



# Softcon Asset Systems

REVISION 01.06

This document provides information on Softcon Asset Systems. This file is available as a help file.

## Index:

1	AIM	2
2	SYSTEMS	2
3	BOOK/ISSUE/RETURN SYSTEM	2
3.1	ASSETS	2
3.2	CARD HOLDER	3
3.3	ISSUE	3
3.4	RETURN	3
3.5	SLIPS	4
3.6	LOGGING / REPORTS	4
3.7	RESERVATION	4
3.8	ACCESS CONTROL	4
3.9	APPLICATIONS	5
4	ASSET TAGS	5
5	EXTERNAL TRACKING SYSTEMS	<b>ERROR! BOOKMARK NOT DEFINED.</b>

# 1 AIM

The aim and goal of this document is to provide information regarding the Asset management / tracking related products available from Softcon.

The document serves as the general specification for these products and is to be used for marketing and quotation purposes. Full specifications of the Hardware (HW) units are listed in the appropriate HW documents with general specifications listed here. Operating procedures and details of the Software (SW) are listed in the help files linked to the SW.

For clarity, asset tags are referred to as tag and access cards (carried by card holders, i.e. persons) are referred to as cards.

Options in RED UNDERLINE are proposed additions.

# 2 SYSTEMS

Softcon's SoftWin3 system provides an asset management / tracking module.

For **asset management** (book / issue / return), assets are periodically issued to card holders (on load, rented) – typically video projectors, conference room, etc.). Assets can be pre-booked (cannot be booked or issued to other card holders for the corresponding period) and cards can be granted access for the period of the booking – typically access to a conference room for the booked period. Tags can be mounted on the assets for identification purposes at the issue / return stations (generally assets are identified with barcode stickers). Asset management systems are generally off-line (“not live”), i.e. the system does not have to be active. When access must automatically be granted on start of pre-booked periods and canceled on end of pre-booked period, the system must be on-line (“live”).

For **asset tracking**, asset(s) are issued to card holder(s) and if these assets are detected at certain locations (e.g. at exit / entry), alarms / events are generated if the asset is not set in the transit state – i.e. the asset is illegally being moved. Asset tracking can be applied to movable assets (typically laptops moving passed exit and entry). Tags are affixed to the assets.

Softcon asset systems are off-line (“not live”) with no tags on the assets or on-line (“live”) with tags affixed in to the assets.

Asset options currently available from Softcon are listed below.

Softcon access system links to **external systems** that comply with the Softcon external TCP link protocol. Appropriate messages are received from the external system when asset violations are detected. Asset clear messages can be received from the external system or sent to the external system. These event messages are used to generate alarms, lock doors, disable readers, etc.

# 3 ASSET MANAGEMENT

The management option of the Softcon program SCS\_Asset.exe, records the Pre-book (reservation) / issuing and returning of assets, typically video projectors, test equipment, etc. All functions are password protected and generally users only have access to the system via asset and card readers. Auto-logout and password change after time period can be set. Fingerprint verification can be set for logon.

\$ is future additions (not currently available)

## 3.1 ASSETS

Assets are registered in a database:

Reference:	Running index number.
Name:	Descriptive name.
Code:	Barcode or Asset tag number (mounted on to asset).
Status:	The status of the asset is settable to: Unknown, In Store, Issue, Missing, Repairs, Service, Locked.

Issued To:	Reference to current user to who the item is issued/taken (zero when not issued).
Return by d/t:	Date time by which the asset must be returned.
Start:	Date/time asset was issued to last user.
Fare Group:	Sets the reference to the fare group that set periods and cost of the period.
Returned by:	Previous user who returned the item.
End:	Date/time the item was previously returned.
Auto issue:	If reserved, the asset is automatically issued on reserved start.
Auto return	The asset is automatically returned when the pre-booked time expires.

Area Group:	Area group added to multi-group of cards of trigger group.
Group Add DT:	Period before reservation start the multi-group is added.
Group Del DT:	Period after reservation end the multi-group is deleted.

Late start DT:	Period after reservation start after which asset can be issued to another.
Late cancel DT:	Period before reservation start after which reservation cannot be canceled.
Late reserved DT:	Period after which asset cannot be reserved.
Max period:	Maximum period that an item can be reserved.
Max Cards:	Maximum number of cards that can be added to an asset for access.

\$EventStart:            Event generated when asset issued.

\$EventEnd:            Event generated when asset returned.

Additional information fields can be displayed and edited: Purchase price and date, supplier, maintenance period, next maintenance date and responsible person.

Assets are identified by searching in the asset database or by reading the asset tag or barcode.

Each asset has a selectable status (unknown, in store, issued, maintenance, repair, missing, locked). If the status is not selectable, assets can only be issued if status is in store or returned if status is issued. If the status is selectable, the new status is requested via a dialog box.

## 3.2 CARD HOLDER

Assets are issued to / returned by persons from the card holder database by searching in the database or by reading the card holder's card. Assets can only be issued to holders that are enabled for the asset.

