Start Date	25/10/06

Material Effectivity Check

After establishing the planned start date, the run extracts all the materials required at the operation and checks their effectivity.

The run generates a requirement if the material's effectivity start date is less than or equal to the calculated operation start date, and its effectivity stop date is greater than the operation start date. It then checks the effective materials for an issuing stockroom in the planning model. The quantity of material required is calculated as:

Recommended order quantity x cumulative operation wastage x quantity per standard lot size x material wastage

Material Requirement Calculation

Order quantity	100
Cumulative wastage at operation	15%
Lot size on planning route	10
Quantity per standard lot size	10
Material wastage	5%
Cumulative operation wastage	100/(100-B)=100/(100-15)=1.1764
Material wastage	100/(100-E)=100/(100-5)=1.0526
Requirement	A x F/C x D x G = 123.8

Note: If you check the Fixed Quantity Per field for a material on a route/BOM, the requirement is always the Quantity Per Lot size; wastage is not calculated

Firm, Released and Active Production Orders

These orders are exploded down to the material requirements defined on production orders.

To establish the operation start and material requirement dates, the starting point for the back-scheduling routine is the current order due date, or the run suggested due date. The software also calculates the outstanding operation lead time and the material requirements at operations.

Calculate Outstanding Operation Lead Time

The outstanding time at an operation is based on the amount of work completed. Rather than using a fixed lead time, the operation lead times are examined when back-scheduling.

The operation start dates are calculated using the order quantity. If the run recommends a change of order quantity, the existing operation lead times are re-calculated.

Calculate Material Requirements at Operations

The re-calculated operation start dates are the revised demand dates for all materials scheduled at an operation. The software uses these demand dates when analysing the demands for the materials. The run includes any changes at the parent level in the generated demand at the material requirement level. To produce an integrated material plan, this effect is cascaded down the levels of the process structure.

Requirement quantities are re-calculated based on suggested order quantity changes at the production order level.

If the run suggests cancelling a production order, it does not explode the route, and the material demand is dropped from the plan. If you have already issued materials, you should return these to the issuing stockrooms.

Purchased Items

Recommendations for purchased items (item types **B** (Bought out), **P** (Purchased) or **T** (Consumable tool)) are not exploded through routes, and the review does not include these items.

The software calculates the lead times for purchased items as follows:

- For existing orders, the software uses the receipt due date, except for unscheduled schedule or blanket orders where the due date is the end date of the run.
- If no purchase orders exist for an item, the software uses the Style Purchase Management item/supplier profile. If this is not available, it uses the lead time for the item and stockroom.

Phase 6: Generate Daily Machine or Labour Loading

This phase spreads the operation load for suggested orders, generated in Phase 5, into daily machine and labour loadings.

Note: The run only includes this phase if you check the Include Capacity field on the Additional Parameters Run pop-up.

Daily Machine Loadings

This is the operation loading for machines split into individual days.

Daily Labour Loadings

Using the operation loads, the run generates separate records for each labour skill, within the labour profile defined at the operation.

Demand, Supply and Action Codes

MPS and MRP reviews, and reports, display, or print, the following status codes:

- Demand status codes
- Supply status codes
- Action codes

You define these codes in the Parameters file.

Note: Codes which include the term Excluded refer to demand or supply excluded from the review.

Codes which include the term STYLE relate to demand which is at style level only; that is, there is no defined requirement at style, colour and size level.

Demand Status Codes

You define demand status codes in the Parameters file, under type PDSC.

Demand Status Codes

CA	Cancelled
CD	Cumulative demand, if cumulative consumption of forecast
CW	Confirmed production order
FC	Sales forecast
FS	Stock forecast
FX	Forecast (excluded)
IW	Active production order
MA	[MPS] Manual adjustment
MX	[MPS] Manual adjustment (excluded)
PW	Planned production order
PX	Suggested purchase order (excluded)

RW	Released production order
SO	Sales order
SP	Suggested purchase order
SW	Suggested production order
SX	Sales order (excluded)
WX	Production order (excluded)
YF	STYLE sales forecast
YP	STYLE suggested purchase order
YS	STYLE stock forecast
YW	STYLE suggested production order

Supply Status Codes

You define supply status codes in the Parameters file, under type PSSC.

Supply Status Codes

CN	**Cancelled**
CO	Complete production order
CP	Confirmed purchase
CW	Confirmed production order
GI	Goods inwards
IS	In inspection
IW	Active production order
PW	Planned production order
RW	Released production order
SP	Suggested purchase order
SW	Suggested production order
YW	STYLE suggested production order
YP	STYLE suggested purchase order

Action Codes

MPS and MRP runs provide planning support. The advice given is based on the latest status of material requirements and the current order status.

The action codes are the recommendations that the runs can make. The software can combine these codes; some examples are shown later in this section.

You define action codes in the Parameters file, under type PEXC.

Note: *If the recommendation compromises material effectivity, that is, the material is not effective on the route/BOM on that date, warning codes are also displayed.*

You can use the review facilities, for both MPS and MRP, to view orders in original and suggested due date sequence.

Note: *The four letter codes shown in the table, for example ROCQ, can be displayed separated by date, with a suggested change quantity.*

Note: *Example: RO11/09 CQ 2*

Action Codes

CA	Cancel order
CQ	Change quantity (mix)
EF	Check effectivity
EI	Re-schedule in and check effectivity
EICQ	Re-schedule in and change quantity and check effectivity
EO	Re-schedule out and check effectivity
EOCQ	Re-schedule out and change quantity and check effectivity
EQCQ	Change quantity and check effectivity
RI	Re-schedule in
RICQ	Re-schedule in and change quantity
RO	Re-schedule out
ROCQ	Re-schedule out and change quantity

Action Recommendation Examples

Order	Quantity	St	Action
W000156	122	CW	RI 15/08 CQ 1180

			Re-schedule order due date in to 15 August, and change quantity from 122 to 1180
W0007716	30	IW	RO11/09 CQ 25
			Re-schedule order due date out; defer until 11 September, and change quantity from 30 to 25

MPS Specific Processes

You can use the MPS specific processes for:

- Capacity planning
- MPS items selection, planning type 1
- Amendments to suggested production orders; such as changes in quantities, routes, due dates and planning filters
- Definition of a cut-off low level code as a parameter; below which the run will not look for any occurrence of MPS items
- Saving different versions of the Master Production Schedule against revision level codes
- Reviewing demand part way through the run; so you can make changes to incorporate when the run begins

Capacity Planning

This is a unique function within Master Production Scheduling. You use this to compare available machine and labour capacity against projected workloads.

You can use either standard planning route/BOMs or specially derived capacity routes. You can then use the Capacity Review facility to change the workload schedule at production order level.

MPS uses capacity planning to:

- Take account of machine capacities when assessing the demand proposed by MPS plans
- Determine a loading factor for each machine
- Determine labour loading

MPS can use summary routings to determine loading on Style Production resources.

Capacity planning:

- Uses planning route information to convert demand, in quantities, into the number of hours required at each machine
- Uses planned supply dates to schedule required hours into weekly production time slots at each machine. It takes account of machine standard capacities, planned down times and non-working days.
- Creates reports and enquiries that you can use to compare the required and available machine and work centre hours within the planning run timescales
- From these reports and enquiries, you can search for overload and underload at machines and for labour skills. You can then choose any action required.

Although you can finite capacity plan by individual order, the software assumes infinite capacity of the facility. Therefore the planner must fine-tune the workload to optimise the loading factor and utilisation of production capacity.

MRP Specific Processes

You can use the MRP specific processes for:

- MRP items selection, planning type 0
- Running selective MRP, based on a range of items
- Entering the MPS suggestions directly into the material plan

You can choose from the following processing modes:

- Regenerative - To plan for all materials
- Selective - To plan for a range of materials in the planning model
- Net Change - To consider only materials with a change of demand or supply since the last MRP run

Chapter 3   Maintenance

3

Production Scheduling Overview

Master Production Scheduling comprises the following:

- Run Production Scheduling
- Review Production Scheduling
- Review Capacity
- Confirm Suggested Orders

Run Production Scheduling

Use the Run Production Scheduling task to check all current supplies and demands against MPS items. This generates suggestions for actions needed to satisfy the plan.

Review Production Schedule

Use the Review Production Schedule task to examine the results from the MPS run and to determine whether you have all the orders needed to meet the plan.

You can also confirm any suggestions for adding, changing, or cancelling orders.

Review Capacity

Use the Review Capacity task to examine the results from the MPS run and to determine whether you have the resources required for the plan.

Confirm Suggested Orders

You can confirm suggested orders in two ways:

- For individual orders, use the Suggested Order Maintenance pop-up in the Review Production Schedule task.
- For all orders, use the Confirm Suggested Orders task.

Run Production Scheduling

***Note:** In Style Production, you must define all manufactured items as MPS items; and all purchased items as MRP items. If you do not, the production load imposed by wrongly coded items is not*

reflected in the Review Capacity task and the recommendations for actions are generated during the MPS run rather than the MRP run.

The main MPS functions are common with MRP and:

- Take the top-level demand of sales orders and forecasts against finished products
- Compare the demand against the available supply and generate additional suggested demand, where appropriate
- Break down the supplies into lower level demands
- Compare the demands against supplies for lower level items
- Continue down the structures in a similar manner

At the end of the run, you can review and action the suggestions that have been made.

Run MPS in one of the following ways:

- As a single run, which carries out all of the common processes without interruption
- As a run which is interrupted after the consumption of forecasts

At this point, you can review and amend the net effects of the latest forecasts against the latest firm demand. After this review, you can re-start the job.

Review Production Schedule

You can save the original and amended versions of the Master Production Schedule and assign a user-defined revision level code to each version in order to identify it. The original version has a revision level of blank.

You can use a range of selection parameters to select the items to review by entering one or more of the following:

- Planning model and revision level
- Style
- Planner

You must enter a planning model and revision level (although a blank revision level indicates the generated level). These parameters have the following effect on the data within the review:

- If you do not enter a style or planner code, the first item in the planning model is displayed and subsequent items are displayed in item code sequence.
- If you enter a style, but no planner, the selected style is displayed and then subsequent items are displayed in item code sequence.
- If you do not enter any style information, an item with the nearest item code is displayed.
- If you enter a planner, but no style, the first style associated with the planner is displayed, and subsequent styles are displayed in item code sequence.
- If you do not enter a planner, the item for the nearest planner code is displayed.

On selection, all supply and demand details associated with each item within the review are displayed, together with their corresponding recommendations and the time-projected inventory balances.

Note: If there is no detail available, the summary window is displayed. For purchase items, you cannot amend suggested orders. The software highlights all production order suggestions greater than the maximum order quantity defined for an item.
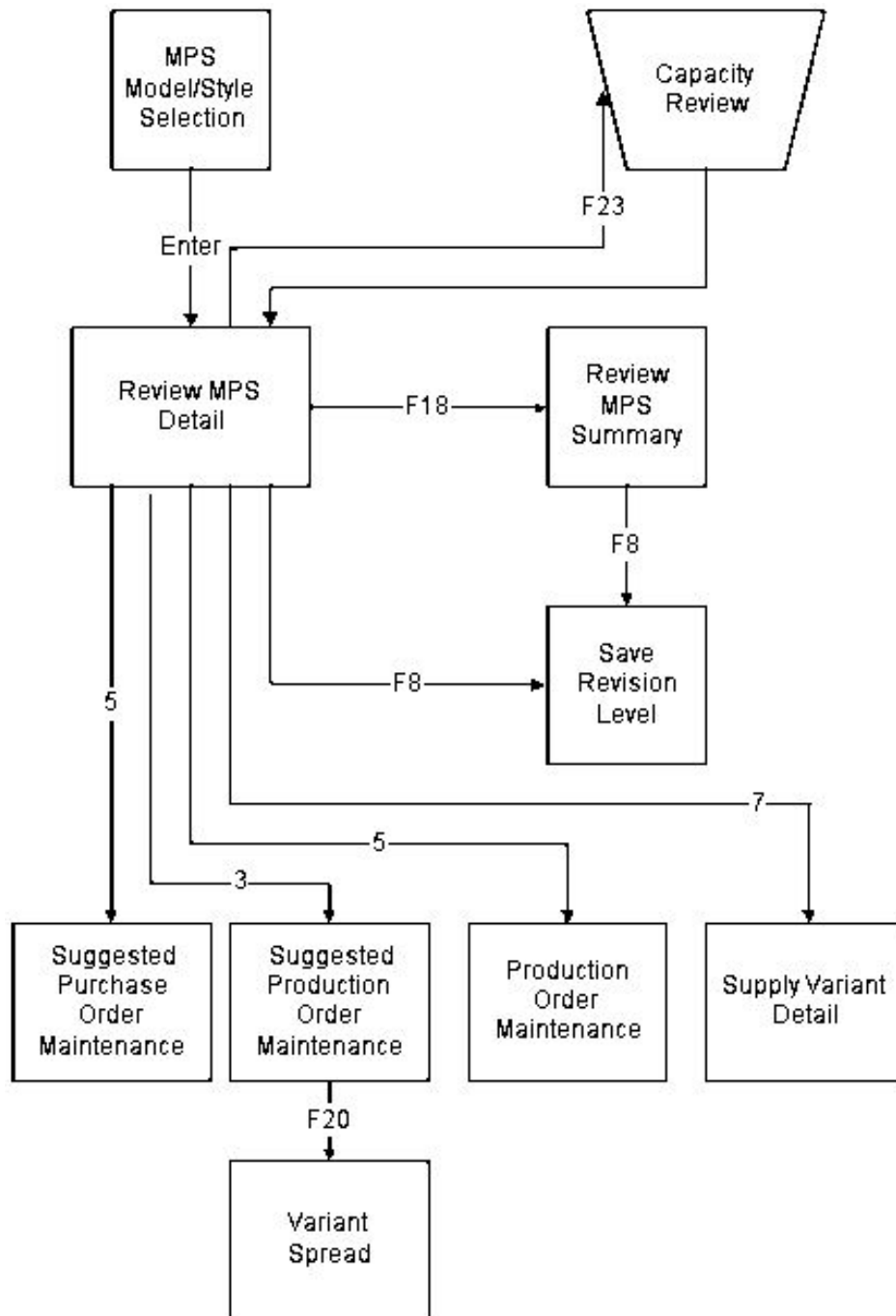
This figure shows a route map to the various windows and pop-ups within MPS Review. *Fn* shows the function you select to display the next window. *Enter* shows where you must press Enter to go to the next window, and *n* is the option you use to select a displayed line.

Review Capacity

From the reviews, you can then maintain the suggested production orders and convert them to confirmed orders. Changes to capacity loads are calculated interactively, and immediately update the Master Production Schedule; the changed schedule saved as a new revision level.
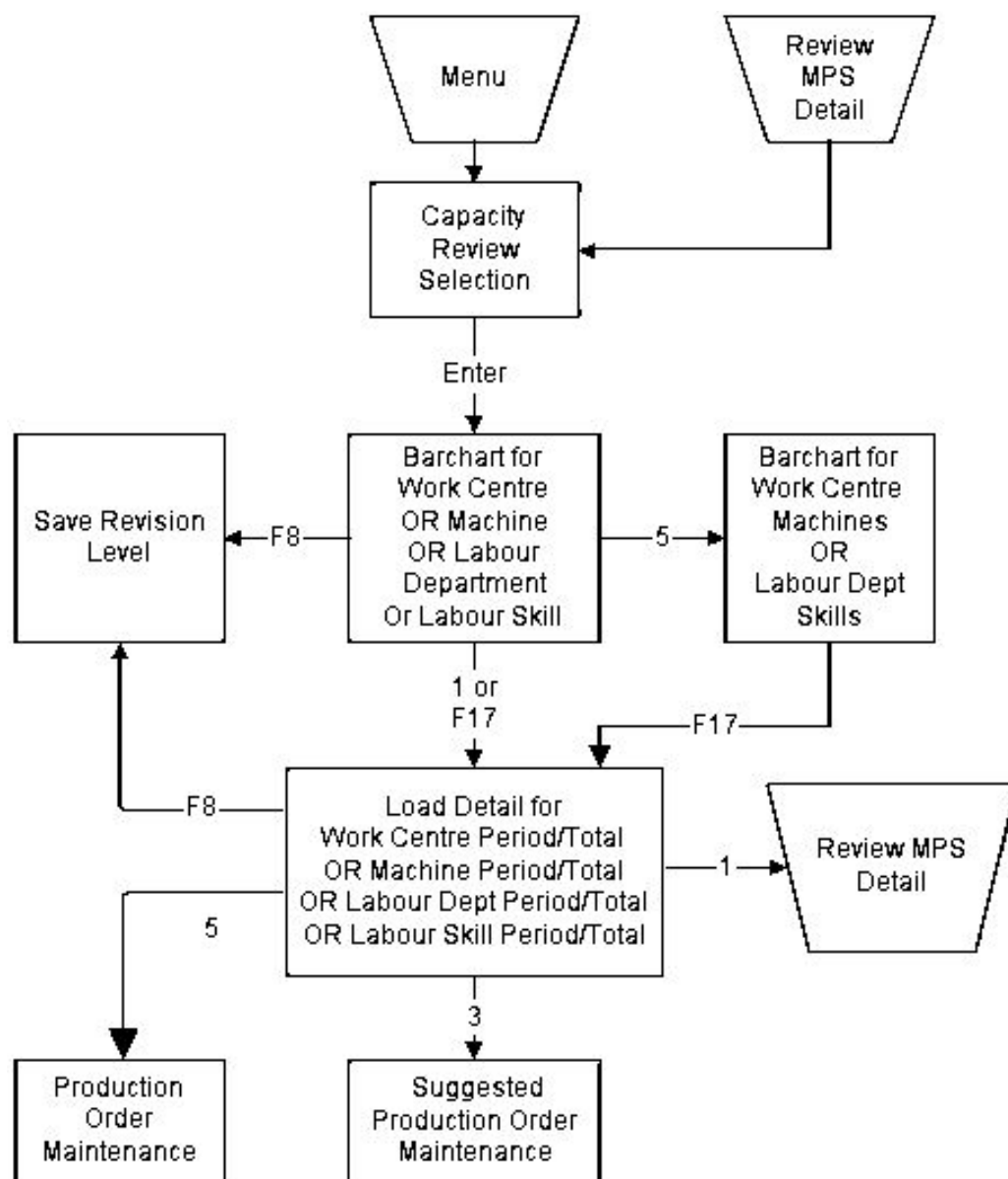
This figure shows a route map to the various windows and pop-ups within Capacity Review. *Fn* shows the function you select to display the next window. *Enter* shows where you press Enter to go to the next window, and *n* is the option you use to select a displayed line.

Confirm Suggested Orders

Once you want to use the Master Production Schedule for actual production, you can either:

- Confirm all or selected suggested orders (some orders may have been confirmed by the review procedures)
- Take no further action and run MRP using the MPS suggested orders as a base

To do this, **check** the Include Suggested MPS field on the MRP Run Selection Parameters window.

Note: *You can only run these options for the live planning models.*

Maintain Model Stockrooms [1/P2M]

Use this task to create and maintain MPS planning models and define the stockrooms to include within the models.

The review process uses the demand and supplies within the selected stockrooms as a basis for its planning.

Note: *After you have defined the model, use the Maintain Reporting Profile task to set up a reporting profile for the planning model.*

Note: *A control model should include all active stockrooms and exclude any obsolete and seconds or irregulars stockrooms. You must make sure the demand and supply for the whole company is included.*

MPS Stockroom Model Maintenance Selection Window

To display this window, select the Maintain Model Stockrooms task.

Use this window to enter the planning model to create or maintain.

Fields

Model

Enter the code of the model you want to create or maintain.

Alternatively, use the prompt facility to select from the Select Model pop-up.

If you are creating a new model, you can enter a maximum of two characters.

Based On Model

If you want to base the details of a new model on an existing model, enter the existing model. This copies the details of the existing model so you can amend them.

You can use the prompt facility on this field to select from the Select Model pop-up.

All Stockrooms

Use this checkbox as follows:

Checked - If you are creating a new model

This displays all the existing stockrooms on the MPS Stockroom Model Maintenance Details window.

Note: You must leave this field unchecked when creating a model based on another model, or when maintaining an existing model.

Functions

Add New Model (F8)

Use this to create a new model based on the code you have entered on this window. The MPS Stockroom Model Maintenance Details window is displayed.

Press Enter to display the MPS Stockroom Model Maintenance Details window.

MPS Stockroom Model Maintenance Details Window

To display this window, enter an existing planning model on the MPS Stockroom Model Maintenance Selection window and press Enter.

Use this window to define the stockrooms you want to include in the planning model.

Note: If you checked the All Stockrooms field on the MPS Stockroom Model Maintenance Selection window, every stockroom is listed. You can delete those you do not want to include.

Fields

Model Description

Enter a description for the model. You can use up to 30 characters.

Stockrooms to be Included (Untitled)

Enter the code of each stockroom you want to include in this model. The stockrooms must be defined to Inventory.

Functions

Delete (F11)

Use this to delete the model.

Additional Parameters (F18)

Use this to display the Additional Parameters (Model) pop-up.

Select **Update/Add (F8)** to save all the changes and return to the MPS Stockroom Model Maintenance Selection window.

Additional Parameters (Model) Pop-up

To display this pop-up, select **Additional Parameters (F18)** on the MPS Stockroom Model Maintenance Details window.

Use this pop-up to define the additional parameters required for multi-plant planning.

Fields

Model Type

You can define three different model types.

Enter one of the following:

0 or Blank - Centralised

Use this for a standard, non multi-plant model.

1 - Multi-plant

This is the control model used to view the whole organisation.

2 - Plant

This is a single plant or line.

Alternatively, use the prompt facility to select from the MTYP Model Type pop-up.

Note: If you enter 2 (Plant) you must also enter a primary stockroom for the model in the Primary Stockroom field.

Live Plant

If you enter **2** (Plant) in the Model Type field, use this field to specify whether suggestions made against this model can be confirmed.

Use this checkbox as follows:

Unchecked - Not to confirm suggestions made against this model

Checked - To indicate that this is a live plant and therefore confirm suggestions made against this model

Primary Stockroom

If you entered **2** (Plant) in the Model Type field, enter a default stockroom. The stockroom must be defined to Inventory and it must have a style/stockroom relationship.

This stockroom defines the overrides which are used in a multi-plant run.

You can use the prompt facility on this field to select from the Select Stockroom pop-up.

Business Unit Code

Enter the type of business unit in which this model is included.

Alternatively, use the prompt facility to select from the BUCS Business Unit Code pop-up.

Site Code

Enter the site code of the model.

Alternatively, use the prompt facility to select from the STES Site Code pop-up.

Functions

Item/Plant Primary Stockroom Maint. (F15)

If you entered **2** (Plant) in the Model Type field, use this to enter the stockroom used for each style. The Style/Plant Primary Stockroom Maintenance window is displayed.

Press Enter to save the details and return to the MPS Stockroom Model Details window.

Style/Plant Primary Stockroom Maintenance Window

To display this window, select **Item/Plant Primary Stockroom Maint. (F15)** on the Additional Parameters pop-up.

Note: You can only access this window for models with a model type of 2 (Plant).

Use this window to define stockroom exceptions for specific styles.

Fields

Style

Enter a style.

Primary

Enter the primary stockroom for this style in this planning model.

Options

Delete

Use this to delete the style and stockroom relationship.

Select **Update/Add (F8)** to save the changes and return to the Additional Parameters pop-up.

Maintain Reporting Profile [2/P2M]

You can use this task to define the time slots over which you can assess supply and demand.

You define the time slots in terms of calendar days and associate them with a calendar code.

For example, you might want to report on the first week of the schedule on a daily basis, the following three weeks as weekly summaries, and the rest of the review as monthly summaries. You can define up to 46 time buckets of different length. You enter these as periods of consecutive days.

Note: The planning process balancing of [supply](#) and [demand](#) information is analysed and reconciled on a daily basis.

Note: [MPS](#) and [MRP](#) reviews will stop at the end date defined on the Run Parameters window, irrespective of the number and length of summary reporting time slots you define here.

Maintain MPS Reporting Profile Selection Window

To display this window, select the Maintain [Reporting Profile](#) task.

Use this window to select the [planning model](#) for which to define the [reporting profile](#).

Fields

Model

Enter the [planning model](#).

Alternatively, use the prompt facility to select from the Select Model pop-up.

Press Enter to display the Maintain MPS Reporting Profile Details window.

Maintain MPS Reporting Profile Details Window

To display this window, press Enter on the Maintain MPS Reporting Profile Selection window.

Use this window to nominate a calendar and set up the [reporting profile](#).

*Note: If you are maintaining a profile, you must select **Update Details (F18)** before you can enter any information.*

Fields

Calendar Code

Enter the calendar to use for planning with this model.

Alternatively, use the prompt facility to select from the Select Calendar pop-up.

The planning routines use this calendar to check the suggested due dates for production and purchase orders.

Leave this field blank to use the [company profile](#) default calendar.

You must set up [production calendars](#) for all the years for which you want to establish a plan or produce a forecast.

1-46

These are the days per period. You can specify up to 46 different periods, defined in calendar days. The periods represent the time slots over which [supply](#) and [demand](#) will be assessed.

For example, you may define short periods to begin with, as you require detailed information about the immediate future. You can define slightly longer periods and longer periods again for the more distant future, where requirements may be more tentative.

You must enter continuous periods that start at the current date of the planning runs. The maximum period length is 999 days.

Note: You do not need to complete all the fields.

Functions

Update Details/Review (F18)

Use this to toggle between reviewing and updating the existing days per period.

Press enter to save the details.

Maintain Supply Sourcing Rules [3/P2M]

If you want to use multi-sourcing during an MPS run, use this task to define the supply sourcing rules. If you do not define rules for any styles, multi-sourcing is not used.

You can define sourcing rules at both the control, for multi-plant, and the plant model level.

Note: You must maintain sourcing rules for all styles; otherwise any suggestions generated within the MPS run will remain at a status of MP (un-sourced multi-plant requirement).

At the control level, you can define either a default rule or separate rules for each plant model. This means you can have different sourcing methods depending on where the demand (sales orders and forecasts) comes from; that is, control model or plant specific model.

Note: In a multi-plant MPS run, any forecasts are for the control model only.

Sourcing Rule Maintenance Control Model Window

To display this window, select the Maintain Supply Sourcing Rules task.

Use this window to enter the control model to which the rules will apply.

Fields

Control Model/Plant

Enter a control or plant model.

Alternatively, use the prompt facility to select from the Select Control/Plant Model pop-up.

Press Enter to display the Sourcing Rule Maintenance Selection window.

Sourcing Rule Maintenance Selection Window

To display this window, enter or select a control model and then press Enter on the Sourcing Rule Maintenance Control Model window.

Use this window to enter the basic details for the sourcing rule.

Fields

Control Model

This field displays the model or plant you entered on the previous window.

Style

Enter a style.

Alternatively, use the prompt facility to select from the Select Item pop-up.

Demand Model/Plant

Enter the model or plant number for which to define the sourcing rule.

Note: If you want to define a default rule for all plants attached to the control model, leave this field blank.

Rule Number

Enter **1** for critical resource.

Alternatively, use the prompt facility to select from the SCRT Sourcing Rule Number pop-up.

Effective From

Enter or select the first date on which this rule is effective.

To

Enter or select the last date on which this rule is effective.

Functions

Review Rules (F16)

Use this to display a list of existing sourcing rules. You can then select a rule to maintain.

Select **Update (F8)** to save any changes and display the Sourcing Rule Maintenance Details window.

Sourcing Rule Maintenance Details Window

To display this window, select **Update (F8)** on the Sourcing Rules Maintenance Basic Details window.

Use this window to maintain the sourcing rules for a particular style.

You can enter either a preferred route or a sequence of routes. You can then link these routes to effectivity dates.

Fields

Preferred Route

If you want to use a preferred route for the sourcing rule, enter the route code.

Alternatively, use the prompt facility to select from the Select Route pop-up.

Sequence (Seq)

You use this field with the Route and Preferred Route fields. Instead of entering a preferred route, you can list, in sequence, numerous routes with effectivity dates.

The software checks the routes, in sequence, for spare capacity. If there is not enough capacity on any of the routes, the software uses the preferred route. If there is no preferred route, the software uses the planning route for the item.

Route

Enter the route applicable to the sequence and effectivity date range.

Capacity Policy

This field defines whether or not you can split a suggested order over two routes, if there is not enough available capacity on the first route.

Enter one of the following:

0 - If you want the whole order scheduled on one route

1 - If you can split the order over more than one route

Inter Plant Lead Time (Untitled)

Enter the time taken to change between plants. This is for memo only.

Effective From

Enter or select the first date on which this definition is effective.

To

Enter or select the last date on which this definition is effective.

Functions

Add (F10)

This displays the Add New Sourcing Rule pop-up. Use this to create new sequences.

Select **Update (F8)** to save all your changes and return to the Sourcing Rule Maintenance Control Model window.

Add New Sourcing Rule Pop-up

To display this pop-up, select **Add (F10)** on the Sourcing Rules Maintenance Details pop-up.

You can use this pop-up to define a new sourcing rule.

<ins>Fields</ins>

Sequence

Enter a sequence code.

Route Code

Enter the <ins>route</ins>.

Alternatively, use the prompt facility to select from the Select <ins>Route</ins> pop-up.

Capacity Policy

This field defines whether or not you can split a suggested order over two <ins>routes</ins>, if there is not enough <ins>available</ins> <ins>capacity</ins> on the first <ins>route</ins>.

Enter one of the following:

0 - If you want the whole order scheduled on one <ins>route</ins>

1 - If you can split the order over more than one <ins>route</ins>

Select **Update (F8)** to save the new rule and return to the Sourcing Rules Maintenance Details window.

Chapter 4   Processing

Run Production Scheduling [11/P2M]

Use this task to produce a high-level production plan for manufactured items.

The software matches the projected demand for designated products with the ability to supply, based on user-defined planning models and planning horizons.

As part of standard processing, the software generates an MPS Reporting Profile report, detailing the run dates and the reporting periods associated with the planning model.

Note: Before you run this task, make sure your calendars cover the duration of the review.

Master Production Schedule Run Selection Window

To display this window, select the Run Production Scheduling task.

Use this window to select the planning model for which you want to run MPS.

The stockrooms defined to the selected model determine the scope of the Master Production Schedule; the reporting profile defines the way in which information is presented on reports and enquiries. The software only plans for items with item and stockroom relationships defined within the selected model.

Fields

Model

Enter a planning model.

Alternatively, use the prompt facility to select from the Select Base Model pop-up.

To confirm planning suggestions, use the planning model defined on the company profile.