The heading displays the XREF and NAME of the active card (to/by whom issuing/returning). XREF 0 sets no active card. The active card can only be selected when no asset is selected (none highlighted). The card is selected by reading a card on a reader connected PC or (if password enabled) can be selected by entering the XREF or if enabled (big list not checked in database set-up) selected via the name list. Esc key or Clear button clears the active card to XREF 0. If a card is active and assets are read or selected, assets are issued / returned to/by the card (multi assets to/from same card). If no card is active and an asset is selected by reading the asset or clicking on the asset, the asset line is highlighted. Reading / selecting a card while an asset is selected (highlighted), the asset is issued / returned to / by the card (card does not become the active card).

## 3.3 ISSUE

Date/time of issue and to who issued are recorded. Assets not previously returned cannot be issued. Assets reserved (pre-booked – see below) can only be issued to other than the reserved card if the real time clock (RTC) is after the reserved start + LATE RESERVED.

## 3.4 RETURN

When assets are returned, date/time and by whom returned are recorded, together with the rent/load costs. Costs are set in groups, setting a maximum time and cost for the time (e.g. below 2 hours, R20, below 4 hours R30, below 8 hours R50). If a time is not set, the cost is fixed, irrespective of the period. Time groups can be allocated to a cost period, enabling the setting of different costs for peak times, after hours, week-ends and holidays. New costs can be set if time groups are crossed (e.g. period extends across peak and after hours). For periods exceeding the maximum period, the charge is the sum of the multiple of the greatest period, plus the period of the balance (e.g. period taken is 19 hours and the periods are 2 hrs=R20, 4 hrs=R30 and 8hrs=R50 as above, the charge is 2\*50+30=R130).

If the fare group is selectable on return, the fare group can be temporarily changed (e.g. to demo) via a dialog box. If not selectable, the set fare group is used.

If the asset is not returned by the return by date/time, an alarm event containing the asset and person issued to references is generated. This event can be used to generate audible alarms, reports, SMS and Emails.

### 3.5 SLIPS

On issue and return, slips containing all relevant information (configurable) can be printed automatically, or on request.

### 3.6 LOGGING / REPORTS

All events are logged and contain date/time, logged on-operator, user issued to, user returned and charged data. Reports are available on current asset status and on the logged events (selections for date/time period, user, department and item).

### 3.7 RESERVATION

Assets can be reserved (pre-booked). Start and end time/dates and to whom reserved are listed/added via a property sheet by right clicking on the asset. When the reservation is added or deleted, events are generated that are logged and can be used to generate SMS or Emails.

Multiple reservations are allowed by the same card. An additional reservation by the same card that overlaps a previous reservation, results in the previous reservation being changed to the earliest until the later.

Assets cannot be reserved when (not applicable to administrators):

If the card holder's asset card group is not enabled for the asset group of the item.

Overlapping that of a reservation by another card.

If the period exceeds the maximum set for the asset. within the minimum period set for the asset, i.e. it must be reserved before this period.

The reservations are stored in the Pre\_Book database with the following fields:

Reference	Running record reference number.
Start	DT when the booking starts.
End	DT when the booking ends.
Xref	Reference to the card database of the card that reserved the asset.
Item	Reference to the Asset dB.

### 3.8 ACCESS CONTROL

Each asset can be allocated an area group that is added to the multi-group of the card that reserved the asset / asset issued to. The multi-group is set for the asset (see Assets - Multi-group above).

A period before reservation starts (see Assets - Group Add DT above) and a period after reservation end (see Group Del DT above) sets when the area group is added / deleted from the cards multi-group.

This area group is also added to additional cards that are linked to the reservation. These are added or deleted by the card that reserved the asset or by operators with the appropriate password rights. The list of cards are displayed by right clicking on the reservation and selecting "ACCESS" – the Card holders name and Employee numbers are displayed.

Cards can be added from a flat ASCII or CSV text file. The database field in the file is selected (e.g. employee, card number, ID, card reference, name).

Card set for access control are kept in the Asset Access database with the following fields:

Reference	Running reference number.
Reservation	Reserve dB reference number.
Xref	Card database reference number.
Area Group	The area added when Start DT is reached: Copied from the Asset dB Area Group.
Start DT	When the Area Group is added: Calculated from Asset dB Group Add DT + Reserve dB Start DT.
End DT	When the Area Group is deleted from the card and the record from the Asset Access dB:

Calculated from Asset dB Group Del DT + Reserve dB End DT.

Cards are added by right click (on the card list for the reservation), Add – a new record is added and selected by entering the Employ number or selecting the name (if enabled). Cards are automatically deleted when the reservation ends.

A card is deleted by selecting the card (in the list for the reservation), right click and select delete. Multi-delete by multi-select (click, shift-click or control click), right click and delete. Cards are automatically deleted when the period after reservation is reached.

## 3.9 APPLICATIONS

Listed below are typical application of the Book/Issue/Return system:

### 3.9.1 RESERVE ROOM/LAB/TABLE – with Access control

A variety of options are available, the basic system is listed here.