Press Enter to display the MPS Run Options window.

MPS Run Options Window

To display this window, press Enter on the Master Production Schedule Run Selection window.

Use this window to specify the details for the MPS run.

Caution:/-Warning. If you are using multi-plant planning, when you run MPS for the first time on the control model, make sure that you leave the Suppress Low Level Code Generation field unchecked. This setting makes sure that MPS looks at all routes to determine the low-level codes.

<u>**Fields**</u>

Note: The following four fields display information from the last planning run.

Start Date

This field displays the start date of the last run. Orders before this date were not included.

Current Date

This field displays the current date.

Time Fence Date

This field displays the current date plus the time fence days.

End Date

This field displays the end date of the last run.

Lowest Level to Review

Enter the lowest level of item, within the product structures, to include in the planning process. If you only want to schedule parent items, leave this field blank.

If you do define lower level items, such as spares or items on the critical path, as MPS items, MPS does not review these unless you specify a lower level here.

Current Date

Enter the live date for the plan. The software calculates the start date and frozen period, time fence days, from this date.

Overdue Days

Enter the number of days of overdue supply and demand to consider.

This supply and demand is displayed on the MPS Summary Review and Capacity Review windows.

Time Fence Days

Enter the time fence days. The period between the current date and the time fence date is fixed; that is, a frozen period in which the software makes no recommendations.

Note: If you want to use the production lead time for each style, check the Use Item Time Fence field on the Additional Parameters MPS Run pop-up.

Safety Horizon Days

Enter the number of days to add to the end date to establish the planning horizons to use for all items in the run. This makes sure that all generated demand is included in the lower level analysis.

End Date

Enter or select the last date that the MPS run should include.

You can use the Safety Horizon Days field to include a safety lead time or **check** the Use Item End Date field on the Additional Parameters MPS Run pop-up to include a cumulative lead time for each style as well as a safety lead time.

Note: For non-production items, the purchasing lead time is used.

Suppress Low Level Code Generation

Use this checkbox as follows:

Unchecked - If you want to generate the low level codes

This is the default if you have made changes to the planning routes since the last MPS run.

Checked - If you do not want to generate the low level codes

This is the default if there have been no changes to the planning routes.

You can suppress low-level code generation if you run the independent Generate Low Level Codes task before running MPS.

Caution: Only suppress low-level code generation if you are sure that you are not compromising the planning process by the lack of up-to-date data on planning routes.

Functions

Display New Run Dates (F16)

Use this to re-calculate and display the run dates.

Additional Parameters (F18)

Use this to display the Additional Parameters MPS Run pop-up, where you can enter more details for the MPS run.

Print Details (F22)

Use this to print the run parameters without starting an MPS run.

Select **Start Run (F17)** to submit the MPS run batch job and produce a report of the run parameters.

Additional Parameters MPS Run Pop-up

To display this pop-up, select **Additional Parameters (F18)** on the MPS Run Options window.

Use this pop-up to enter additional, static parameters.

Fields

Planning Basis

This is the planning basis for the run.

Select one of the following:

Centralised (0) - To plan for your whole production facility

Multi-Plant (1) - To plan by plant

Multi-Sourcing (2) - To plan by suppliers

Review Demand

Use this checkbox as follows:

Unchecked - Not to interrupt the MPS run

The MPS will run until completed.

Checked - If you want to interrupt the run so that you can check and change the calculated demand at item level

Once you have completed the review, use the Resume Production Scheduling task to re-start the MPS run.

Use Item Time Fence

Use this checkbox as follows:

Unchecked - To use the global date

Checked - To use the production lead time defined for the item on the Production Details window

If you do not enter a time, or the software cannot calculate it, the global default time fence days setting is used.

Use Item End Date

Use this checkbox as follows:

Unchecked - To use the global date

Checked - To use the item cumulative lead time

This is the total lead time required to produce an item, based on a full breakdown of its planning route. It includes any low-level production items on the route and the purchasing lead time of materials and bought out components.

If you do not enter a time or the software cannot calculate it, the global default end date is used.

Include Capacity

Use this checkbox as follows:

Unchecked - To exclude capacity planning

Checked - To include default capacity planning

You can base capacity planning on specifically defined capacity routes or standard planning routes; specify which you want to use in the Planning Route field.

Include Auto Planning Filters

Use this checkbox as follows:

Unchecked (default) - To not apply planning filters

Checked - To apply the planning filters to the MPS run

During processing, MPS automatically processes the order quantity increases or decreases, cancellations and re-scheduling where appropriate. Changes are made to material requirements, on order quantities, etc. For material allocations, the normal rules apply - lots are de-allocated if the order or SKU is cancelled, otherwise they are unmodified. Stock level allocations are adjusted to the greater of required quantity and lot allocations. All changes are processed via the Production order processor immediately. The MPS/MRP Supply/Demand work file, used for MPS review and reports, is updated with the new order quantities and/or the new due dates: the exception codes are not changed. If an order is cancelled, the MPS/MRP Supply/Demand work file record is deleted. The audit report shows the order number, status, previous and modified quantity, previous and modified date, and an indication of whether lot allocations exist.

Note: Changes are not made automatically to orders with planning exception codes which indicate that effectivity dates need reviewing. These orders will need to be changed manually.

Audit Report Detail Level

Select one of the following:

Style (1) (default) - To produce an audit report at the Style (summary) level

Full Product (2) - To obtain a report at SKU level (detail)

Note: Only production orders with a status of Planned or Confirmed can be updated. Only the updated orders appear on the Audit report.

Capacity Route

If you have **checked** the Include Capacity field and left the Planning Route field **unchecked**, enter a capacity route code.

Planning Route

If you **checked** the Include Capacity field, use this field to specify whether you use the planning route or a capacity route for capacity planning.

Use this checkbox as follows:

Unchecked - To base capacity planning on the capacity route you have entered in the Capacity Route field

Checked - To base capacity planning on the planning route defined for each style on the style route or bill of material

Critical Resource Review

Use this checkbox as follows:

Unchecked - Not to review the critical resource

Checked - To review the critical resource

If you **check** this field, the end result of all critical resources (capacity available and capacity unused) for each reporting profile period is saved. You can use this to determine why the software suggested manufacturing particular products on particular routes.

Press Enter to save the details and return to the MPS Run Options window.

Review Demand [12/P2M]

Use this task to examine adjusted and calculated demand before it is turned into a Master Production Schedule. The software calculates the demand for production items only and does not consider dependent demand.

The demand is calculated using the demand policy for the item, and the method of consumption of forecast; that is, discrete or cumulative comparisons. You can display and maintain the sales, forecast and calculated net demand for each style or variant forecast period.

The updated quantity is recorded and the demand flagged against a status code of MA (manual adjustment) and it is associated with the operator or user making the change.

Note: To use this, you must check the Review Demand field on the Additional Parameters MPS Run pop-up. Otherwise, this step in the process is bypassed.

MPS Demand Review Selection Window

To display this window, select the Review Demand task.

Use this window to enter the planning model and a style variant for which to review MPS demand.

Fields

Enter Model

Enter the planning model to review.

Alternatively, use the prompt facility to select from the Select Base Model pop-up.

Item

Enter a style variant to review.

Alternatively, use the prompt facility to select from the Select Item pop-up.

Press Enter to display the MPS Demand Review Details window.

MPS Demand Review Details Window

To display this window, press Enter on the MPS Demand Review Selection window.

This window displays the forecast and sales quantity for each period, for the selected model and item. The dates displayed are the start and end date of the demand comparison periods. These are determined by the forecast start and end dates. If no forecasts exist, the sales orders are used, unchanged, by MPS.

This window also displays the demand policy for the item. If the policy considers dependent demand, the software does not calculate it.

Fields

Net Demand

Enter the net demand you require for each period. This defaults to the adjusted consumed demand for the period. This value depends on the forecast consumption method.

Select **Update (F8)** to save any changes to the net demand.

Resume Production Scheduling [13/P2M]

If you are reviewing demand for the MPS run, use this task to re-start the process. You do not need to make any changes to the demand quantities, using the Review Demand task, before running this task.

You can also use this task to re-start a previously processed MPS plan. You can then review demand, run the full MPS, re-adjust the demand using the Review Demand task and then run MPS against the revised demand.

MPS Resume Run Selection Window

To display this window, select the Resume Production Scheduling task.

Use this window to select the model for which to resume the run.

Fields

Model

Enter the model.

Alternatively, use the prompt facility to select from the Select Base Model pop-up.

Enter or select a model and then press Enter to display the Resume MPS Run Options window.

Resume MPS Run Options Window

To display this window, press Enter on the MPS Resume Run Selection window.

Use this window to check the details of the run and resume the processing.

*Note: When this window is displayed after a partial MPS run, a warning message is displayed; select **Update (F8)** to continue the previous run. You can start a new MPS run without resuming the previous run.*

This window displays all the parameters associated with the run. These are:

- Production model and calendar
- Lowest level to review

- The run dates
- Whether you use the item end date and time fence

Fields

Production Model

This field displays the production model for the run.

Production Calendar

This field displays the calendar used for the run.

Lowest Level to Review

This field displays the lowest level to review.

Start Date

This field displays the first date that the run will consider.

Overdue Days

This field displays the number of overdue days to be considered.

Current Date

This field displays the current date.

Time Fence Date

This field displays the date of the time fence.

Time Fence Days

This field displays the number of time fence days considered in the run.

End Date

This field displays the last date to be considered by the run.

Safety Lead Time

This field displays the safety lead time for Inventory.

Use Item End Date

This field indicates whether the item end date is considered.

Use Item Time Fence

This field indicates whether the item time fence is being used.

Select **Continue Run (F17)** to resume the MPS run.

Confirm Suggested Orders [14/P2M]

Use this task to confirm the orders suggested by an MPS run.

If you have set the Allocation of Materials At field to **Confirm** (allocate at order confirmation on the company profile), material for the production orders is allocated automatically when you confirm the order.

The Confirm Suggested Orders task will allow creation by sales order line. Linked suggested production order supply orders are grouped with their originating sales order line. When creating planned or confirmed orders from suggestions, all suggested supply orders linked to a Sales Order line are confirmed in one group - individual suggested supply orders cannot be confirmed separately.

Confirm MPS Suggested Orders Window

To display this window, select the Confirm Suggested Orders task.

Use this window to enter the planning model for which you wish to confirm suggested orders.

Fields

Model

Enter a live planning model.

Alternatively, use the prompt facility to select it from the Select Base Model pop-up.

Press Enter to display the MPS Confirmation of Suggested Orders window.

MPS Confirmation of Suggested Orders Window

To display this window, enter or select a model and then press Enter on the Confirm MPS Suggested Orders window.

Use this window to choose the orders to confirm.

Fields

Model

This field displays the model you have entered.

Note: The From and To dates must be within the date range of the last MPS run.

From Start Date

Enter or select a date to include all production orders with a start date from this date.

To Start Date

Enter or select a date to include all production orders with a start date up to this date.

Year/Week Number

The Year field defaults to the current year.

Instead of entering a From and To start date, a week number can be entered.

The week start/end dates are retrieved from the model. If they are blank, the dates from the company's calendar are used as the from/to start date selection.

Note: You can leave both fields blank to include all orders.

From Plant

This is only displayed for multi-plant models. Enter the first plant to include in the run.

To Plant

This is only displayed for multi-plant models. Enter the last plant to include in the run.

Note: Leave both these fields blank to include all orders.

From Planner

Enter the first planner.

Alternatively, use the prompt facility to select from the PLAN Planner Code pop-up.

To Planner

Enter last planner for whom to include orders.

Alternatively, use the prompt facility to select from the PLAN Planner Code pop-up.

Order Status

Select one of the following:

SW to PW (1) - From SW (suggested production order) to PW (planned production order)

SW to CW (2) - From SW (suggested production order to CW (confirmed production order)

PW to CW (3) - From PW (planned production order) to CW (confirmed production order)

Work Order Planning Level

The Work Order Planning field can be set to **0**, **1** or **2** to display orders suggested at style, colour or full product respectively

Alternatively, use the prompt facility to select from the WORL Production Works Order Level pop-up.

Alternatively, the All Levels field can be **checked** (see below).

All Levels

Use this checkbox as follows:

Checked - To display ALL suggestions, each at the production level view set for its item

The order creation and flagging window then shows additionally the colours or SKU details respectively for suggestions generated for items with production order levels **1** or **2**.

Sales Order Linked **Supply**

Use this checkbox as follows:

Unchecked - Unlinked orders are selected and displayed on the current order confirmation for selection.

Checked - Linked (discrete demand) orders are selected and displayed on a subfile panel, grouping supply orders by their linked sales order demand.

Note: When sales order linked supply is selected and planned or confirmed orders are created from suggested orders, the start date range selection functions differently

Note: As all suggested supply orders for a sales order line must be confirmed as a group, all suggested orders within the start date range are included, plus any other suggested supply orders which are linked to sales order lines included by the start date range selection.

Note: On the detail lines, the order select field default is controlled by the parameter CNOR.

Press Enter to display the Order Creation window.

Unlinked Orders Window

If unlinked orders are selected, the following window is displayed.

The window is amended to display the from/to status selection and to display the primary and actual route codes on the detail lines. The primary route is the MPS planned route (from the manufacturing item record in a centralised run, or the primary route for the order's stockroom in a multi-plant run). For suggestions, the actual route is the route code for the suggested order (which can be maintained via MPS review); for planned orders it is the order's route code.

Order Creation Window

To display this window, press Enter on the MPS Confirmation of Suggested Orders window.

Use this window to select the orders to confirm and submit a batch job. This generates confirmed orders for the suggested due dates and quantities. The software uses the planning route entered on the item definition to generate operation and material requirement details.

This window displays all the suggested production orders which meet the selection criteria entered on the MPS Confirmation of Suggested Orders window.

Fields

Option (O)

Use this to specify whether you want to confirm the suggested orders

Enter one of the following:

0 or Blank - Not to create an order from the suggestion

1 (default) - To create an order

Select Update and **Submit Job (F8)** to start the confirmation batch job.

Review Production Schedule [15/P2M]

Use this task to review the results of the MPS run and, for the live planning model, to create and maintain actual supply.

Sequence

You can display the data in either of two sequences:

- MPS recommended due date
- These are dates incorporating any suggested changes made by MPS.
- Current due date
- These are the dates which currently exist and which the MPS run may have recommended for change.

Note: for more details on the status and action codes, refer to the Planning Process section.

Stock Forecasts

The software does not subtract the stock forecasts as demand but there may be a supply order scheduled to provision the stock level defined in the forecast. This stock is additional to safety stock, so the quantity available will reflect stock forecast demand.

Production Schedule Review Window

To display this window, select the Review Production Schedule task.

Use this window to select the planning model and revision level you want to review.

Fields

Base Model

Enter the planning model you want to review.

Alternatively, use the prompt facility to select from the Select Base Model pop-up.

Revision Level

To review an un-revised MPS, leave this field blank.

You can enter a revision level, so that you can copy the details of the run and amend them as you wish without affecting the master copy. Enter up to two characters to identify the revision level, so that you can use it again.

You can use the prompt facility on this field to select from the Select Revision Level for Base Model *XX* pop-up. The base model must be entered first.

Caution: If you do not enter a new revision level, any changes are implemented in the existing Master Production Schedule.

Description

This field is only displayed if you enter a new revision level. Enter a description for the new revision level.

Press Enter to display the Enquiry window.

Enquiry Window

To display this window, press Enter on the Production Schedule Review window.

Use this window to select a specific style, plant or planner for which to review the MPS.

Note: If you want to review the full MPS, leave all of these fields blank.

Fields

Base Model

This field displays the planning model you have entered.

Revision Level

This field displays the revision level, if you have entered one.

Select Style

Enter the item for which you wish to review MPS.

Alternatively, use the prompt facility to select from the Item Master Scan pop-up.

Plant Model

This is only displayed if you are reviewing the MPS for a multi-plant model.

Enter the plant model for which to review MPS.

Planner

Enter a planner code for which to review MPS.

Alternatively, use the prompt facility to select from the PLAN Planner Code pop-up.

Press Enter to display the Review Detail window.

Review Detail Window

To display this window, press Enter on the Enquiry window.

You can use this window to view all of the anticipated stock movements of an item in chronological sequence.

Note: For more details on the status codes, see the Demand, Supply and Action Codes section in the Planning Process chapter of this product guide.

The date displayed is:

- For dependent demand, the required date
- For independent demand, the forecast due date, or sales order shipment date
- For a supply, either the MPS recommended due date or the current date of the order
- For supplies with no recommended date change, the sequence remains the same.

Note: If the date is 99/99, this is a zero demand with an existing supply.

For MPS recommended due date sequence, the available figure is the planned available stock, and shows the MPS supply recommendations. This is normally the safety stock because MPS aims to protect the defined safety stock level of the item.

Note: Dependent demand for a given date is always generated from higher-level recommendations and represents the MPS suggested schedule. This does not change when you change the supply sequence.

Options

Note: If these options are not available for a line, it is an accumulated demand or supply on the first item.

Maint Suggestions

Use this to display the Suggested Order Maintenance pop-up.

It is only available at the planning level of the item.

Note: To make your changes permanent, select Maint Order to update the status to Confirmed.

Maint Order

Use this to display the Production Order Maintenance window.

Suggested purchases may only be maintained at style level, suggested production orders at the planning level of the item, existing production orders at style and the planning level of the order.

Note: You can use the Confirm Suggested Orders task to confirm multiple orders.

Peg Demand

Use this to display the review details for a parent that generated a particular demand against a material requirement.

The material requirement must be a material requirement on a production style and have a low-level code of 1 or greater. This option will display the parent item as style level, as there can be no guarantee of one-to-one relationship at lower levels.

Note: You can only use this option for material items.

Supply Detl

Use this to display the Select Colour pop-up.

This is available at Style and Colour levels.

Demand Detl

Use this for a drill down of demand.

Multi-plant Options

Supply Detl

Only use this option if the planning basis is multi-plant or single unit sourcing, if you are enquiring on a sourced plant model within, or independent of, a central model. This displays the Supply Details pop-up.

Demand Detl

Only use this option if the planning basis is multi-plant or single unit sourcing, if you are enquiring on a sourced plant model within, or independent of, a central model. This displays the Demand Details pop-up.

Functions

Bulk Move (F2)

Use this to display the Bulk Move window.

Note: This is only available when you are working with the live model as defined on the company profile. See the Capacity Planning chapter of this product guide for details of the Bulk Move window.

Capacity (F15)

Use this to display the Capacity Review Selection window.

Prv Itm (F16)

Use this to display the previous style in the MPS.

Summary (F17)

Use this to display the Review Summary window.

Header (F18)

Use this to display the Header Details pop-up.

Nxt Item (F19)

Use this to display the next style in the MPS.

Next Planner (F20)

Use this to display the next item for the next planner in the sequence.

Chg Seq (F21)

Use this to alternate the display between MPS recommended due date and current due date sequence.

Details (F22)

Use this to show more information for each supply and demand line:

- Supply Line
- This shows the current due date of the order and the earliest and latest start date.
- Demand Line

- This shows the parent item causing a particular generated demand.
- For purchased orders, this shows the receipt date, which is the due date, promised date or expected date, whichever is the greatest.

Select **Save (F8)** to save any changes.

Demand Detail Window

To display this window, select Demand Detl against a line on the Review Detail window.

Functions

Bulk Move (F2)

Use this to display the Bulk Move window.

Note: This is only available when you are working with the live model as defined on the company profile. See the Capacity Planning chapter of this product guide for details of the Bulk Move window.

Higher (F6)

This is only available at style level.

Lower (F7)

This is available from Style and Colour views and changes the view and control to Colour and Full Product respectively.

Combine (F9)

Use this to summarise like demand for the same day into one record on the window. The individual demand reference is lost and is replaced with text indicating that demand has been combined.

Select **Save (F8)** to save any changes.

Suggested Order Maintenance Pop-up

To display this pop-up, select Maint Suggestions against a line on the Review Detail window.

Use this pop-up to make manual adjustments to a single suggested production order. The selected style and plant are displayed.

Note: Once you have made the adjustments, the status of the order remains at Suggested. To confirm the order, select Maint Order against it on the Review Detail window.

Fields

Route

The current route is the default planning route for the style for a new suggestion. If you want to change the route, enter the new route in the Change column. To split the order across two routes, enter the second route in the Split field.

You can use the prompt facility on this field to select from the Select Route pop-up.

Due Date

This current date is the due date suggested by the MPS run. If you want to change the date, enter the new date in the Change column. To split the order across two dates, enter the second date in the Split field.

Quantity

The current quantity is the suggested quantity. If you want to change the quantity, enter the new quantity in the Change column. To split the order, enter the second quantity in the Split field.

Filter

The current filter route is the planning filter for the current style and route. If you want to change the filter, enter the new filter in the Change column. To split the order, enter the second filter in the Split field.

Alternatively, use the prompt facility to select from the WYTP Planning Filter pop-up.

Note: This filter is only effective if MPS is re-run after you confirm the order.

Functions

Qty Breakdown (F20)

Use this to update MPS with the entered details. The Select Colour pop-up is displayed so you can override the quantities for all the variants.

Select **Update (F8)** to save the details and return to the Review Details window.

Select Colour Pop-up

To display this pop-up, select Supply Detl against an order on the Review Detail window, or select **Qty Breakdown (F20)** on the Suggested Order Maintenance pop-up.

Use this pop-up to select a colour and to view the variant quantities of that colour on the order.

Fields

Select (Sel)

If you selected an order on the Review Details window with **Supply Detl**, enter **1** against a colour to display the Suggested W/O pop-up, from which you can review the quantities for colour.

If you displayed this pop-up by selecting **Qty Breakdown (F20)** on the Suggested Order Maintenance pop-up, enter **1** against a colour to display the Variant Quantities pop-up, from which you can enter the variant breakdown of the style.

Functions

Select All (F13)

Use this to select all the colours and display the relevant pop-up for each colour in turn.

Enter 1 against a colour and then press Enter.

If you displayed this pop-up by selecting **Qty Breakdown (F20)** on the Suggested Order Maintenance pop-up, the Variant Quantities pop-up is displayed.

If you selected an order on the Review Details window with Supply Detl, the Suggested W/O pop-up is displayed.

Variant Quantities Pop-up

To display this pop-up, enter 1 against a colour on the Select Colour pop-up, if you selected **Qty Breakdown (F20)** on the Suggested Order Maintenance pop-up.

Use this pop-up to enter the quantities you require of each variant. This pop-up displays a table with the sizes listed in rows and the fit variants displayed in columns.

The total order quantity and entered quantity are shown at the top of the pop-up.

Fields

Quantity (Untitled)

For each size and fit combination, enter the quantity you want to make on this production order.

Functions

Change Matrix (F10)

Use this to delete all quantities you have entered and start again.

Select **Update (F8)** to save the changes and return to the Review Display window.

Suggested W/O Pop-up

To display this pop-up, enter 1 against a colour on the Select Colour pop-up, if you selected an order on the Review Details window with Supply Detl.

This pop-up displays, for information only, the variant style and colour, or style, colour and size, distribution of an order.

Press Enter to return to the Review Details window.

Review Summary Window

To display this window, select **Summary (F17)** on the Review Detail window.

This window displays a summary of the item [supply](#) and [demand](#) schedule, using the reporting periods defined for the [planning model](#). The opening and [safety stock](#) are displayed.

This displays the quantity overdue, at specific dates and the total quantity of:

- Actual demand
- Forecast
- Adjusted demand
- Supply
- Available
- Net requirement
- Planned receipt and available

Note: Use Page Up and Page Down to see the next and previous period details.

Functions

Capacity (F15)

Use this to display the [Capacity](#) Review Selection window.

Previous Style (F16)

Use this to display the previous [style](#) in the [MPS](#).

Detail (F17)

Use this to display the Review Details window.

Header (F18)

Use this to display the Header Details pop-up.

Next Style (F19)

Use this to display the next [style](#) in the [MPS](#).

Next Planner (F20)

Use this to display the next item for the next [planner](#) in the sequence.

Select **Save (F8)** to save any changes.

Header Details Pop-up

To display this pop-up, select **Header (F18)** on the Review Detail window.

- This pop-up displays inventory and production details for the parent style selected.

Fields

Planner

This field displays the planner for the style.

UOM

This field displays the unit of measure.

Order Policy

This field displays the order policy for this item.

Item Type

This field displays the item type.

Supplier

This field displays the supplier for this item.

GT Family

This field displays the GT family.

Item Group

This field displays the item group.

Phy. Stk

This field displays the current physical stock of the item.

Safety Stk

This field displays the safety stock for the item.

Lead Time

This field displays the item lead time.

Value/Usage Class

This field displays the value or usage class of the item.

Date Last Planned

This field displays the date on which this item was last included in a planning run.

Fixed Qty

This field displays the fixed order quantity for the item.

Min. Qty

This field displays the minimum order quantity for the item.

Max. Qty

This field displays the maximum order quantity for the item.

Multiples

This field displays the amount of multiples that can be ordered.

Delivery Lead Time

This field displays the <u>lead time</u> policy defined for the item.

<u>Functions</u>

Variable Quantities (F23)

Use this to display the Variable Batch Order Quantities pop-up.

Select **Previous (F12)** to return to the Review Details window.

Variable Batch Order Quantities Pop-up

To display this window, select **Variable Quantities (F23)** on the Header Details pop-up.

This pop-up displays the variable batch order quantities.

<u>Fields</u>

Style

The selected <u>style</u> is displayed.

Rounding

One of the following is displayed:

Rounding Up (0) - If you are rounding up the required <u>supply</u> quantity to the nearest batch quantity

Rounding Down (1) - If you are rounding down the required <u>supply</u> quantity to the nearest batch quantity

Quantities

The quantities that define the variable batch sizes are displayed.

Select **Previous (F12)** to return to the Header Details pop-up.

Route/Bill of Material [21/P2M]

This task is identical to the <u>Route</u>/<u>Bill of Material</u> task in <u>Style</u> Production Definition Management. See the <u>Route/BOM</u> Maintenance chapter of the <u>Style</u> Production Definition Management product guide for a full description of the task.

Chapter 5   Capacity Planning

5

Defining Production Capacity

You need to establish the parameters and resources used to define the available production capacity. In other words, you need to decide:

1   How many working days are there available in a week and in a year?

2   How many hours are needed to make a product?

After establishing these, you can determine whether you have enough, too little or too much capacity.

Production Calendars

A production calendar defines the number of working days in a year. You can define one calendar as the company default or you can set up more specific calendars.

If there are variations in the number of days on which machines or work centres, or both, operate within your environment, use multiple calendars.

For example:

Calendar	Scenario	Working Days	Non-working Days
Calendar 01	Default calendar	Monday to Friday	Weekends, bank holidays and national holidays
Calendar 02	For machines that cannot stop, such as knitting machines	Every day	
Calendar 03	For one work centre that produces swimwear	Monday to Friday and weekends during January, February and March	Bank holidays and national holidays and weekends from April through to December

Machine Capacity

First, decide if you want to set up machines as single or multiple resources:

- Single Resource
- You define each machine individually.
- Multiple Resource
- You group machines of a similar type into a work centre. For example, you could group all knitting machines together as a multiple resource.

You book each operation on a route to one machine or one work centre.

To load work across a number of machines without grouping those machines into a work centre:

- Define a separate route for each machine.
- Load production orders manually to those routes.

You can either specify the hours for each machine directly or allocate a shift profile. You can enter a new shift pattern to become effective on a specified date.

Note: There is no default profile for a working day, you must define it against the machine and shift profile codes.

Caution: The end date of the calendar is determined from the entered start date and the number of days defined in the Calendar section of the company profile.

You can define a machine either as an individual resource or as a logical view of total resource capacity.

Capacity Analysis looks at machines to establish whether they have sufficient capacity to fulfil a proposed production schedule.

You can assign machines to:

- Operations
- You need to associate either a machine or a work centre with each operation. Then, the software can develop work schedules and identify the resources available to carry out the work.
- Work Centres
- You can use work centres to group machines for different views of capacity requirements and constraints.

Note: You can create a summary capacity route for a style, with each operation linked to a machine that represents the total capacity of a group of similar resources.

Standard and Maximum Capacity and Efficiency

You can define a machine's standard capacity and maximum capacity:

- Standard capacity is the default number of hours available on a working day. This can vary between different days in the week.
- Maximum capacity is the number of hours that can be available on a day. For example, you could introduce an extra shift. The maximum capacity is only effective on working days defined

on the production calendar. To introduce additional days, such as weekend working, you must change the current calendar or apply a new calendar.

Note: Capacity Planning uses standard capacity when scheduling work at a machine. To re-schedule using maximum capacity, you must change the standard capacity values and re-run the scheduling process.

Taking Account of Performance Differences

Individual machines vary in performance. When comparing scheduled load to available capacity, you can apply a standard efficiency factor. You can use this factor where there are noticeable performance differences between machines, especially in groups or cells.

For example, if you have defined a standard operation time of 60 minutes, machine 001 may actually take 72 minutes to complete the operation and machine 002 may take only 55 minutes. An efficiency factor can take into account the likelihood of machine 002 completing ahead of machine 001 when processing the same work.

Calculating Hours per Day per Machine

The software determines the number of hours a machine is available from the production calendar. By default, this is the calendar on the company profile.

There are four methods of calculating the number of hours available on working days:

- 8 hours default
- Shift details
- Default shift profile
- Shift or capacity profile

8 Hours Default

If you define no time for the machine, the software assumes a default of 8 hours for standard and maximum capacity, for every working day.

Note: You cannot use this method for multiple resources.

Shift Details

You can define a standard and maximum capacity for up to three shifts per working day. When totalled, these give the number of hours available per working day.

In addition, you can define a standard and maximum capacity that applies to every working day within the year. Use this if a machine represents more than one resource.

Note: With this method, you have to change available capacity individually for each machine.

For example, if the machine is 2 sewing machines that operate 8 hours per day, then the standard capacity is 16 hours, the maximum hours is 16 and the maximum capacity is 32 hours.

Default Shift Profile

You can apply a default shift profile to every working day within the year. You can also allow for multiple resources or additional time by specifying a standard and maximum capacity factor. These

factors uplift the number of hours defined by the profile per day by the required amount. The hours per day are shown as effective hours. If the shift profile is made up of variable shift lengths, effective hours may vary.

With this method, if there are changes in shift length, you update the shift profile rather than each machine.

Day	Default Shift Profile	Effective Hours	Default Std Factor	Std Capacity	Default Max Factor	Max Capacity
	1		1.23		2.45	
Mon		8		9.84		19.60
Tue		8		9.84		19.60
Wed		8		9.84		19.60
Thu		8		9.84		19.60
Fri		8		9.84		19.60
				49.20		98.00

Shift or Capacity Profile

You can allocate one standard shift profile as the default, together with specific shift profiles for some days.