Administrators add Rooms/Labs/Tables in the asset database via SCS\_ASSET. The following is set:

- Area group: selecting the area zones that are added for entry, deleted when reservation ends.
- Pre-Start: Sets the addition time allowed for access before the reservation starts.
- Post-End: Sets the addition time allowed for access after the reservation ends.
- Max: The maximum period allowed for a reservation.
- Late start: Period after reservation start after which asset can be issued to another.
- Late cancel: Period before reservation start after which reservation cannot be canceled.
- Late reserve: Period after which asset cannot be reserved.

These “Assets” are reserved by card holders that are enabled to reserve the asset (Asset group set for cards in the card database via SCS\_CLIENT). This is done at a PC running the SCS\_Asset:

- Swiping the access card at the reader linked to the PC, selecting the asset and the “Book” option.
- The start and end times for the reservation are selected.
- Cards that are linked to the booking are Viewed by right-click on the booking and selecting Cards.
- Right-click on a card allows Delete of the selected card(s) or Add of additional cards
- Selected of Add card adds a blank record to the cards list. The correct card is set by entering the employ number or selecting the name from the list box (if lists are enabled – not enabled for large databases).

On the reserved start time, less the additional pre-start time, the system automatically adds the area group set for the asset to all cards linked to the reservation. This will grant access to the additional area zones.

When the reserved end time, plus the additional post-end time is reached, the system automatically deletes the area group set for the asset from all cards linked to the reservation and the appropriate controllers are updated. The cards are removed from the reservation. This will prevent access to the additional area zones.

All normal access control functions are adhered to (enabled, expired, APB, Time-group, etc.). Event logging functions as normal.

All operator editing functions are logged in the audit databases (if enable).

## 4 ASSET TRACKING

(all functions not currently available, please confirm with Softcon)

Assets are tagged with RF tags and using the Softcon access control system, the tags are read with RF receivers connected directly to Softcon CR390 controllers. The asset tags are treated as access control cards and the receivers as access control readers. On reading of tags, events (alarms) are generated that can be set to generate audible alarms, lock appropriate doors, disable readers, etc.

The status of enabled assets tags are either: Fixed, On-site, Transit or Off-site.

**Fixed Assets:** (e.g. artworks, immovable equipment) generate events (alarms) when the asset is moved (read by a

receiver different to the last – or not read for a settable period by the last receiver).

**Linked Assets:** Asset(s) are linked to card(s) – the “owner(s)” of the asset. An illegal exit event is generated when a linked asset read at an exit receiver is not in the Transit state or if an owner is not in the Transit state. An illegal entry event is generated when a linked asset read at an entry receiver if not in the Off-site state state.

**Transit Readers:** Any access reader(s) in the system can be set as transit (book-out) reader(s). The card read at the transit reader and all the assets in the On-site status linked to the card, are set to the Transit status for a pre-set period. Should the state of tag not change (read at an exit receiver) before the time-out, the tag reverts to the On-site status. Should the state of a card not change (read at an exit reader), the transit state of the card ends after the time-out.

Options are available to set a host and the linked assets in the transit status via appropriate password protected email messages or web pages. By dialing cell-receivers connected to the Softcon system via caller-ID enabled cell phones, the Softcon system recognizes the caller ID, setting the appropriate host and linked tags in the transit mode (no call charge as there is no answer).

**Entry/Exit Receivers:** Receivers can be set as entry (only), exit (only) or entry/exit receivers.

Tags that are read at an exit or entry/exit receiver are checked for valid exit. An invalid tag exit event is generated if the tag is in the on-site state and an invalid host tag exit event is generated if no linked host in the transit state. If the exit is valid (tag in transit and a host in transit), a valid exit event is generated (indicating the valid host found). The state of the valid exit tag is automatically changed to off-site with a pre-set time-out (set for the receiver). Tags read at exit or entry/exit receivers within the off-site time-out period are ignored (ignoring multiple reads of the tag on exit and facilitating a receiver to be an entry / exit receiver).

Tags that are read at an entry or entry/exit receiver are checked for valid entry. The status of a tag with status off-site is changed to on-site with a pre-set time-out period (set for the receiver) – a legal entry event is generated. Tags read at entry or entry/exit receivers within the on-site time-out period are ignored (ignoring multiple reads of the tag on entry facilitating a receiver to be an entry / exit receiver). Should the status of a tag read at an entry (only) reader be in the on-site, a invalid tag on-site entry event is generated and if in the transit state, an illegal tag transit entry event is generated.

**Exit Readers:** Any reader can be set as an exit reader, clearing the transit state of the card. Should an exit reader not be defined, the possibility exists to illegally remove assets off-site – e.g. two assets are link to a host that only takes one asset off-site, should the other asset be read at an exit receiver before the host transit time-out expires, an invalid event will not be generated (the host card is in transit for the time-out period). When defining exit readers, the position of the exit receiver must be such that asset tags are read before the host card is read at the exit reader as tags read when the host is not in the transit state will generate an invalid host tag exit event.

**RF Tags:** Additional tag data is monitored (tag type dependant):

Battery:	Last reported tag battery measurement.
Alarm status:	Last reported tag alarm status.
Alarm date:	Date/time last tag alarm reported.

Additional tag data is set:

Detection period:	Date/time period of no detection after which alarm is generated.
-------------------	--

Appropriate events are generated on alarms.