You can also apply a standard and maximum capacity factor to each day of the week. For example, you might run fewer machines at weekends. You can set up a default code for days when you require nothing specific and you can use effectivity dates to control the number of hours per day.

This method provides the most exacting control on capacity calculations. You can change the profiles to change the daily effectivity hours. However, you should change capacity factors at machine level.

Day	Shift Profile	Effective Hours	Std Factor	Std Capacity	Max Factor	Max Capacity
Mon	1	8		8.00	2.34	18.72
Tue	1	8		8.00	2.56	20.48
Wed	1	8	1.23	9.84	2.56	20.48
Thu	1	8		8.00	2.56	20.48
Fri	2	6	1.1	6.60	1.98	11.88
Sat	3	4		4.00		4.00
Sun	3	4		4.00		4.00
				48.44		100.04

Labour Capacity

To review labour load, you must define departments, labour skills and labour profiles, which combine labour skills. You then assign the labour profiles to operations.

The software can then determine:

- A set up and operation time for each operation
- The set up and run time for each skill level and the required number of operators
- Capacity requirements at department and skill level

You enter, by department, labour hours per day, absenteeism, utilisation and average performance percentages.

The software calculates load, at labour skill level, using the labour run times and the labour profile attached to an operation.

Capacity is calculated by:

- Adding up the operators attached to a labour skill and department on a given day
- Using the standard hours per day, absenteeism, utilisation and standard performance values associated with the department as follows:

[Std Hrs/Day - (Std Hrs/Day x Absenteeism)] x Utilisation x Average Performance

You can report operations at operator or team level.

Review Capacity [22/P2M]

Use this task to review loading and capacity generated by the last MPS run. You can then compare factory capacity to anticipated, calculated load.

You can review load by work centres, machines, labour departments or labour skills. The review commences from the start date of the MPS run.

Note: For an MPS run to consider capacity loading, you must check the Include Capacity field on the Additional Parameters MPS Run pop-up. In addition, use the Additional Parameters MPS Run pop-up to determine whether capacity details are based on a capacity route or a planning route.

Capacity Review Selection Window

To display this window, select the Review Capacity task.

Use this window to select the model and details for which to review the capacity.

Fields

Base Model

Enter the planning model to review.

Alternatively, use the prompt facility to select from the Select Base Model pop-up.

Revision Level

If you have more than one revision level for the model, enter the level you want to review.

You can use the prompt facility on this field to select from the Select Revision Level for Base Model *XX* pop-up. The base model must be entered first.

Description

If you are creating a new revision level, enter a description.

Capacity Basis

Select one of the following:

Standard (1) - To display the standard capacity for the machine

Standard x Efficiency (2) - To display the effective capacity

This is the standard capacity multiplied by the standard efficiency factor.

You enter both of these capacities when you define the machine.

Enquiry Of:

Note: You must complete one of the Enquiry Of fields.

Work Centre

If you want to review the details for a specific work centre, enter the work centre. Leave this field blank to see the details for all work centres.

You can use the prompt facility on this field to select from the Select Work Centre pop-up.

Machine

If you want to review the details for a specific machine, enter the machine. Leave this field blank to see the details for all machines.

You can use the prompt facility on this field to select from the Select Machine pop-up.

Labour Department

If you want to review the details for a specific labour department, enter the department. Leave this field blank to see the details for all departments.

You can use the prompt facility to select from the DEPT Department pop-up.

Labour Skill

If you want to review the details for a specific labour skill, enter the skill. Leave this field blank to see the details for all skills.

You can use the prompt facility on this field to select from the Select Labour Skills pop-up.

Press Enter to display the Capacity Review Barchart window.

Capacity Review Barchart Window

To display this window, enter the selection criteria and press Enter on the Capacity Review Selection window.

This enquiry displays a bar chart, which is a multi-period review of the Master Production Schedule. The exact details displayed on the window depend on the selection criteria you have already entered.

Bar Charts Explained

The bar charts show capacity load comparisons grouped by the periods defined for the planning models on the reporting profile. Loading is displayed as a series of coloured bars (vertical columns) by day, machine, and labour department and so on. The degree of loading is shown as follows:

- LD (green) shows the load is equal to capacity.
- UL (yellow or silver) shows the capacity exceeds load.
- OV (red) shows the load exceeds capacity.

You can change the characters displayed.

Note: Use Page Up and Page Down to display more details.

Fields

Base Model

This field displays the base model you entered on the Capacity Review Selection window.

Work Centre

If you enquire on a work centre, this field displays the description. If the enquiry is by machine, labour department or labour skill, the description is also displayed.

Cal.

This field displays the production calendar used to calculate the details.

Select (Sel)

Enter one of the following:

1 - To display the relevant Capacity Review Load Details window for the selected period

5 - To display the relevant Capacity Review Barchart for the selected period

This displays the capacity and load for individual machines, or labour skills within the selected work centre or department.

Note: 5 is not available if you selected a machine or labour skill on the Capacity Review Selection window.

Functions

Detail (F17)

Use this to display the relevant Capacity Review Load Details window for all periods.

Select **Save (F8)** to save any changes to a new revision level. The Save Changes pop-up is displayed.

Save Changes Pop-up

To display this window, select **Save (F8)** to save a new revision level on the Capacity Review Barchart window, or the Capacity Review Load Detail window.

You can use this pop-up to name and save this revision level so that you apply it to future capacity reviews.

Fields

Base Model

This field displays the model you entered.

Revision Level

This field displays the revision level you entered.

Save New Level

Enter a code for the new revision level you have created. You can enter up to two alphanumeric characters.

Description (Untitled)

Enter a description for the new revision level.

Select **Previous (F12)** to return to the Capacity Review Selection window, the Capacity Review Barchart window, or the Capacity Review Load Detail window.

Capacity Review Load Detail Window

To display this window, enter 1 against a period on the Capacity Review Barchart window.

Alternatively, select **Detail (F17)** on the Capacity Review Barchart window.

This window displays a detailed breakdown of the loading. If you displayed this window using **Detail (F17)**, the loading is for all the periods. If you displayed the window using selection **1**, the loading is for the selected period only.

Note: The exact fields displayed here depend upon the selection criteria you entered on the Capacity Review Selection window.

Fields

Capacity

This field displays the capacity generated by the last MPS run.

Load

This field displays the load generated by the last MPS run.

Str. Date

This field displays the date.

Order

This field displays the order number.

Opcode

This field displays the operation code.

Dur (Hrs)

This field displays the duration, in hours, of the operation.

Machine

This field displays the machine description.

Quantity

This field displays the quantity.

UM

This field displays the unit of measure.

Style

This field displays the style.

Options

Style Schedule

Use this to display the Review Detail window for this item.

Supply Order

Use this to display the Suggested Order Maintenance pop-up for this item.

Functions

Bulk Move (F2)

Use this to display the Bulk Move window.

Note: This is only available when you are working with the live model as defined on the company profile.

Barchart (F17)

Use this to display the relevant bar chart.

Machines (F18)

Use this to list all of the machines included in this work centre.

> ***Note:*** *This is only [available](#) for [work centre](#) review.*

Select **Save (F8)** to save any changes to a new revision level. The Save Changes pop-up is displayed.

Bulk Move Window

To display this window, select **Bulk Move (F2)** on the [Capacity](#) Review Barchart window, or the [Capacity](#) Review [Load](#) Detail window

This window displays only suggested, planned and [confirmed production orders](#) from the previous window, either within [MPS](#) or [Capacity](#) Review, and provides a facility where several [production orders](#) can be maintained at once.

Note: *To allow the bulk move updates to be processed by the background processor, the Parameter BKPR code PRBM must be set to 1, otherwise the bulk move updates will be performed interactively.*

Fields

New Route

Enter a new alternative [planning route](#) for the orders selected. All [SKUs](#) on the order(s) selected must exist on the target [route](#) entered. Only suggested, planned and [confirmed production orders](#) can be updated with a new [planning route](#).

[Production orders](#) which have sales order reservations can only be changed to a new [route](#) if the [receiving stockroom](#) remains the same.

Due Date

Enter or select a due date for the selected orders. The due date cannot be less than the current date. On planned and [confirmed production orders](#), the due date must not cause the latest [start date](#) to be less than the current date. You cannot enter a Due Date as well as a [Start Date](#).

Start Date

Enter or select a new [start date](#) for the selected orders. The [start date](#) must not be less than the current date. You cannot enter a [Start Date](#) as well as a Due Date.

Select (Sel)

Enter **1** against those orders to be moved. At least one order must be selected.

The selected [production orders](#) are validated and if any orders fail the validation, the Bulk Move window is re-displayed with the failed order highlighted. The [production order](#) record on the display is shown with the text highlighted and an appropriate error message is displayed. The validation process is repeated until all the selected [production orders](#) pass the validation.

Press Enter to validate your entries. If they are validated successfully, the Bulk Move Confirmation pop-up is displayed.

Bulk Move Confirmation Pop-up

To display this pop-up, press Enter on the Bulk Move window.

This pop-up is used to confirm that the selected orders are to be changed.

Note: If the Bulk Move updates are to be performed in batch, a pop-up message will be displayed while the updates are being performed.

Select **Update (F8)** to confirm the changes.

Capacity Summary Report [23/P2M]

You can use this report to list all the areas of the capacity plan that you need to review in more detail.

The report shows the workload, by style, over twelve periods from the specified start date. The total workload is compared to the overall capacity of the resource. The report shows the periodic and cumulative overloads and underloads.

Capacity Summary Report Selection Window

To display this window, select the Capacity Summary Report task.

Use this window to enter the parameters for the report.

Fields

Base Model

Enter the planning model to review.

Alternatively, use the prompt facility to select from the Select Base Model pop-up.

Revision Level

If you have more than one revision level for the model, enter the level you want to review.

You can use the prompt facility on this field to select from the Select Revision Level for Base Model *XX* pop-up. You must first enter the base model.

Capacity Basis

Select one of the following:

Standard (1) - To display the standard capacity for the machine

Standard + Efficiency (2) - To display the effective capacity

This is the standard capacity multiplied by the standard efficiency factor.

You enter both of these capacities when you define the machine.

Period Start Date

Enter or select the start date for the report.

Report Of:

Work Centre/To

If you want to review the details for a range of work centres, enter the range. Leave these fields blank to see the details for all work centres.

You can use the prompt facility on these fields to select from the Select Work Centre pop-up.

Machine/To

If you want to review the details for a range of machines, enter the range. Leave these fields blank to see the details for all machines.

You can use the prompt facility on these fields to select from the Select Machine pop-up.

Labour Department/To

If you want to review the details for a range of labour departments, enter the range. Leave these fields blank to see the details for all departments.

You can use the prompt facility on these fields to select from the DEPT Department pop-up.

Labour Skill/To

If you want to review the details for a range of labour skills, enter the range. Leave these fields blank to see the details for all skills.

You can use the prompt facility on these fields to select from the Select Labour Skills pop-up.

Note: *You must complete one of the four Report Of fields.*

Press Enter to generate the Capacity Summary report.

Capacity Period Report [24/P2M]

Use this report to:

- Determine those areas you need to review in more detail
- View the workload, by style, over twelve months from an entered start date

The total workload is compared with the available capacity of the resource with the periodic and cumulative under and over loads shown.

Single Period Capacity Report Selection Window

To display this window, select the Capacity Period Report task.

Use this window to select the parameters for the report.

Fields

Base Model

Enter the planning model to review.

Alternatively, use the prompt facility to select from the Select Base Model pop-up.

Revision Level

If you have more than one revision level for the model, enter the level you want to review.

You can use the prompt facility on this field to select from the Select Revision Level for Base Model *XX* pop-up. You must first enter the base model.

Capacity Basis

Select one of the following:

Std (1) - To display the standard capacity for the machine

Std + Efficiency (2) - To display the effective capacity

This is the standard capacity multiplied by the standard efficiency factor.

You enter both of these capacities when you define the machine.

Time Basis

This defines the units in which to report time.

Select one of the following:

Mins (1) - To report by minutes

0s (2) - To report by 10-minute periods

00s (3) - To report by 100-minute periods

000s (4) - to report by 1000-minute periods

Period Start Date

Enter or select the start date for the report.

Note: You must complete either the Work Centre or Labour Department fields.

Work Centre/To

If you want to review the details for a range of work centres, enter the range. Leave these fields blank to see the details for all work centres.

You can use the prompt facility on these fields to select from the Select Work Centre pop-up.

Labour Department/To

If you want to review the details for a range of labour departments, enter the range. Leave these fields blank to see the details for all departments.

You can use the prompt facility on these fields to select from the DEPT Department pop-up.

Press Enter to generate the [Capacity](#) Period report.

Chapter 6   Production Scheduling Reports

6

Demand Report [31/P2M]

This report produces a detailed listing of demand derived from the last MPS run for a selected planning model. You can tailor the report to generate details for a specific range of items or planners, or as an audit report of changes made to the demand plan.

MPS Demand Report Window

To display this window, select the Demand Report task.

Use this window to select the parameters for the MPS Demand report.

Fields

Model

Enter the planning model.

Alternatively, use the prompt facility to select from the Select Base Model pop-up.

Planner/To

If you want to report on a specific planner, enter the code in both the From and To fields. To report on a range of planners, enter the first and last planner in the range. Leave both fields blank to include all planners.

You can use the prompt facility on these fields to select from the PLAN Planner Code pop-up.

Item/To

If you want to report on a specific item, enter the code in both the From and To fields. To report on a range of items, enter the first and last item in the range. Leave both fields blank to include all items.

You can use the prompt facility on these fields to select from the Select Item pop-up.

Changes Only

Use this checkbox as follows:

Unchecked - To report on the whole of the production schedule

Checked - To produce an audit report of all manual changes made to demand details using the Review Demand and Review Production Schedule tasks

Press Enter to generate the Demand report.

Recommendations Report [32/P2M]

This report produces a summarised action list of recommended changes to supply in the planning model.

You can use this report to identify overdue supplies, that is, production orders with a due date earlier than the current date.

MPS Planner Action Report Selection Window

To display this window, select the Recommendation Report task.

Use this window to specify the parameters for the Recommendations report.

Fields

Model

Enter the planning model.

Alternatively, use the prompt facility to select from the Select Base Model pop-up.

Planner Action Start/To

Enter or select the earliest and latest start dates to consider for MPS supply exceptions.

Include Overdue Orders

Use this checkbox as follows:

Unchecked - To exclude orders with a due date earlier than the current date

Checked - To include orders with a due date earlier than the current date

Detail Level

Select one of the following:

Style / Material Group (1) - To report at style and material group level

Full Product (2) - To report at full product detail level

Print Prior Values

Use this checkbox as follows:

Unchecked - To not print prior values

Checked - To print prior values

Functions

Additional Selection (F14)

Use this to display the Enter Selection Criteria pop-up, from which you can select a range of styles on which to report.

Press Enter to produce the Recommendations report.

Enter Selection Criteria Pop-up

To display this pop-up, select **Additional Selection (F14)** on the MPS Planner Action Report window or the Master Production Scheduling Report window.

Use this pop-up to select a range of styles to include in the report. The item is only included if the item matches all the selection parameters you enter. If you make no selections, the report lists all items.

You define all of these selection parameters, excluding value and usage class, for an item using the Style/Material Details task. You define the value and usage classes within Style Inventory Management.

Fields

Style/To

Enter a range of items or leave these fields blank to include all items.

You can use the prompt facility on these fields to select from the Select Item pop-up.

Planner/To

Enter a range of planners or leave these fields blank to include all planners.

You can use the prompt facility on these fields to select from the PLAN Planner Code pop-up.

Style Group/To

Enter a range of style groups or leave these fields blank to include all groups.

You can use the prompt facility on these fields to select from the PGMN Product Group - Minor pop-up.

Style groups group styles into product families for sales and stock forecasting.

Value/Usage Class/To

Enter a range of value and usage classes or leave these fields blank to include all classes.

Preferred Supplier/To

Enter a range of preferred suppliers or leave these fields blank to include all preferred suppliers.

Fabric Type/To

Enter a range of <u>fabric types</u> or leave these fields blank to include all <u>fabric types</u>.

Report Sequence

You can sequence your report by entering up to three sequence fields. Enter **1** against the primary report sequence, then **2** and **3** against the minor sequences.

For example, to produce a report showing items in value and <u>usage</u> class sequence within <u>planner</u> responsibility, enter **1** alongside <u>Planner</u> and **2** alongside <u>Value/Usage</u> Class.

Press Enter to save the details and return to the previous window.

Valuation Report [33/P2M]

The Valuation report assesses the inventory and purchase order commitment of a proposed <u>production schedule</u> in standard or <u>current cost</u> terms. The selected schedule is translated from a quantitative plan by extending quantities by the <u>unit cost</u> of items.

You can select the elements of <u>cost</u> to include in the <u>unit cost</u>; and you can include <u>cost elements</u> which are excluded from the normal <u>cost</u> by default. In addition, you can increase any <u>cost</u> element by a specified percentage (uplift).

MPS Valuation Report Selection Window

To display this window, select the Valuation Report task.

Use this window to enter the selection parameters for the Valuation report.

<u>**Fields**</u>

Model

Enter the <u>planning model</u> on which to report.

Alternatively, use the prompt facility to select from the Select Base Model pop-up.

Basis

This is the basis used to round the <u>cost</u> values.

Select one of the following:

Units (1) - To round to the nearest integer

Hundreds (2) - To round to the nearest hundred

One Thousands (3) - To round to the nearest thousand

Ten Thousands (4) - To round to the nearest ten thousand

Hundred Thousands (5) - To round to the nearest hundred thousand

Millions (6) - To round to the nearest million

MPS Item From/To

Enter an item range or leave these fields blank to include all items.

You can use the prompt facility on these fields to select from the Select Item pop-up.

Planner From/To

Enter a planner range or leave these fields blank to include all planners.

You can use the prompt facility on these fields to select from the PLAN Planner Code pop-up.

Reporting Level

You can print a summary report of a single level; that is, bill of material low-level code. If you include more than one level in the summary, the costs of a child item are included twice, once in the child's cost, and once in its parent's cost.

To produce a detailed report showing more than one level, leave this field blank.

To produce a summary report for a single level, enter a low-level code in the range 0-9.

Detail Level

Select one of the following:

Summary (1) - To print calculated total model information only

Detail (2) - To include detail item values in the report

Costs

Select one of the following:

Std Cost (1) - To cost using the standard costs

Cost Set (2) - To cost using non-standard costs from the specified cost set

Cost Set

If you selected **Cost** Set in the Costs field, enter the cost set to use for the calculations.

Select MPS Item Types

Select one of the following:

Manufactured (1) - To include only production items (item type M)

Purchased (2) - To include only purchased items (item types P (purchased materials), B (bought out components) and C (consumable tools))

Both (3) - To include all items

Revision Level

Enter the MPS planning model revision level. To report on the original plan, leave this field blank.

You can use the prompt facility on this field to select from the Select Revision Level for Base Model *XX* pop-up. The base model must first be entered.

<u>**Functions**</u>

Cost Presentation (F18)

Use this to display the Cost Presentation pop-up.

Cost Uplift (F19)

Use this to display the Cost Uplift pop-up.

Select **Submit Job (F8)** to generate the report.

Cost Presentation Pop-up

To display this pop-up, select **Cost Presentation (F18)** on the MPS Valuation Report Selection window.

You can use this pop-up to change the format of costing information on the report.

You can re-define:

- The cost elements to include in the report
- The print order of the cost elements
- The way in which cost elements are calculated

Note: You define the default format and definitions of the cost elements on the company profile. If you use this pop-up, you only change the way in which the cost elements are presented on this report.

You can save the new cost presentation to use with other enquiries and reports, or use the default format when you next run the enquiry or report.

<u>**Fields**</u>

Order

Enter the order in which you want to list the individual elements on the report, where **1** is first, **2** is second and so on.

Add To

By entering a cost element number here, you can add that element into the total for another element. You must define a sequence number for the element used for the total.

Note: You cannot define both an order sequence and an add-to element for an element.

Roll To

This displays the element into which this element is rolled. You cannot exclude an element referred to by a roll-to element, unless you exclude the roll-to element itself.

Fixed

This field indicates whether this is a fixed cost element.

Description

Enter a description to be printed for each cost element.

<u>Functions</u>

Save (F15)

Use this to save the current presentation format so you can use it on another enquiry or report.

Restore (F16)

Use this to return to the default presentation format.

Press Enter to return to the MPS Valuation Report Selection window.

Cost Uplift Pop-up

To display this pop-up, select **Cost Uplift (F19)** on the MPS Valuation Report Selection window.

You can increase any cost element defined on the Cost Element Maintenance window, or selected on the Cost Presentation pop-up, by a percentage specified on this pop-up. This uplifts the cost of every item with a cost for that element.

<u>Fields</u>

Percentage Uplift

For each element, enter the percentage to uplift all costs for this element, for all items included in the report.

Select **Update (F8)** to save the changes and return to the MPS Valuation Report Selection window.

Reporting Profile Report [34/P2M]

This report lists the actual dates represented by the periods defined for a specific planning model.

This report is the same for both MPS and MRP.

Note: The MPS and MRP runs both produce this report automatically.

Print MPS Reporting Profile Selection Window

To display this window, select the Reporting Profile Report task.

Use this window to specify the model for which to print the reporting profile.

Fields

Model

Enter the planning model.

Alternatively, use the prompt facility to select from the Select Base Model pop-up.

Press Enter to submit the report and then select **Exit (F3)** to leave the task

Schedule Report [35/P2M]

This report produces a full listing of the Master Production Schedule for review and evaluation.

Master Production Scheduling Report Window

To display this window, select the Scheduling Report task.

Use this window to select the items you want to include in the MPS Scheduling report.

Fields

Model

Enter the planning model.

Alternatively, use the prompt facility to select from the Select Base Model pop-up.

Revision Level

Enter the revision level, if required.

You can use the prompt facility on this field to select from the Select Revision Level for Base Model *XX* pop-up. The base model must first be entered.

Print Items with No Details

Use this checkbox as follows:

Unchecked - To exclude styles with no supply or demand details

Checked - To include styles with no supply or demand details

Exclude Dependent MRP

Dependent MRP demand can result from MPS items existing at a lower level than an MRP style on route/BOMs. You can include any MRP dependent demand details in the report.

Use this checkbox as follows:

Unchecked - To include the MRP dependent demand details

Checked - To exclude the MRP dependent demand details

Planning Level

Select one of the following:

Style Level (1)

Default Planning Level (3)

Functions

Additional Selection (F14)

Use this to display the Enter Selection Criteria pop-up.

Press Enter to produce the Schedule report and leave the task.

Appendix A Glossary

<div style="text-align: right">A</div>

Active Production Order

A production order which has associated work-in-progress

Activity Types

These are user definitions of activities to be reported. Activity types can be system dependent or user-defined. System dependent activity types are mandatory for the system to function. You may define user-defined activity types to suit your requirements. Activity types are linked to a System21 reporting type that defines how the activity effects updates to the database.

Advanced Financial Integrator

This processes transactions generated by production bookings, using user-defined Journal rules, to create auditable General Ledger account postings for production activities.

Advice Note

A document received from a subcontractor giving details of goods delivered

AFI

An acronym for Advanced Financial Integrator

Allocated Stock

This is the quantity of a style or material that is allocated to customer orders or production orders. This quantity is expressed as a balance at both item/stockroom level and item/stockroom/lot level.

Allocations

This is inventory currently reserved against a production order. Allocations can change and an allocated material may become available again and then allocated to another production order. Style uses allocations to calculate how much material is currently available.

Alternative Material

This is a material nominated as an alternative for a material used in production, when stock of the original material is insufficient. You can issue alternative material in whole or part to a production order.

Amortised Fixed Costs

This is a method of spreading fixed production costs over a designated batch size to ascertain the effect on unit product costs of the economies of scale production. See also Fixed Costs.

Archived Production Orders

These are production orders which have been saved in an archive file and removed from the live order database. They are available for detailed enquiry.

Automatic Batch Allocation

This is the process of allocating batches/lots of materials against a production order. The allocation is done by grouping together a number of batches according to a common identification code.

Available

This is the quantity calculated by Planning to represent current availability on a given day equal to previous period available + supply – demand.

Available Stock

This is the quantity calculated by subtracting allocations from the physical stock balance. It represents uncommitted inventory which may be used to satisfy production demand.

Average Cost

This is a costing method employed by Style Inventory Management, whereby the weighted average unit cost of an item is recalculated every time a stock receipt is made.

Average Usage

This is the average usage per week/period of an item in a stockroom. The weeks or periods which are included in this calculation are defined by the usage profile.

Backflush

This is the automatic generation of standard material issues based on production quantities reported. This is usually done for low cost materials. For example, a shirt has 7 buttons. If you make 100 shirts, you require 700 buttons. Instead of counting out the buttons, you can make a backflush issue from a bucket of 1000. When the operation is complete, Style accounts for taking 700 buttons out of stock automatically.

Backflush Item

An item that is designated to be automatically issued in production recording

Backflushed Operation

A backflushed operation is a non-count point operation. The operation gets booked in automatically at the next count point operation.

Backschedule

The calculation of operation and order start dates from the due date, using the lead time elements of the operations

Balance

This may be used either to signify a database record holding summary information, such as a stockroom balance, or a single summary quantity field on such a record, such as allocated stock.

Batch Control

See Lot Control.

Bill of Material

The definition of the materials that are required to make a product

BOM

Acronym for Bill of Material

Booking

Work-in-progress reporting

Booking History

A record of all material and production transactions posted during the progress of a production order

Bottleneck

This term is generally used to refer to a position on a production line where the production flow is constrained in some way. This can lead to build-ups of work and potentially have an adverse effect on the efficiency of a line or plant, and ultimately on profitability.

Bucket

In MPS and MRP, the period of time for which supply and demand are summarised for presentation

Bucketless

This describes the MPS/MRP review process, which balances supply and demand on the date it is scheduled, rather than accumulating it into greater time periods.

Budget Capacity

This is the capacity of a machine that is compared with its load. It represents the capacity you expect to obtain from a machine. This can be 100% of stated capacity or a factor above or below 100% (see Standard Capacity).

Bundle Ticket

This is a document printed by Production Control that is attached to a bundle on the factory floor. It has barcoded stubs which can be wanded in directly by the operator or are attached to the operator's timesheet. It identifies the production order, style, colour, size and quantity to be processed.

Bundle Tracking

This is the method of identifying the stage that a bundle has reached in the production process. In addition, the processes that have been completed are also identified.

Bundling-Up Point

This is an operation at which the materials are bundled together, prior to the issuing of bundle tickets.

Cancelled Production Order

This is a production order which has been aborted, and cannot be reopened.

Capacity

This is the amount of time that a machine or work centre or labour skill or labour department is available for work in a given period.

Capacity Planning

This is the option of calculating machine and labour capacity requirements by comparison of duration for planned work with the capacity available for the planning period. The work schedule or the capacity may then be adjusted to obtain a balanced workflow.

Capacity Requirement

The time required at a machine (or for a labour skill) by a particular piece of work

Characteristic

Characteristics are related to the dimensions you define for a style or material. For example, if you define colour as a dimension, then red, black and blue might be characteristics of that dimension.

Characteristic Mix

These are the rules that determine the level of detail that exists for a bundle - single colour, unknown size, single size, unknown colour, single colour, single size.

Colour

Throughout Style Production, colour generally refers to the colour code you may have specified for a style under the Style/Material Details activity.

Company Profile

This is a collection of control parameters specific to a Production company.

Completed Production Order

These are production orders which have been completed. They cannot have bookings made against them. They may be reopened for further processing.

Component

Any item that is used in the production of another item

Confirmed Production Order

A production order with a firm commitment to produce an item, which cannot be changed in date or quantity except by explicit planner intervention

Cost

This is a value associated with an item in a stockroom, or a movement. It is usually a value related to a single item (a unit cost), but may refer to a quantity of items (a movement cost or value).

Cost Centre

This is a functional or organisational area defined for the purposes of defining production costs. Each cost centre defines standard rates for labour, machine, set up and overheads. A cost centre is assigned to a machine and is used to calculate all standard production costs associated with that machine.

Cost Elements

15 cost elements are available to analyse costs. These are: fabric, trim, packaging, labour, machine, set up, subcontract, variable overhead 1, variable overhead 2 (variable), overhead 2 (fixed), user-defined 1-4 and wastage.

Cost Roll-up

This is the method of generating product costs by calculating and accumulating costs of materials and operations required at each level of manufacture.

Costing Method

This refers to the method used to establish a cost for stock movements or stock balances. The methods available are latest, average, standard and FIFO (First In First Out).

Costing Route

The route designated for an item to calculate its unit cost within a stockroom

Count Point

This is an operation at which WIP inventory is counted or reported. A count point operation helps to identify how the production order is progressing.

Creation Date

The date on which a production order is entered

Cumulative Lead Time

This is the amount of time required to produce an item from scratch. It is based on a full explosion of the bills of material of the item and its sub-assemblies and includes the purchasing lead time of raw materials.

Current Cost

This is a category of cost. The application generates values for current and standard cost control. Current cost may be considered as the proposed standard cost for the next accounting period. See Standard Cost.

Current Date in Planning

This is the datum point of an MPS/MRP plan. The start date is determined by subtracting Overdue Days from this date. The Time Fence date is calculated from this date by adding the frozen Lead Time.

Demand

The forecast or actual requirement for an item

Demand Policy

This is the policy which controls the comparison of sales forecasts with sales orders, and dependent demand to arrive at the demand to drive MPS or MRP. This may be: no forecast, independent demand only, dependent and independent demand, dependent demand, make to forecast only or total demand.

Department

This is a collection of labour skills that have been grouped together for capacity requirement analysis purposes. Departments also define certain parameters to allow the calculation of capacity, namely: standard hours per day; absenteeism rate, utilisation %; standard performance %

Dependent Demand

Demand for an item which is derived from the manufacture of a parent

Descriptions File

This is a file maintained within the Style Inventory Management application which defines a number of parameter codes and their descriptions.

Dimension

A style always has at least one dimension, which is the style itself. A style may have additional dimensions, such as colour, size and fit. Each style can have up to 4 dimensions.

Materials such as fabric and trim may also have more than one dimension.

Direct Labour

Operatives used in production of an item in terms of performing work on operations

Down Time

This is the amount of time that a machine is out of action. The application provides the facility to record both planned and Actual Down Time.

Duration Calculation Basis

This is the method by which the duration of an operation is calculated for scheduling purposes. This may be: set up time only; machine time + set up time; direct labour time + set up time; machine time + direct labour time + set up time; greater of machine time *or* direct labour time + set up time.

This can be set at Company Profile, Machine or Route Operation level.

Dye-lot Control

See Lot Control.

Economic Order Quantity

This is an optimum quantity of a style to be produced by a style route or supplied on an order. It may be entered for each style route and may be used as the basis of apportioning fixed costs for an item.

Efficiency

The ratio of standard to actual performance

Efficiency Variance

The difference between standard and actual performance in quantity and cost terms

End Date (Planning)

This is the last date to be considered by the run. It can be entered or calculated as Current Date plus item cumulative lead time. It can be extended by setting a number of safety days.

EOQ

See Economic Order Quantity.

Exception Events

Transactions which are likely to cause a change in the supply and demand status of an item

Fabric Type

Production classification used in MRP as a selection parameter for a Selective MRP run

FIFO

This is an acronym for First In First Out - one of the costing methods available in the Style Inventory Management application. Using this method, each stock receipt is valued at actual cost, and issues are valued using these receipt batch costs on a First In First Out basis.

Finished Goods Receipt

This is the receipt of a quantity of a production item into an Inventory stockroom, as a result of a production order.

Firm Planned Production Order

This is a production order which remains under the control of the planner in terms of timing and quantity and is not recommended for change by Planning functions, unless Planning Filters are set to allow this.

Fixed Cost

This is an element of item cost that does not vary with the volume of production. Fixed elements of costs are; set up, fixed overhead, fixed user-defined costs.

Fixed Order Quantity

This is an ordering policy used by MPS and MRP to control suggested replenishment orders. It is used to generate suggested supplies of a pre-defined size.

Fixed Quantity Per

Any material to a bill of material whose requirement will not vary with batch size

Floor Stock

This is inventory which is issued to a designated floor stock location (logical or physical stockroom) on the shop floor rather than directly for immediate consumption. Floor stock is consumed as it is used at a particular operation.

Floor Stock Location

This is a logical or physical stockroom where items with a Material Control Policy of issue to floor stock are issued and consumed.

Forecast Level

This is the level at which forecasts can be maintained at; or the level to which a family forecast can be spread to. It is defined within the production Details of a style. The available levels are: style; style/colour; SKU or full product.

Frozen Stock

This is the quantity of an item which is designated as 'frozen' and thus not available for issue or allocation. It is expressed as a balance quantity at item/stockroom level, or item/lot level.

Generated Demand

See Dependent Demand.

Goods Inward

This is an area within a warehouse in which incoming materials are received, prior to being put away in their warehouse locations.

Goods Receipt Note

This is a document produced when receiving work back from a subcontractor which provides details of the goods received.

GRN

Acronym for Goods Receipt Note

Gross Requirement

The total demand for an item in a given time period before stock on-hand and supplies are netted

Held Inventory Tracking

This is a regimen imposed by the system to force entry of a reference code/description each time a WIP quantity is booked as 'held'. This reference may be for the whole booked quantity or specific to one or more items in the total quantity. Any further movements of Held WIP Inventory (for example, transfer or scrap) necessitate the specification of the held inventory reference.

Held WIP Inventory

This is WIP inventory which is not available to progress to the next operation until released from held status. This may be because it is awaiting quality control inspection or rework.

In Transit

This is the quantity of an item which is currently in transit between two stockrooms. It is expressed as a balance quantity at the target item stockroom.

Indented Bill of Material

This is a multi-level explosion of an end item (finished product or style) or sub-assembly, showing all the levels of materials, each of which is displayed indented one position from its immediate parent.

Indented Cost Roll-up

This is a method of simulating the cost of an end item (finished product or style) or sub-assembly with reference to its bill of material and manufacturing operations at all levels, and then rolling up the costs of all its materials and operations.

Indented Where-Used

This is the inverse of the indented bill of material. It shows the parent item of a material. Each parent item is indented one position from the level below. The analysis can be multi-level, and identifies the parents, grandparents, great grandparents, etc., of a material.

Independent Demand

This is demand for an item originating from sales orders or forecasts. That is, direct demand for the item itself.

Indirect Labour

This is work performed in a factory that is not directly linked to the production of items, for example, cleaning, sweeping or polishing.

Inventory Audit Record

When a revaluation of Inventory takes place during a transfer of standard costs from Production, a control record is created for each stockroom revaluation.

Item Group Minor

This is a Style Inventory Management classification used in Production Forecasting to define the product family to which an item belongs.

Item Stockroom

This is the highest level at which costs and inventory balances are held. The item/stockroom record also defines stock management rules for an item in a stockroom used within Style Inventory Management.

Item Type

Within Style Production, Item Type classifies items into made items (manufactured or produced), bought out items, consumable tools and purchased items.

Use Production Details under the Style/Material Details activity to set the Item Type for a style or material to one of the following:

M - Production Items (styles or intermediates used in the production of a style)

P - Purchased items (examples are materials such as lace, leather and silk)

B - Bought out items (examples are buttons, zips, hangers, suit covers and packaging materials such as boxes and labels)

T - Consumable tools (examples are knitting needles, blades and pins)

You can override Item Type for an individual route on Style/Route Override Maintenance window 2 under the Style Route/Bill of Materials activity.

Change Item Type descriptions through the PITP parameter under the Maintain Parameter File activity.

Key Material

This is a specific material on a route that is used to control the lot characteristics of the finished product. Only one material per route may be defined.

Key Operation

This is an operation on a route identified as a special progress point; used in various enquiries and reports to limit the number of operations shown. It can additionally be used to specify that non-stock purchase orders should be created for subcontract operations.

Labour

Work performed by operators

Labour Profile

A Labour Profile defines a group of labour skills that work together in a team. It is linked to an operation on a style route to enable the calculation of labour capacity requirements.

Labour Skills

An operator's skill that is required to perform an operation

Labour Time

The length of time required by an operation in terms of labour

Landed Costs

These are costs in the receiving of purchased items. These are user-defined costs such as freight, carriage or insurance.

Latest Cost

This is one of the Costing Methods available in the Style Inventory Management application. Using this method, each stock receipt is valued at actual cost and all issues are valued at this cost. In addition, total inventory is valued at this cost.

Lead Time

This is the amount of time required to produce or procure a style or material. For production items, lead time is derived from the sum of the lead times of the individual operations required to produce the item and any sub-assemblies. Lead time also relates to procurement times for purchased items. See also Production and Cumulative Lead Times.

Load

This is the capacity requirement on a machine or work centre or labour skill or labour department in terms of time arising from an operation scheduled at that machine or against a labour profile.

Logical Stockroom

This is a stockroom which does not physically exist but is used as a reference for the recording of WIP inventory, or floor stock. Recordings may be made to physical stockrooms if they exist; logical stockrooms are simply an alternative.

Lot Control

This is a level of stock control to ensure that fabric is issued out of a common batch, indicating that the fabric has been dyed in the same dye vessel. It is also referred to as batch control, dye-lot control, piece control, shade control, roll control and merge.

Lot Traceability

Where stock control is specified at batch or lot level, this refers to the ability to trace the movement of stock at this detailed level.

Low Level Code

This is the lowest point in bills of material or production orders at which an item exists. It indicates the maximum level at which the item resides. It is used by MRP to determine when to plan the item in the fully exploded product sequence.

Machine

A piece of equipment upon which or with which work is performed, and capacity requirements are measured

Machine Schedule

A daily work plan for a machine, containing item and order quantities and duration of set up and operating hours

Machine Time

The length of time consumed by an operation in terms of machine work

Marshalling Area

An area within a warehouse that stores materials temporarily when they have been picked from their warehouse locations but have not yet been sent out

Master Production Schedule

MPS calculates and balances demand and supply for master scheduled items, and generates a production schedule with suggested dates and quantities.

Material Control Policy

This parameter defines the method of item issues to production. This may be: formal issue, backflush or floor stock issue.

Material Requirements Planning

MRP calculates and balances demand and supply for purchased materials and lower level manufactured items and generates a suggested schedule for production and purchases, with suggested dates and quantities for actions.

Material Route

The route to be exploded in indented bill of material functions for identified materials to establish lower level materials

Material Type

This is a parameter used to determine an item's material type. This may be: fabric, trim, packaging, fabric group, trim group or packaging group.

Material Usage Policy

This is a parameter which determines how the material quantity is determined when an item is specified on a bill of material. This may be: quantity per based or ratio based.

Material Wastage

The planned or anticipated percentage of a quantity of material that will be unusable when it is issued to the production process

Material Where-Used

The identification of where a material is used in assemblies and sub-assemblies

Matrix Type

This is the display mode of the matrix for a style, this can be: a maximum of 15 sizes with quantities up to 999; a maximum of 10 sizes with quantities up to 99,999; a maximum of 6 sizes with quantities up to 99,999.999.

Maximum Capacity

The theoretical capacity of a machine in hours when working at its peak rate

Maximum Capacity Factor

This factor may be applied to a shift profile to allow calculation of the maximum number of hours available at a machine, if for example, the machine consists of several machines or multiple operators. For example, if the machine has a standard shift profile which defines 8 working hours per day, applying a factor of 3 would indicate that 3 x 8 (24) hours are available.

Maximum Order Quantity

This is a value set for an item to control the suggested supply batch sizes suggested by MPS and MRP. It is an advisory parameter, and does not restrict the size of the suggested batch, but a warning is shown on the plan reports when a batch size exceeds it.

Maximum Stock

This is the preferred maximum stock balance of an item in a stockroom. This may be set manually for each item.

Merge

See Lot Control.

Minimum Order Quantity

This is a control parameter set for an item to manage the suggested supply batch sizes recommended by MPS and MRP. It ensures that a supply is never less than the defined minimum order value.

Move Days

This is the length of time required to transport work or cool down or dry out after an operation has been performed and before the following operation can start. This is an element of inter-operation time.

Movement Type

This refers to the classification of movements by type of transaction, for example, sundry receipts, customer order issues.

MPS

Acronym for Master Production Scheduling

MPS Item

This is an item which is under the scheduling and planning control of Master Production Scheduling. It is typically an end product, critical sub-assembly, or key material.

MRP

Acronym for Material Requirements Planning

Multi-plant

Use multi-plant planning to share the load between different plants or factories.

Multiple Order Quantity

This is a control parameter set for an item to control the suggested supply batch sizes recommended by MPS and MRP. It defines the increments that are applied to a batch to meet a demand quantity. It sets a defined batch quantity and the ruling that a demand quantity must be supplied in whole batches of the set quantity. For example, demand equals 110, multiple order quantity equals 20, required equals 110/20=5.5, which would convert to 6 batches.

Net Change MRP Run

A net change MRP run considers only those materials that have had any changes to their demand or supply since the last MRP run. A net change MRP run is shorter than a full MRP run and therefore allows you to run MRP more frequently.

Net Change Reason Code

Identifies the transactions that can generate triggers for net change MRP runs

Net Demand

Net demand equals gross demand less available stock, adjusted by demand policy parameters.

Net Requirements

The difference between net demand due on a day and the total suggested supplies planned to be available on that day, adjusted by pre-set Order Policy parameters

Off Standard

This is production work that is performed by a piecework paid Operator who is not being paid 100% of the standard minutes for the operation. There are many reasons for work being off standard, such as training, unfamiliar work etc.

On Order

This is the quantity of an item for which outstanding purchase or production orders exist. It is expressed as a balance quantity at item/stockroom level.

On Standard

Production work that is performed by a piecework-paid Operator who will be paid 100% of the standard minutes for the operation

On-Hand Quantity

This is the quantity shown in Inventory as being physically in stock. For WIP inventory this is calculated as the sum of the Available + Subcontractor + Held balances.

Operation

A stage in the production route of an item

Operation Costs

These are the costs specific to individual production stages. In the Extended edition of the software, costs can be held at route and operation level as well as item level.

Operational Wastage

Percentage loss of work-in-progress as a result of performing an operation

Order Policy

Order policy is used by MPS and MRP when building a suggested schedule. Policies may be: discrete; discrete above minimum; fixed quantity; number of days supply or multiples above minimum.

Order Release

This is the point at which a production order is made available for processing on the shop floor. Materials may be allocated and issued at this point.

Order Status

This identifies the stage that a production order has reached. The status may be one of the following: suggested, planned, confirmed, released, active, cancelled or completed.

Organisational Model

The organisational model is a control mechanism based on a view of production resources. The model enables the setting of important default values, and definition of certain procedures and policy issues which will be implemented at resource group level. To use this facility, machines must be defined to an organisational model.

Overdue Days (Planning)

Indicates the number of days of overdue supply and demand to be considered in MPS/MRP runs

Overhead Rate

This is the rate per hour or % rate applied to absorb production overhead costs in to the item unit cost. It is specified on Cost Centres together with an Overhead Recovery Method.

Overhead Recovery Methods

Different recovery methods are available based on production costs, process time, materials or outputs in terms of values or quantities.

Overload

The condition where a machine has more work scheduled to be performed than it has available time in a given period

Pack Type

A category of standard outer packing, such as a box or a pallet, used for storing finished styles within a warehouse

Parallel Operations

As an alternative to consecutive operations, certain tasks may be carried out in parallel, for example, completing fronts, backs, sleeves and collars for shirts and then marrying up at a subsequent operation for completion.

Parallel Processing

This is the method of enabling groups of operations within the same production order to be active at the same time. This is also used to reduce the overall duration lead time for an operation.

Parameter File

Contains system and user-defined codes which set control parameters or allow the amendment of standard code descriptions

Physical Stock

This is the total quantity of an item in a stockroom. It is expressed as a balance quantity at item/stockroom level and also at item stockroom lot level.

Pick

The process of issuing materials from a warehouse to a production order

Pick Face

Within a warehouse, a fixed location from which most picking takes place for a material

Pick List

This is an instruction document detailing how much material is required and where it should be picked from. This is also referred to as a pulling list.

Piece Control

See Lot Control.

Planned Available

The quantity calculated to be available at any point in time if MRP or recommendations are implemented

Planned Material Scrap Rate

This is another way of expressing material wastage.

Planned Production Order

This is a production order that is not yet confirmed, but represents an intention to generate a supply. It does not have material and operation details, and is based on a standard production route.

Planner

There are two types of planner: firstly, a production planner is responsible for planning production of styles and secondly, a buyer is responsible for who plans a group of items and is linked to styles.

Planning Filter

This filter determines the sensitivity of MPS and MRP rescheduling logic when balancing supply and demand. Set up planning filters against the WTYP parameter under the Maintain Parameter File activity. Allocate a planning filter to a style on the Production Details window under the Style/Material Details activity. To override a planning filter on an individual route, use the MPS/MRP Filter field on Style/Route Override Maintenance window 3 from the Style Route/Bill of Material activity.

Planning Horizon

The end date of an item planning run in MPS or MRP

Planning Model

This is a method of defining a view of supply and demand for planning purposes. It is defined in terms of stockrooms. Multiple planning models may be defined to produce differing views of the production environment. One particular model must be defined as that from which MPS or MRP suggestions may be confirmed to production.

Planning Route

This is the route nominated for a style. The planning route is used to plan materials and schedule manufacturing dates and times in MPS and MRP. For a centralised plant, you can nominate the planning route on the Production Details window under the Style/Material Details activity.

For multi-plant MPS planning, however, multiple plants can have different planning routes. Therefore, Style establishes a link between the Receiving Stockroom nominated for a route and the stockrooms nominated for each plant's planning model.

Planning Type

This indicates whether the item is MPS or MRP controlled. This field is set up in Production Details under the Style/Material Details activity.

Primary Operation

This is a standard method for processing one part of the route. The primary operation is used for all the style variants, unless you have set up variant operations. The primary operation is used to calculate costs for the style.

Primary Stockroom

This is the default stockroom for issuing and receipt of an item, when defining a route. On costing routes, the issuing stockroom for a material must be its primary stockroom.

Priority

This is the relative importance of an order in the workflow. It is used to control the sequence of jobs queuing at machines.

Process Route

This is a definition of the processes (operational stages) and materials required to produce an item or set of items. It may also be referred to as a production route.

Product Family

A product family is a group of similar items whose demand follows a similar pattern. Group codes are defined on the Style Inventory Management, Descriptions File, and entered against items in the Style Inventory Management Product Group Minor field.

It is possible to maintain forecasts against families, thereby achieving reduced maintenance combined with an equivalent level of forecast accuracy.

Production Calendar

This is the definition of the production environment in terms of working days, non-working days, holidays and shutdown periods. Production calendars, once defined may be assigned to: Company Profile, Machines and MPS/MRP reporting profiles.

Production Lead Time

This is the amount of manufacturing time required to produce an item from its immediate materials and operations. No reference is made to the lead time of its materials.

Production Order

This is a document which sets out the details of the production of a specific style in specific quantities and which is used as an authority to carry out the work. It is also known as a works order.

Production Schedule

The plan which contains the sequence and timings of items and operations to achieve the planned production output

Production Sequence (Major)

An item parameter which controls the sequence in which items are planned in MPS and MRP

Production Sequence (Minor)

An item parameter which controls the sequence in which item operations are performed, recognising the need to make products in a preferred sequence due to, for example, colour change or set up costs

Put Away

For incoming materials, this is the process of moving the materials from the goods inward area in a warehouse to a location area within the warehouse. For received finished styles, this is the process of moving the styles from the receipt area in a warehouse to a location area within the warehouse.

Quantity Per

This is the standard quantity of a material that is required to make its standard parent lot size.

Queue Time

This is the length of time that a job will wait on average at a machine after arrival before it is worked upon. This is an element of inter-operation time, and should be reduced wherever possible.

Re-order Point

This is the quantity of an item in a stockroom which, when reached, should trigger a re-order action. This may be set manually. Safety stock is taken from the production item master file.

Receipt Area

An area within a warehouse in which finished styles are stored initially after production until they are put away in a warehouse location

Receiving Stockroom

Used in multi-plant MPS planning to link a planning route with the stockroom associated with a specific plant

Recommended Supply Orders

Suggested replenishments generated by MPS and MRP to support defined inventory stocking policies and to meet outstanding demand

Regenerative

An MRP planning method which re-plans every MRP controlled item, regardless of its demand and supply status

Released Production Order

This is a production order which has been released to the production (shop floor) process. Materials may be allocated and issued to it, and production activities may be booked against it. Any bookings of material or production will automatically change its status to Active.

Reporting Level

This is the level at which an operation will be reported. This may be style, style/colour, style/size or style/colour/size.

Reporting Profile

Although MPS and MRP calculate demand/supply on a daily basis, information pertaining to the production plan may be 'bucketed', that is, grouped into time slots, in accordance with a reporting profile defined for each planning model. Usually, this requires the grouping of data into small time periods at the start of the plan; then longer time periods as the plan moves out into future periods.

Reporting Types

This is a set of pre-defined transaction types which Transaction Manager uses to perform required updates. Examples are WIP scrap, down time, set up time and subcontractor rework.

Resources

These are the facilities which contribute to the production of items. Within the Production system, these comprise: cost centres, machines, work centres, production calendars, shift profiles, labour skills, operators, teams and subcontractors.

Rework

Work that is necessary to correct a sub-standard item rejected during/after its manufacture

Roll Control

See Lot Control.

Route

A definition of the operational stages involved in producing an item, sequenced in order of manufacture, and specifying the materials required in terms of materials and resources

Route Code

This is the identification code representing an item structure and production method. There can be different routes created for an item. A preferred planning and cost route can be defined.

Route/BOM

Defines both the route (production stages) and material requirements (BOM, recipe, formula) required to produce an item

Run Time

The length of time required by an operation

Safety Lead Time (Planning)

This is used to set an end date beyond the cumulative lead time of an item. The end date is calculated as item horizon plus safety lead time.

Safety Stock

The desired level of stockholding for an item to support a customer service or availability policy

Sales Forecast

This is a statement of the anticipated market demand for a product. It can be compared with actual sales orders, in MPS/MRP calculations to determine the net demand to be met by production. This is dependent upon the Demand Policy code set for the item.

Scheduled Receipt

A planned supply in MPS/MRP; this may be a released or active production or purchase order

Scheduling

The process of calculating and suggesting due dates, quantities and action dates for the supply of an item to meet required demand quantities and dates

Search Family

This is linked to a style. It defines the descriptions for each of the style's dimensions, i.e., colour and size.

Seasonal Profile

Use a seasonal profile to represent seasonal variations in forecasting. To create and update seasonal profiles, use the Maintain Seasonal Indices activity. The Profile Code field under this activity identifies each seasonal profile. To allocate a seasonal profile to a style, enter the Profile Code in the Seasonal Profile field under the Style/Material Details activity.

Serial Number Control

A form of lot control which maintains single, uniquely identified (serialised) units

Set Up

This is the option of preparing machines or processes for production. Set up time forms part of the lead time of an operation.

Set Up Time

This is the duration of the set up for a machine. This is expressed as a labour time.

Shade Control

See Lot Control.

Shift Length

The duration of an individual working shift for a machine

Shift Profiles

These describe the pattern of shifts in a day. Shift profiles use effectivity dates to reflect planned changes in patterns. A default shift profile may be assigned to a machine; or a shift profile assigned to each working day within a week at a machine. The shift profile defines the number of productive hours available on a working day.

Shipper Number

A number assigned to each shipment of items to or from a subcontractor if Shipper Tracking is in use

Shipper Tracking

A method of tracking materials or WIP inventory to or from subcontractors

Simulated Cost

A function which projects product costs by applying variables to the cost structure to ascertain likely future costs, or by changing materials to ascertain the cost impact of the changes

Single Level Enquiry

A one level explosion of a bill of material and route which costs the materials and operation processes required to make the parent item

Size Mask

This is linked to a style and is a group of sizes (in sequence) in which the style is produced.

SKU

Acronym for Stock Keeping Unit - an individual stock item

For styles of more than one dimension, the SKU represents the lowest level of definition for a style. For example, a 3-dimensional skirt (i.e. skirt/colour/size) may have various SKUs including black size 10, black size 12, black size 14, red size 10, red size 12, red size 14 and so on.

An SKU is also called a variant.

You can control production at the SKU level.

Smoothing Policy

A planning policy which smoothes sale forecast demand to provide a level production schedule

Standard Capacity

The daily capacity in hours of a machine when operating at its normal rate, and normal shift patterns

Standard Capacity Factor

This is a number that you can specify against a shift profile. This number is multiplied by the total number of hours defined in the shift profile to calculate the standard capacity of a machine. For example, for a shift profile of 8 hours at a machine where 2 persons operate, you would enter a factor of 2 to indicate a standard capacity of 16 hours.

Standard Costs

This is a costing method available in Production and Inventory. Standard costs are calculated for items based on standard cost rates and operation times and the standard costs of materials. They form the yardstick for performance measurement in a given period.

Standard Efficiency

This is the percentage of the standard capacity of a machine which you expect to achieve under normal operational circumstances. This percentage may be used in capacity planning enquiries and reports.

Standard Lot Size

Standard batch size in terms of which material quantities and operation times are expressed in a route/BOM

Standard Operation

This is an operation that can be included in individual style routes. The operation belongs to a standard operation group.

Standard Operation Group

These are standard operations that are grouped together, for example, a group of cutting operations. A standard operation group might also contain a generic sequence of operations. You can include one or more standard operations in individual style routes.

Standard Production Orders

Production orders which are based on a standard route to obtain material requirements and operation details

Start Date

The scheduled release date of a production or purchase order

Start Date (Planning)

This is the first date considered by MPS and MRP. Demand and Supply prior to this date is ignored. It is the Current Date less Overdue days set for the planning run.

Stock Forecast

A forecast used in MPS and MRP to plan variable levels of inventory availability to maintain desired customer service levels over and above standard safety stock

Stock Item

See SKU.

Stock Movement

This is a movement of a quantity of an item into or out of a stockroom. More particularly, this will refer to the recording of such a movement in the application, and the transaction record created as a result.

Stockroom

This is a discrete area where stock for an item is recorded and controlled separately from other company stocks. Stockroom codes are also used to define 'logical' stockrooms used to hold WIP inventory, and Floor Stock Locations which may be physical or logical stockrooms.

Stockroom Balance

See Balance and Item Stockroom.

Style

Style has two definitions. Firstly, Style is the System21 Style product. Secondly, a style is an end product with one or more dimensions.

Style Matrix

The style matrix is fundamental to System21 Style and occurs throughout System21 Style Distribution and System21 Style Production. A style matrix can have a maximum of 4 dimensions.

The first dimension of every matrix is always the style or the product itself. The second dimension (e.g. colour) sits on the X-axis of the matrix. The third and fourth dimensions (e.g. size, fit) sit on the Y-axis of the matrix.

Each cell in the matrix represents a single stock item or SKU (e.g. a size 12 black skirt).

The big advantage of the Style matrix is that, once the matrix is defined, the individual cells of the matrix are automatically created as the SKUs. Therefore, the Style matrix enables you to define vast numbers of individual stock items quickly and efficiently.

You can also make sensible decisions at the level of the style matrix rather than having to deal with each individual stock keeping unit.

Subcontract Operation

This is work on the production of an item that is carried out by another manufacturer. This entails sending materials or WIP which are worked on by the subcontractor before being returned for further operations, or quality inspection or receipt into stock.

Subcontractor Stockroom

This is a logical stockroom which holds all subcontractor material balances. Subcontractor WIP inventory balances are held as balances at operations in the associated machine WIP location.

Subcontractor Shipper

A document that goes out, together with the partly completed goods, to the subcontractor

Suggested Production Order

An MPS or MRP recommendation to create a production order to satisfy a shortage identified by the planning process

Suggested Purchase Order

An MPS or MRP recommendation to create a purchase order to satisfy a shortage identified by the planning process

Sundry Issue

Any receipt of materials that is unrelated to either a purchase order or a production order

Sundry Receipt

Any receipt of materials that is unrelated to either a purchase order or a production order

Supplier

A code representing the vendor/supplier

Supply

The planned receipt of item quantity from a purchase order or production order

Team Size

The standard number of operatives scheduled to work on an operation, either as direct labour or set up labour

This Level

The final level of manufacture for an item with a multi level route/BOM, as opposed to 'lower' levels of manufacture such as sub-assemblies

Time Basis Code

This is a code indicating how operation times are expressed on a route. These are: time per lot; time each; quantity per hour; fixed time, time per 1000; time per 100; time per fixed batch.

Time Booking Policy

This is a parameter set on the Organisational Model to control the time booking format in Production reporting. This may be in decimal hours or hours and minutes. This policy is set only if the Time Reporting Policy is set to elapsed time.

Time Fence

The date which the schedule is fixed no recommendations are made by MPS or MRP to change existing production or to suggest new production

Time Fence Days (Planning)

The number of days that are added to the Current Date to calculate the Time Fence Date

Time Fence Policy

Parameter set at item level indicating whether shortages occurring within the time fence should be ignored, or satisfied on the Time Fence date

Time Reporting Policy

This is a parameter set on the Organisational Model to control the format in which operator and machine times at an operation are entered. This may be set for entry as elapsed time or as work start time and stop time.

Time Units

These are the units in which operation times are expressed. This is defined on the Company Profile and can be in hours or minutes.

Transaction Manager

This is the function that processes production and WIP inventory transactions, generating movement records and updates balances. It runs in its own subsystem and may be started and stopped. It must be running in order to keep balances and transaction details up-to-date during production bookings.

Transaction Number

Each production booking entered on the system is allocated a system transaction number which may be accessed and displayed for subsequent reference in enquiries and reports.

Transaction Type

There are System21 transaction codes which represent a particular balance update or movement generation. The transaction type calls a program which ultimately updates the database.

Trial Kit

This is a method of simulating material allocation to a production order or route to assess availability to meet the requirements. It is also known as Material Availability Enquiry.

Trigger

Marks a change to the demand or supply of a Style item since the last net change MRP run

Unit Cost

The amortised cost of a single unit of an item

Unit of Measure

The unit in which a balance quantity or unit cost is expressed

Unplanned Issue

Issue of materials to a production order which has not been previously allocated

Unplanned Receipt

Receipt into inventory of an item or items not expected at the booking operation, that is, not standard on the route or order

Usage

The quantity of an item issued from a stockroom in a given period

Usage Profile

A user-defined profile which specifies the pattern of periods to be included in the calculation of average usage

Utilisation

The extent to which the capacity of a machine is expended by actual work performed

Value/Usage

This is the value/usage setting for an item in Inventory. It positions the item in a matrix of value/usage. It is a selection criterion for selective MRP.

Variance

A difference between the standard cost or volume of a process and the actual recorded cost or volume

Variant

These are the different colours and sizes which make up a style or material. A variant is equivalent to a SKU. Each variant has a cell in the Style matrix.

Variant Operation

This is an operation that produces one or more style variants in a different way to the primary operation. Style calculates costs separately for style variants produced by a variant operation. Scheduling of work is also done separately for these style variants.

Variant Spread

This is a distribution of variant quantities that is used to break down a total quantity for the style. For example, if you wish to make twice as many red shirts as green shirts, you can enter 2 under red and 1 under green. Then, if blue shirts are ten times more popular than green shirts, you need to enter 10 under blue. Style uses this variant spread to distribute a forecast down to variant level. In addition, when you create a production order, Style distributes the total quantity amongst the variants according to this variant spread.

Warehouse

If you have Warehousing installed, you can use warehouses to stock materials and finished goods.

Wastage (Material)

The planning factor applied to any material on a route to reflect expected loss

Wastage (Operation)

This is the planning factor applied to an operation to reflect expected losses. Scheduling uses the factor to inflate the standard times to make the required lot size.

Wastage Cost

This is the amount of item unit cost attributable to operational or material wastage in the production process. It is held by Cost Element and can optionally be consolidated into the item cost elements. A wastage element can be configured to display the total wastage cost.

WIP

Acronym for Work-in-Progress

WIP Inventory

Work-in-progress inventory - transparent to Style Inventory Management, but accessible through enquiries in Production WIP Inventory Control

WIP Location

A WIP location defines a location, either logical or physical, on the shop floor where inventory is stored between operations. The location may be associated with one or more machines.

Initially, inventory balances at a given WIP location are maintained as a result of booking inventory against a count point operation. Quantities may be entered for good, scrap and held inventory. WIP Inventory Management allows inventory to be changed in a variety of ways prior to its reaching the next operation in the route.

WIP Shipper

See Subcontract Shipper.

Work Centre

This is a collection of machines grouped together for capacity requirements analysis. Work centres are not used in planning or machine scheduling.

Work-in-Progress

This is the value of work currently underway in the factory in terms of the material issued, and the operations performed. For a given order, WIP valuation is calculated as the value of material and work material less the value of receipts made into stock. Work-in-progress (WIP) can be valued at standard or current cost.

Works Order

See Production Order.